Cambridgeshire County Council

Population and Dwelling Stock Estimates, 2016-2017, and

2017-Based Population and Dwelling Stock Forecasts, 2017-2036

for:

Peterborough Unitary Authority

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INTRODUCTION

This report by Cambridgeshire County Council's Business Intelligence Research Team (CCC) provides a demographic overview of Peterborough Unitary Authority (UA), from current estimates of population and dwelling stock to how they are forecast to develop to 2036. The primary purpose of this report is to assist in the planning and delivery of local services. The report consists of two key sections:

- detailed population and dwelling stock estimates for Peterborough UA at authority, ward and parish level for mid-2014, mid-2015, mid-2016 and mid-2017;
- detailed population and dwelling stock forecasts for Peterborough UA at authority and ward level, based on CCC's 2017 population estimates and forecast to 2036.

The population estimates and forecasts produced by CCC provide an alternative and more detailed source of local population statistics to those produced by the Office for National Statistics (ONS) for central government. For the purpose of comparison, the ONS estimates and forecasts are also included in this report.

The population and dwelling stock estimates and forecasts are provided on the 2016 ward boundaries. More detail on the changes to the ward boundaries which took effect in 2016 is included in Appendix 4.

Population and Dwelling Stock Estimates

The mid-2014 to mid-2017 population and dwelling stock estimates are provided for the ward boundaries which took effect at the local elections in 2016. The original redrafting of the estimates to the new ward boundaries for the mid-2014 and 2015 estimates was undertaken on the best available data at that time. The mid-2014 and 2015 estimates have been reviewed at the time of producing the mid-2016 and 2017 estimates. Maps outlining the ward and parish boundaries for Peterborough UA are provided in Appendix 4.

Population and Dwelling Stock Forecasts

The population and dwelling stock forecasts in this report are based on the ward boundaries effective in 2016. CCC's forecasts are 'policy-led' so that they are consistent with planned levels of house-building within the authority. CCC's forecasts are therefore different from projections produced by the ONS, which are trend-based, meaning that they assume that recent trends will continue in the future.

CCC's population forecasts are largely influenced by local planning policy, particularly in relation to housing development. The location and timing of housing development is indicated within local development documents and the related housing trajectory, which is made available annually in the Peterborough Housing Development Report and the Five Year Land Supply Report. At the time of the production of these forecasts the new Local Plan was at the examination stage. Account has been taken of developments arising during the examination in the dwelling stock forecasts. The forecasts

reflect the population implications of development and other demographic changes. All forecasts are based on a series of assumptions and are subject to change in the light of new information.

This set of 2017-based forecasts is consistent with the housing phasing indicated by a combination of the housing trajectory in the Five Year Land Supply Report published in October 2018 and the proposed housing target of 19,440 dwellings required between 2016 and 2036, as set out in EO53 Schedule of Proposed Main Modifications to Peterborough Local Plan, published January 2019. This target was subsequently confirmed in the Draft Local Plan, which is due for consideration by Cabinet on 10 July and Full Council on 24 July 2019.

When published elsewhere, CCC's forecasts must be properly referenced[1].

[1] The forecasts should be referenced as:

Cambridgeshire County Council Business Intelligence Research Team's 2017-based population and dwelling stock forecasts.

POPULATION AND DWELLING STOCK ESTIMATES, 2016-2017

The population and dwelling stock estimates provided in Table 1 show that Peterborough has seen sustained population growth between mid-2011 and mid-2017, from an estimated population of 185,600 in mid-2011 to 202,110 in mid-2017. This represents a year on year population growth of 1.3-1.6%, and an overall growth between mid-2011 and mid-2017 of 8.9%. Between Census 2011 and mid-2017 the population of Peterborough has grown by 10.1%, from 183,630.

Net additional dwellings have risen strongly since mid-2014, from an annual increase of between 740 and 860 between 2011 and 2014, to more than 1,300 net additional dwellings in 2015, 920 in 2016 and 1,210 in 2017.

Table 1: CCC population and dwelling stock estimates for Peterborough

	Total population	Population year on year % change	Total number of dwellings	Dwelling stock year on year % change
Mid-2011	185,600		76,950	
Mid-2012	187,980	1.3	77,690	1.0
Mid-2013	190,490	1.3	78,460	1.0
Mid-2014	193,530	1.6	79,320	1.1
Mid-2015	196,640	1.6	80,660	1.7
Mid-2016	199,320	1.4	81,580	1.1
Mid-2017	202,110	1.4	82,790	1.5

Source: CCC

Compared to CCC's estimates, ONS population estimates for Peterborough show a slightly more muted growth between mid-2011 and mid-2014, at 1.0-1.2% per annum. The ONS estimates show stronger population growth of 1.8% between mid-2014 and mid-2015, and of 1.6% between mid-2015 and mid-2016, with slower growth of 1.1% between mid-2016 and mid-2017, as Table 2 details.

Compared to neighbouring districts and for the East of England and England as a whole, ONS estimates show that Peterborough has seen the strongest growth in population between 2011 and 2017, as shown in Figure 1. Whilst Peterborough has, according to ONS, seen a population increase of 7.8% between mid-2011 and mid-2017, the East of England has experienced a population growth of 5.2% and England a rise of 4.7%. Of the neighbouring districts, East Northamptonshire has the next highest level of population growth at 7.2%, whilst Huntingdonshire has the lowest level of population growth, at 4.1%. Peterborough has also seen stronger population growth than all of its neighbouring counties, with Northamptonshire the next fastest growing neighbouring county, with a rise of 6.8%.

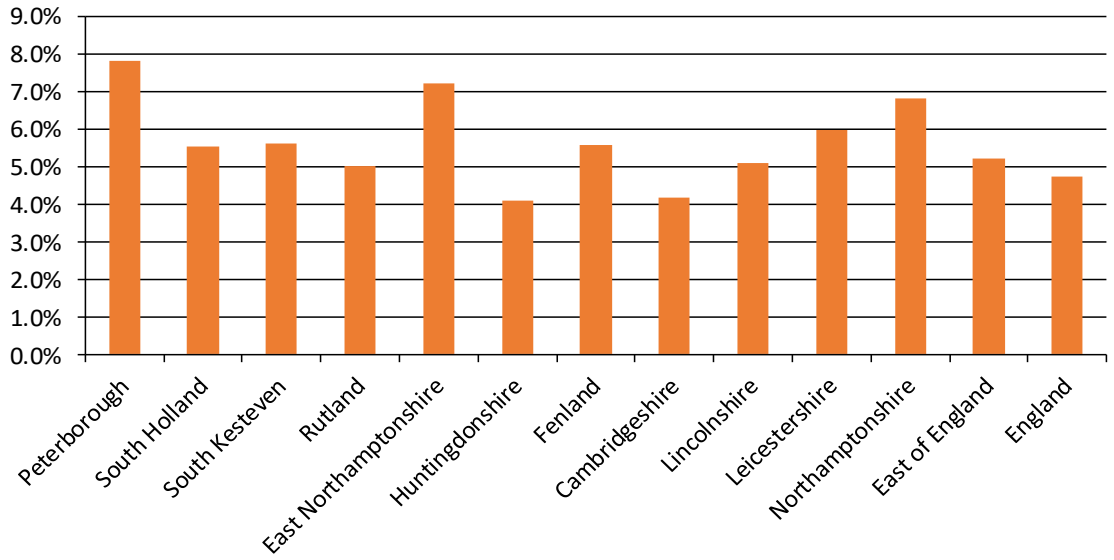
Table 2: ONS population estimates for neighbouring authorities

Local Authority Area	2011	2014	2015	2016	2017	Change 2011-2017	Change 2016-2017
Peterborough	184,460	190,490	193,660	196,740	198,910	7.8%	1.1%
Neighbouring Districts							
South Holland	88,390	90,380	91,250	92,530	93,300	5.6%	0.8%
South Kesteven	134,130	138,340	139,380	140,900	141,660	5.6%	0.5%
Rutland	37,580	38,260	38,350	38,950	39,470	5.0%	1.3%
East Northamptonshire	86,870	89,030	90,070	91,380	93,140	7.2%	1.9%
Huntingdonshire	170,040	173,880	175,330	176,100	176,980	4.1%	0.5%
Fenland	95,460	97,590	98,810	99,640	100,780	5.6%	1.1%
Neighbouring Counties							
Cambridgeshire	622,310	635,190	641,520	644,580	648,240	4.2%	0.6%
Lincolnshire	714,770	731,890	737,350	744,810	751,170	5.1%	0.9%
Leicestershire	651,180	666,680	673,410	680,470	690,210	6.0%	1.4%
Northamptonshire	693,970	713,350	722,170	732,450	741,210	6.8%	1.2%
East of England	5,862,420	6,017,250	6,075,970	6,129,010	6,168,430	5.2%	0.6%
England	53,107,170	54,316,620	54,786,330	55,268,070	55,619,430	4.7%	0.6%

Source: ONS mid-year population estimates

Notes: The East of England comprises Bedford UA, Cambridgeshire, Central Bedfordshire UA, Essex, Hertfordshire, Luton UA, Norfolk, Peterborough UA, Southend-on-Sea UA, Suffolk and Thurrock UA.

Figure 1: ONS population change (%) 2011-2017, Peterborough and surrounding local authorities, counties, the East of England, and England

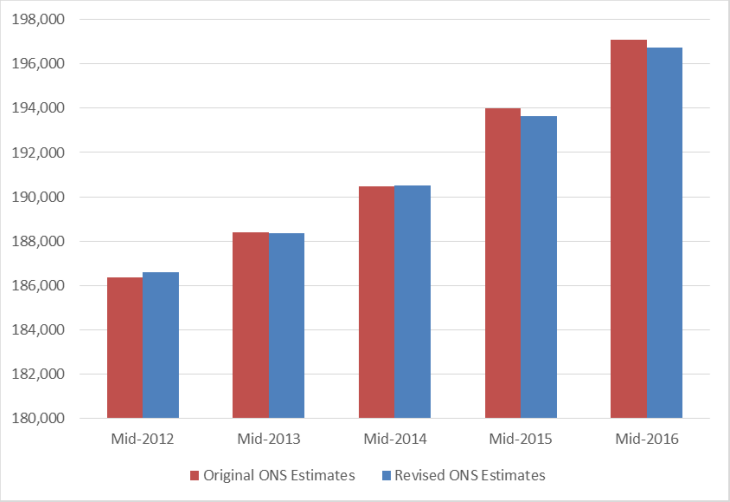


Source: ONS mid-year population estimates

ONS Revised Population Estimates, 2012-16

In March 2018, ONS released a revised set of mid-year population estimates for the period 2012 to 2016, following changes to its methodologies for estimating international migration flows. The most significant changes were made to the methodology for estimating international emigration, and these were applied to the revised estimates from 2012 onwards. Additionally, ONS made changes to its methodology for estimating international immigration which were applied to the 2015 and 2016 mid-year estimates. The overall impact is that by mid-2016 ONS estimated the population of Peterborough to be 196,740, a population 360 lower than it had originally estimated. Figure 2 shows the revised estimates for mid-2012 to mid-2016 compared to the original estimates published.

Figure 2: ONS revised population estimates compared to original population estimates, 2012 to 2016



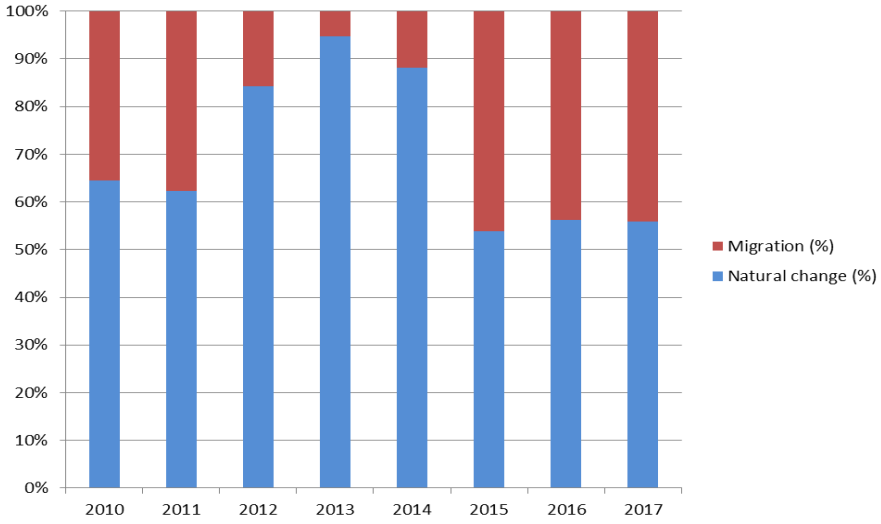
Source: ONS mid-year population estimates

Analysis of Population Change

Population change is driven by two main components: natural change (the balance of births and deaths) and net migration (the balance of the number of people leaving and arriving in an area). Figure 3 compares the degree to which natural change and net migration have contributed to population growth in Peterborough, based on latest ONS population estimates, from 2010 to 2017.

Between 2012 and 2014, ONS estimates that net migration only accounted for a small proportion of Peterborough's annual population change, and that the majority of population growth was due to natural change. During this time, natural change was responsible for more than 80% of the population growth for Peterborough and had appeared to have become the main driver of population growth. However, between 2015 and 2017 net migration accounted for around 45% of the total population change, taking it back to and higher than proportions seen around 2008 to 2011. Table 3 shows ONS' estimates for births and deaths, and thus natural change, between 2011 and 2017.

Figure 3: ONS components of population change 2010-2017, Peterborough



Source: ONS mid-year components of change, calculated on annual population change excluding changes to Special populations and Other populations

Table 3: Births and deaths in Peterborough, 2011-2017

	2011	2012	2013	2014	2015	2016	2017
Births	3,130	3,270	3,210	3,130	3,170	3,150	3,020
Deaths	1,420	1,480	1,450	1,350	1,560	1,480	1,680
Natural change	1,710	1,790	1,760	1,780	1,610	1,670	1,330

Source: ONS

There are two elements to migration: internal migration, which refers to movement within the UK, and international migration, which refers to movement between the UK and the rest of the world. Details of ONS internal and international migration estimates are shown in Table 4.

The ONS estimates show that net migration rose sharply in 2015, having fallen away significantly between 2012 and 2014 compared to previous years. These higher levels were maintained in 2016, but eased off in 2017 so that in 2017 overall net migration was +850.

In-migration of internal migrants remained fairly steady between 2012 and 2014, rose in 2015 and 2016, and increased, sharply, again in 2017. Internal out-migration is estimated to have increased in 2012 and then maintained similar levels to 2016, before also rising sharply in 2017. The net effect is that between 2012 and 2014 more than 1,000 internal migrants left Peterborough than arrived each year, but in 2017 the balance was much more equal with just 360 more internal migrants leaving than arriving.

International in-migration between 2015 and 2017 was slightly higher than had been seen between 2011 and 2014. Meanwhile international out-migration was lower between 2014 and 2015, before rising to higher levels in 2016 and 2017. Overall, net international migration has fluctuated between 1,300 and 2,100 each year between 2011 and 2017 (with more international migrants arriving in Peterborough than leaving).

The overall impact is that between 2015 and 2017, net migration has been a significant driver of population growth, particularly when compared to estimates for 2012 to 2014.

Table 4 shows that, according to ONS, approximately 54,430 people moved in to Peterborough from other parts of the UK, and 60,840 people moved out between 2011 and 2017. This suggests net out-migration from Peterborough of 6,410 internal (to the UK) migrants during this period.

ONS international migration estimates show that between 2011 and 2017 an estimated 18,240 people moved in to Peterborough from outside the UK, and 6,380 people moved out of Peterborough to outside the UK. This suggests a net in-migration to Peterborough of approximately 11,860 international (outside the UK) migrants during this period.

Table 4: ONS migration estimates for Peterborough, 2011-2017

	2011	2012	2013	2014	2015	2016	2017	Total
Internal in-migration	7,200	7,540	7,220	7,190	7,880	7,980	9,420	54,430
Internal out-migration	7,910	8,540	8,570	8,830	8,590	8,620	9,780	60,840
Net internal migration	-700	-1,000	-1,360	-1,640	-710	-640	-360	-6,410
International in-migration	2,580	2,350	2,370	2,550	2,760	3,020	2,610	18,240
International out-migration	840	1,010	910	670	670	1,080	1,200	6,380
Net international migration	1,740	1,340	1,460	1,880	2,090	1,950	1,410	11,860
Other changes	-60	10	-80	100	170	100	-210	40
Net migration	980	350	20	340	1,560	1,410	850	5,490

Source: ONS mid-year components of change

Between 2011/12 and 2013/14 international migration appeared to have stabilised. In 2014/15 there was a notable increase in international migration into Peterborough, as shown in Table 4, Table 5 and Table 6. These higher levels of international in-migration appear to have been sustained in 2015/16 and 2016/17.

Table 5: National Insurance Number registrations in Peterborough, 2012/13 to 2016/17

	2012/13	2013/14	2014/15	2015/16	2016/17	Total, 2012-17
European Union (EU15)	500	590	770	760	670	3,290
EU Accession States	3,010	2,630	3,400	3,530	3,820	16,390
Other European	30	30	30	30	50	170
Africa	70	110	130	160	110	580
Asia and Middle East	360	360	360	340	380	1,800
The Americas	30	40	60	50	70	250
Australasia and Oceania	20	10	20	20	30	100
Other	0	10	10	10	0	30
Total	4,020	3,790	4,780	4,910	5,120	22,620

Source: Department for Work and Pensions

All people coming to the UK and who take up employment for the first time must obtain a National Insurance Number (NINo). NINo data shows registration by nationality, and residential location by district. NINos are not de-registered even if a migrant subsequently leaves the UK. A Flag 4 is generated when a person registers with a GP (General Practitioner) if that person was either born outside the UK and is registering for the first time, or whose previous address was outside the UK. GP registration is not compulsory and there may be a time lag between migration and registration. The dataset is a snapshot taken annually, and an international migrant's subsequent internal migration is not recorded as a Flag 4. These data sources are not able to provide information on total international migrant populations at any point in time, but can be used to provide a sense of trend of international migration into an area.

Table 6: Flag 4 registrations in Peterborough, 2012/13 to 2016/17

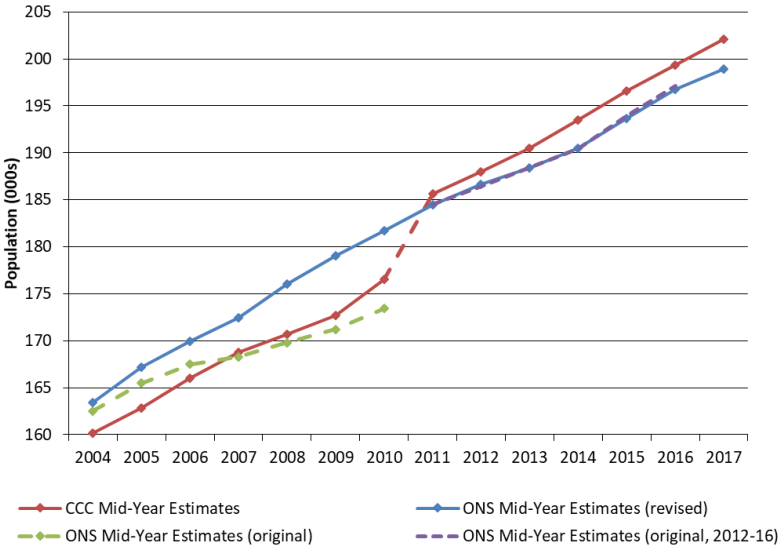
	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Flag 4 registrations	4,570	4,420	4,730	4,950	4,810	23,480

Source: ONS

ONS Population Estimates

Both ONS and CCC population estimates are constructed by assessing change in the population over the course of a year, and adding that change to the previous year's population estimate. Figure 4 shows that between 2004 and 2010 the CCC mid-year estimates and ONS mid-year estimates (original) followed a trend of total population much lower than the subsequent ONS mid-year estimates (revised), suggesting that both ONS and CCC may have been underestimating net migration. ONS produced a revised set of population estimates for the period 2002 to 2010, following the Census. CCC estimates since Census 2011 start with a mid-2011 base and roll forward annually to mid-2017. Figure 4 shows the trends in population estimates for ONS and CCC, with CCC estimates slightly higher than ONS since Census 2011.

Figure 4: CCC and ONS population estimates, Peterborough, 2004-2017



Source: CCC and ONS

CCC Population and Dwelling Stock Estimates

Table 7 to Table 11 present CCC's detailed population and dwelling stock estimates for Peterborough.

Table 7: CCC population estimates by ward, mid-2014 to mid-2017

Peterborough Urban Area – Wards	Mid-2014	Mid-2015	Mid-2016	Mid-2017	% Change, 2014-2017
Bretton	9,760	9,800	9,870	9,820	0.6
Central	10,910	11,390	11,680	12,170	11.5
Dogsthorpe	9,990	10,060	10,050	10,150	1.6
East	10,420	10,700	10,920	11,320	8.6
Fletton and Stanground	9,430	9,820	10,120	10,260	8.8
Fletton and Woodston	10,500	10,480	10,590	10,770	2.6
Gunthorpe	8,450	8,630	8,780	8,800	4.1
Hampton Vale	6,860	7,080	7,290	7,610	10.9
Hargate and Hempsted	6,200	6,340	6,690	7,000	12.9
North	10,870	10,840	10,930	11,000	1.2
Orton Longueville	11,120	11,060	11,090	11,100	-0.2
Orton Waterville	9,620	9,760	9,870	9,930	3.2
Park	10,850	10,930	10,910	10,900	0.5
Paston and Walton	10,870	10,980	11,080	11,090	2.0
Ravensthorpe	11,180	11,540	11,650	11,670	4.4
Stanground South	7,990	8,740	9,270	9,770	22.3
Werrington	10,520	10,470	10,410	10,340	-1.7
West	5,910	5,880	5,890	5,960	0.8
Peterborough Urban Area	*171,440*	*174,500*	*177,080*	*179,680*	*4.8*
Rural Wards					
Barnack	3,030	3,080	3,160	3,230	6.6
Eye, Thorney and Newborough	8,810	8,840	8,950	9,110	3.4
Glinton and Castor	6,480	6,550	6,540	6,520	0.6
Wittering	3,770	3,660	3,600	3,580	-5.0
Total Peterborough Unitary Authority	**193,530**	**196,640**	**199,320**	**202,110**	**4.4**

Source: CCC mid-year population estimates

Table 8: CCC population estimates for rural parishes, mid-2014 to mid-2017

Parish	Mid-2014	Mid-2015	Mid-2016	Mid-2017	% Change, 2014-2017
Ailsworth	570	580	580	590	3.0
Bainton	310	310	310	320	1.9
Barnack	990	990	1,000	990	0.6
Borough Fen	130	130	140	140	3.8
Castor	890	900	900	890	0.0
Deeping Gate	510	500	500	500	-1.2
Etton	140	160	140	140	-4.9
Eye	4,600	4,650	4,760	4,880	6.0
Glinton	1,710	1,710	1,680	1,680	-1.7
Helpston	1,060	1,100	1,150	1,200	13.6
Marholm	150	160	150	150	-1.3
Maxey	710	730	730	720	1.3
Newborough	1,670	1,670	1,670	1,680	0.9
Northborough	1,310	1,330	1,350	1,340	2.1
Peakirk	420	430	440	440	4.7
Southorpe	140	140	130	130	-3.7
St. Martin's Without	40	40	50	50	45.7
Sutton	130	130	140	140	5.4
Thorney	2,410	2,400	2,380	2,410	0.0
Thornhaugh	190	190	180	180	-0.5
Ufford	220	220	230	250	12.4
Upton	60	60	50	50	-5.4
Wansford	500	500	490	500	1.6
Wittering (AF)	2,900	2,780	2,730	2,710	-6.7
Wothorpe	280	290	290	290	2.8
Peterborough Rural Area	**22,030**	**22,090**	**22,190**	**22,380**	**1.6**

Source: CCC mid-year population estimates

Notes: (AF) Wittering is a parish which has an armed forces population which can impact population changes.

Table 7 shows that Peterborough has seen a 4.4% growth in population between mid-2014 and mid-2017. Peterborough's urban area shows a 4.8% population growth, and all but two of the eighteen urban wards (Orton Longueville and Werrington) have seen some level of population growth. In most wards this growth has been below 10%, but Central ward, Hampton Vale, Hargate and Hempsted and particularly Stanground South have seen higher levels of population increase. The highest level of population growth, at more than 20%, was experienced in Stanground South, reflecting the impact of new housing in the ward. The rises in population of between 11 and 13% in Hampton Vale and Hargate and Hempsted wards reflect the continuing impact of the development of the Hampton township. Meanwhile, more than 600 net additional dwellings have been completed in Central ward over the period.

As shown in Table 7 rural wards have seen much smaller changes in population numbers between mid-2014 and mid-2017, averaging a rise of 1.6% overall.

For rural parishes, as shown in Table 8, most notably Eye and Helpston have seen a rise in population of 6.0% and 13.6% respectively, due to new dwellings, as seen in Table 11. Peakirk, St. Martin's Without, Sutton and Ufford appear to have had notable population increases, and Etton, Southorpe and Upton sizeable population declines. However, the relatively small sizes of these parishes mean that the changes involved small numbers of people. The 6.7% fall in Wittering's population is largely driven by changes to the armed forces population. Certain parishes contain more than one 'settlement', defined as reasonably distinct populations greater than 50. Such parishes and their constituent settlements are listed below in Table 9.

Table 9: CCC population estimates for settlements, mid-2017

Parish / Settlement	Population
BAINTON	**320**
Bainton	250
Ashton	70
BARNACK	**990**
Barnack	840
Pilsgate	100
Remaining population	50
CASTOR	**890**
Castor	820
Milton	70
EYE	**4,880**
Eye	4,260
Eye Green	610
THORNEY	**2,410**
Thorney	1,850
Remaining population	560

Source: CCC mid-2017 population estimates

Table 10: CCC dwelling stock estimates by ward, mid-2014 to mid-2017

Peterborough Urban Area – Wards	Mid-2014	Mid-2015	Mid-2016	Mid-2017	% Change, 2014-2017
Bretton	4,040	4,050	4,080	4,100	1.5
Central	4,530	4,740	4,850	5,140	13.5
Dogsthorpe	4,020	4,040	4,040	4,060	1.0
East	4,300	4,430	4,500	4,670	8.5
Fletton and Stanground	4,160	4,330	4,440	4,480	7.7
Fletton and Woodston	4,640	4,650	4,660	4,760	2.6
Gunthorpe	3,580	3,670	3,760	3,760	5.0
Hampton Vale	2,570	2,680	2,710	2,800	8.7
Hargate and Hempsted	2,300	2,370	2,510	2,630	14.4
North	4,060	4,080	4,100	4,100	1.0
Orton Longueville	4,580	4,580	4,580	4,590	0.3
Orton Waterville	4,180	4,240	4,280	4,300	2.8
Park	3,840	3,840	3,850	3,860	0.5
Paston and Walton	4,480	4,540	4,540	4,540	1.3
Ravensthorpe	4,240	4,290	4,290	4,290	1.3
Stanground South	3,400	3,690	3,860	4,020	18.5
Werrington	4,600	4,600	4,600	4,600	0.0
West	2,360	2,360	2,360	2,360	0.0
Peterborough Urban Area	*69,890*	*71,170*	*72,010*	*73,070*	*4.6*
Rural Wards					
Barnack	1,360	1,400	1,400	1,440	5.7
Eye, Thorney and Newborough	3,770	3,790	3,860	3,950	4.6
Glinton and Castor	2,760	2,770	2,770	2,770	0.4
Wittering	1,540	1,540	1,550	1,560	1.0
Total Peterborough Unitary Authority	**79,320**	**80,660**	**81,580**	**82,790**	**4.4**

Source: CCC mid-year dwelling stock estimates

Table 11: CCC dwelling stock estimates for rural parishes, mid-2014 to mid-2017

Parish	Mid-2014	Mid-2015	Mid-2016	Mid-2017	% Change, 2014-2017
Ailsworth	250	260	260	260	1.2
Bainton	130	130	130	130	0.8
Barnack	460	460	460	470	0.4
Borough Fen	50	50	50	50	0.0
Castor	400	400	400	400	0.0
Deeping Gate	220	220	220	220	0.5
Etton	60	60	60	60	0.0
Eye	1,950	1,960	2,020	2,070	6.3
Glinton	680	680	680	680	0.0
Helpston	430	470	470	500	15.7
Marholm	80	80	80	80	0.0
Maxey	300	310	310	310	1.3
Newborough	700	700	710	710	2.4
Northborough	570	580	580	580	0.3
Peakirk	180	180	180	180	0.6
Southorpe	60	60	60	60	3.3
St. Martin's Without	20	20	20	20	0.0
Sutton	60	60	60	60	0.0
Thorney	1,070	1,080	1,080	1,110	3.4
Thornhaugh	90	90	90	90	1.1
Ufford	120	120	120	120	2.6
Upton	20	20	20	20	0.0
Wansford	220	220	220	230	4.1
Wittering (AF)	1,160	1,160	1,160	1,160	0.4
Wothorpe	140	140	140	140	1.5
Peterborough Rural Area	**9,420**	**9,470**	**9,550**	**9,700**	**3.0**

Source: CCC mid-year dwelling stock estimates

CCC's dwelling stock estimates show that the total number of dwellings in mid-2017 has increased by some 3,470 since mid-2014 to approximately 82,790 dwellings, a rise of 4.4%. The Peterborough urban area has seen a total increase of 3,190 dwellings, a rise of 4.6%, whilst rural wards have added 280 dwellings to their estimated stock, a 3.0% rise. Table 10 shows that Stanground South has experienced the biggest numerical and percentage increase in dwellings between mid-2014 and mid-2017. Dwelling stock here has grown by 18.5%, just over 600 new dwellings. Central ward has seen similar levels of increases in dwelling stock over the same period, with a rise of just over 600 net additional dwellings representing an increase of 13.5%. Hargate and Hempsted (330 new additional dwellings) and Hampton Vale (230 net additional dwellings) wards have also seen dwelling growth linked to the development of Hampton township. East and Fletton and Stanground have both seen more than 300 net additional dwellings between mid-2014 and mid-2017.

The rural parishes of Eye and Helpston are notable as they have seen a growth in dwellings of 120 and 70 respectively between mid-2014 and mid-2017. Over the same period, dwellings in Thorney have increased by 40.

POPULATION AND DWELLING STOCK FORECASTS, 2017-2036

Population Forecasts, 2017-2036

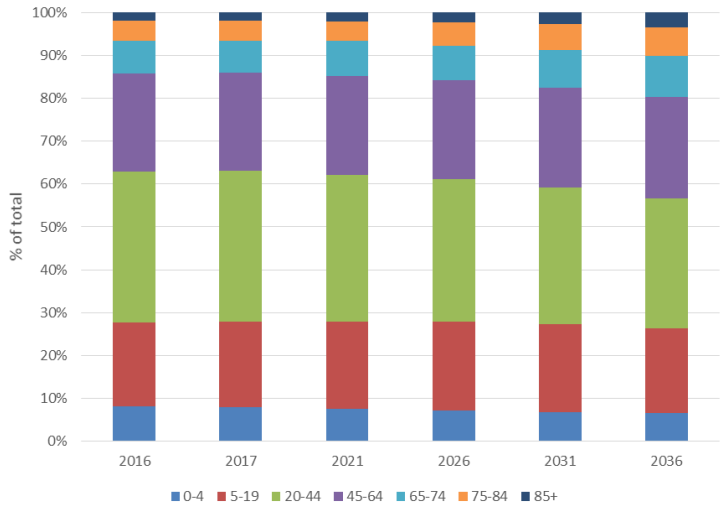
Table 12 shows that between 2017 and 2036 Peterborough's population is forecast to grow by 16% to 234,840. There is particularly strong growth in the 65+ population and in the 15-19 age group, whilst the 45-64 year age group also shows sustained growth over the period. The school-aged population shows strong growth in the early part of the period but begins to fall away from 2026, partly reflecting the fairly static size of the 0-4 years age group in the early part of the period which then also starts to fall away from 2026.

Table 12: CCC 2017-based population forecasts, Peterborough, 2017-2036

Age Group	2017	2021	2026	2031	2036	% Change 2017-2036
0-4	16,110	16,000	16,160	15,840	15,280	-5.2
5-14	28,240	31,190	32,650	32,070	31,100	10.1
15-19	11,990	12,420	14,370	15,670	15,600	30.1
20-24	11,980	11,350	11,330	12,180	12,150	1.5
25-44	59,040	61,690	63,860	61,950	58,920	-0.2
45-64	46,270	49,390	52,140	54,340	55,530	20.0
65-74	15,170	17,160	18,340	20,570	22,640	49.2
75-84	9,440	9,820	12,160	14,250	15,330	62.4
Over 85	3,870	4,410	5,170	6,150	8,290	114.3
Total	202,110	213,440	226,190	233,020	234,840	16.2

Figure 5 shows the changing age structure of Peterborough's population. The trend to an ageing population is shown, as the 65+ age group is forecast to increase its share of the total population from 14% in 2017 to 20% by 2036. Whilst the young population, aged 5 to 19 years, is forecast to broadly maintain its share of the total population over the period, the very young 0-4 years age group's share of the population is forecast to fall by 1%, and the 20-44 years age group is forecast to fall from 35% of the total population in 2017 to 30% by 2036.

Figure 5: CCC forecast age structure, Peterborough, 2017-2036



Source: CCC's 2017-based population forecasts

CCC's population forecasts are based on the assumption that house-building in Peterborough will come forward as shown in Table 13, with a 22% increase in total dwelling numbers across the authority between 2017 and 2036.

Table 13: CCC dwelling stock forecasts, Peterborough, 2017-2036

	2017	2021	2026	2031	2036	% change 2017-2036
Number of dwellings	82,790	86,980	93,420	98,100	101,030	22.0

Source: CCC and PCC

Table 14 presents the population forecasts for Peterborough by ward. The forecasts suggest that the wards of Hargate and Hempsted along with Gunthorpe and Hampton Vale will be the fastest growing between 2017 and 2036. Central, Orton Waterville and Stanground South wards are also forecast to see strong population growth of between 15 and 23%.

Bretton, North, Orton Longueville, Park, Paston and Walton, Werrington and West all have a forecast decline of up to 3% in their populations. Declining populations can be expected in areas without further house-building, as population growth from in-migration would be limited, whilst younger residents (i.e. the adult children of home owners) are likely to out-migrate to set up home. Additionally, population ageing will result in smaller household sizes. The population housed by the current housing stock in such areas is therefore likely to fall. There are some exceptions, notably in areas close to the city centre which are more readily influenced by the pressures of inward migration, which are likely to see small increases in population change without significant new house-building.

The rural wards of Barnack, Eye, Thorney and Newborough, and Wittering are all forecast population growth of around 8% over the period, whilst the population of Glinton and Castor is forecast to start and end the period at similar levels.

The increases in population are largely focused on the first half of the forecast period, after which population growth begins to tail away in the majority of wards, although Gunthorpe, Hampton Vale and Hargate and Hempsted wards continue to see strong growth between 2026 and 2031. In addition, the first new dwellings at Great Haddon are forecast to be completed in 2021-22, with completions picking up pace in the second half of the forecast period.

Table 14: CCC population forecasts by ward, Peterborough, 2017-2036

Ward	2017	2021	2026	2031	2036	% Change, 2017-36
Barnack	3,230	3,480	3,540	3,510	3,500	8.4
Bretton	9,820	10,090	10,000	9,860	9,720	-1.0
Central	12,170	13,450	15,000	15,300	14,970	23.0
Dogsthorpe	10,150	10,500	10,570	10,410	10,240	0.9
East	11,320	11,580	11,620	11,650	11,730	3.6
Eye, Thorney and Newborough	9,110	9,940	10,270	10,200	10,060	10.4
Fletton and Stanground	10,260	11,290	11,290	11,130	10,970	6.9
Fletton and Woodston	10,770	11,200	11,530	11,360	11,180	3.8
Glinton and Castor	6,520	6,750	6,720	6,650	6,560	0.6
Gunthorpe	8,800	9,460	11,710	13,940	14,470	64.4
Hampton Vale	7,610	8,430	9,910	10,860	10,620	39.6
Great Haddon	0	0	1,870	6,120	9,920	
Hargate and Hempsted	7,000	9,390	11,890	13,050	13,080	86.9
North	11,000	11,100	11,060	10,880	10,690	-2.8
Orton Longueville	11,100	11,180	11,070	10,930	10,770	-3.0
Orton Waterville	9,930	10,420	12,210	12,200	12,000	20.8
Park	10,900	11,020	10,910	10,750	10,580	-2.9
Paston and Walton	11,090	11,190	11,090	10,940	10,770	-2.9
Ravensthorpe	11,670	11,770	11,650	11,680	11,760	0.8
Stanground South	9,770	11,160	11,640	11,450	11,250	15.1
Werrington	10,340	10,400	10,440	10,340	10,230	-1.1
West	5,960	6,000	6,350	5,930	5,890	-1.2
Wittering	3,580	3,670	3,880	3,880	3,890	8.7
Total	202,110	213,440	226,190	233,020	234,840	16.2

Source: CCC 2017-based population forecasts.
Great Haddon refers to the proposed new development between Hampton and Yaxley.

Dwelling Stock Forecasts, 2017-2036

Table 15 shows CCC's dwelling stock forecasts for Peterborough. It gives figures by ward as well as for the authority as a whole. Appendix 2: Notes for Users: Population and Dwelling Stock Forecasts provides the methodology of how these forecasts were constructed.

Table 15: CCC dwelling stock forecasts by ward, Peterborough, 2017-2036

Ward	2017	2021	2026	2031	2036	Change, 2017-36
Barnack	1,440	1,530	1,580	1,600	1,620	180
Bretton	4,100	4,190	4,220	4,240	4,270	170
Central	5,140	5,630	6,490	6,620	6,650	1,510
Dogsthorpe	4,060	4,190	4,280	4,310	4,330	270
East	4,670	4,750	4,840	4,960	5,100	430
Eye, Thorney & Newborough	3,950	4,260	4,450	4,510	4,540	590
Fletton & Stanground	4,480	4,880	4,950	4,980	5,010	530
Fletton & Woodston	4,760	4,910	5,120	5,150	5,170	410
Glinton & Castor	2,770	2,850	2,880	2,900	2,910	140
Gunthorpe	3,760	4,020	4,980	5,970	6,340	2,580
Hampton Vale	2,800	3,110	3,760	4,240	4,270	1,470
Great Haddon	0	0	750	2,480	4,110	4,110
Hargate & Hempsted	2,630	3,570	4,630	5,240	5,400	2,770
North	4,100	4,130	4,180	4,210	4,240	140
Orton Longueville	4,590	4,610	4,630	4,660	4,690	100
Orton Waterville	4,300	4,480	5,260	5,360	5,390	1,090
Park	3,860	3,880	3,910	3,930	3,960	100
Paston & Walton	4,540	4,560	4,590	4,620	4,640	100
Ravensthorpe	4,290	4,310	4,340	4,450	4,580	290
Stanground South	4,020	4,570	4,830	4,860	4,890	870
Werrington	4,600	4,610	4,690	4,710	4,740	140
West	2,360	2,360	2,390	2,410	2,440	80
Wittering	1,560	1,590	1,700	1,720	1,740	180
Total	**82,790**	**86,980**	**93,420**	**98,100**	**101,030**	**18,240**

Source: CCC 2017-based population forecasts
Great Haddon refers to the proposed new development between Hampton and Yaxley.

APPENDICES

Appendix 1: Notes for Users: Population and Dwelling Stock Estimates

1) Total Population Estimates

Definition:

The total population figures are estimates of the usual resident population. The definition of the resident population used for our mid-year estimates is the same as that used in the 2011 Census as all students (including school boarders) are counted as resident at their term-time address. The population estimates include persons living in communal establishments as well as those in private households.

Method:

Cambridgeshire County Council's population estimates build on the Census 2011 data. To produce the mid-2011 population estimates Cambridgeshire County Council compared the results of the Census with population data provided by alternative sources, including health statistics, school rolls and electoral registers, to establish a mid-2011 set of population estimates. The mid-2011 population estimates therefore not only include the change that has occurred due to the time lapse between the date of the Census and mid-2011, but in some wards (notably in some urban wards) may also address an element of Census undercount. The population estimates have then been carried forward using a consistent methodology to produce a set of mid-year estimates to mid-2017.

For two parishes (St Martin's Without and Upton) the ONS methodology means that these geographies are excluded from the Census results as parishes as they are too small an area. The ONS methodology covers the results for these areas through Output Areas, which it aggregates with those for a neighbouring parish. To address this issue, figures from the relevant Output Areas of these neighbouring parishes have been reallocated accordingly.

The sources used to compile the estimates cover the whole population age range: electoral registers and health service statistics for the adult population; child benefit data, school rolls and health service statistics for the school-aged population and child benefit data and health service statistics for the pre-school population. Additional sources are used to monitor groups for which coverage is otherwise incomplete or uncertain. These include data sets on armed forces populations, higher education establishments, independent schools and other institutions such as nursing and residential homes and prisons.

Using electoral roll data to produce reliable population estimates has long been recognised to have limitations, associated with the compilation of the electoral register. At intervals there is a tidying up process whereby the names of people who have died or moved away are removed from the electoral register and attempts are made to increase the level of registration of 17 year olds and other sub-groups of the population. Changes also occur in the general practice of canvassing for the electoral roll which can impact consistency of responses. The electoral register can be a poor indicator of changes in numbers of service personnel and their families living in an area. These issues were compounded with the 2014 electoral roll data, as the transitional impact of the

implementation of individual electoral registration in 2014 was highlighted. As an example to illustrate this, the total on the electoral roll for Peterborough City Council in December 2014 at 135,350, was more than 1,300 lower than the total on the electoral roll in February 2014, and almost 200 lower than those on the register at December 2012. Consequently, it was recognised that changes in a particular area may occur in the number registered to vote that appear inconsistent with other indicators such as the number of new housing completions. The population estimates for mid-2011 to mid-2017 have been produced with reference to the electoral register data, along with consideration of other data sets including health service statistics and housing completions data.

The population estimates are only as reliable as the sources and methods used to produce them. Certain parishes and wards, particularly those with large numbers of armed forces or students, are more difficult to estimate in terms of population size and figures are also likely to fluctuate more. As a general rule, the longer the period over which population changes are analysed, and the larger the settlement, the more reliable the results are likely to be. Particular care should be taken in using the figures for areas:

Areas with large numbers of armed forces and their families – the electoral register is a poor indicator of changes in numbers of service personnel and their families living in an area. Low registration levels reflect high turnover among those entitled to vote. Information from the Ministry of Defence is used to adjust the estimates where it is clear that our usual sources give a poor indication of change. Unfortunately, this source is itself often incomplete, particularly with regard to families of armed forces and those living in accommodation off the base.

Areas with large numbers of students - experience suggests that many students, especially those living in privately rented accommodation, are not entered on the electoral register. Students from overseas may not be eligible for registration. Figures from educational establishments help in recording changes in the student population not fully covered by electoral roll change.

Rounding:

Figures for parishes and wards have all been rounded to the nearest 10 people and may not sum to district totals.

2) Dwelling Stock Estimates

Definition:

Estimates of dwelling stock relate to the number of self-contained residential units whereby, if there is more than one separate area of living accommodation within a property, each is counted separately. Vacant properties, second homes and holiday homes are included, as are non-permanent dwellings, such as caravans and houseboats (where these are used as dwellings).

Method:

The 2011 Census provided a count for the number of dwellings by parish and urban ward. For two parishes (St Martin's Without and Upton) the ONS methodology means that these geographies are excluded from the Census results as parishes as they are too small an area. The ONS methodology covers the results for these areas through Output Areas, which it aggregates with those for a neighbouring parish. To address this issue, figures from the relevant Output Areas of these neighbouring parishes have been reallocated accordingly.

The 2011 Census count of the number of dwellings by parish and ward form the basis for the mid-year estimates. Estimates have been calculated using housing completions data published annually by Peterborough City Council to record annual change since the Census, with an estimate included to account for dwellings completed between the Census and mid-2011.

Rebasing the CCC estimates model every ten years can lead to some discontinuity between figures; comparisons with intermediate years' estimates should be made with some caution and small changes in populations should not be scrutinised too heavily.

Rounding:

Figures for parishes and wards have all been rounded to the nearest 10 dwellings and may not sum to district totals.

Appendix 2: Notes for Users: Population and Dwelling Stock Forecasts

1) Population Forecasts

CCC's forecasts are 'policy-led', so that they are consistent with planned levels of house-building. They are therefore different from projections produced by ONS, which are trend-based, meaning they assume that recent trends continue in the future. The ONS forecasts make no specific assumption about levels of house-building, however in general terms they implicitly assume that building continues on a similar level to recent years. They therefore do not take account of new housing developments in areas with low growth previously; similarly, they may over-estimate future growth in areas that had high levels of house-building in the past.

CCC uses POPGROUP to produce its population forecasts. POPGROUP is a suite of demographic software developed to generate population estimates and forecasts, now managed and developed by Edge Analytics under licence from the Local Government Association (LGA) / Improvement and Development Agency (IDeA), the owners of the software.

The population forecasts are produced by ageing forward the population by sex and single year of age from a base date, year by year. Population change is forecast by allowing for the main components of population change: births and deaths (the balance of which gives natural change), and migration.

Base Population:

The base year for the population used in the latest forecasts is 2017, and this is derived from CCC's mid-2017 population estimates.

Fertility Assumptions:

Births are forecast by applying age-specific fertility rates to the numbers of women of child-bearing age in the local population. The forecast age-specific fertility rates used in the model are taken from the 2016-based ONS population projections for Peterborough.

Mortality Assumptions:

The process by which deaths are calculated in the model is very similar to that used to calculate births. Deaths are forecast by applying age-specific mortality rates to the number of men and women in the local population. The forecast sex- and age-specific mortality rates used in the model are taken from the 2016-based ONS population projections for Peterborough.

Migration Assumptions:

Net migration is the balance between migration into an area and migration from it. The age and sex structure of migrants gives the probability of migrants being of a particular age and sex. This structure is determined for the base year of the model and then fitted to forecast totals of net migration to produce numbers of migrants into or out of an area by sex and age. The age and sex structure of migrants used in the model is taken from the 2016-based ONS population projections for Peterborough.

In this model run, in-migration is adjusted such that the number of households generated by the model is consistent with the number of dwellings that are expected to be built between 2017 and 2036.

Student population:

The 2017-based population forecasts take into consideration Peterborough's vision for the creation of an independent university:

"Separately, part of the overall vision for Peterborough is the creation of an independent, campus based university". (p14, Draft Peterborough Local Plan May 2019).

Reliability:

Forecasts are only as accurate as the assumptions on which they are based. Assumptions used here about fertility, mortality and migration are based on the best available information, but they are complex factors with countless influences. It is impossible to predict the future; we can only make reasoned guesses based on what we know about the past and the present. The forecasts are continually revised as new assumptions become available. This means that current figures will differ from those published (for the same time frame) in previous years. In some cases differences may be quite considerable due to revised assumptions about the phasing of planned development.

Local authority level forecasts rely on dwelling targets being achieved and are therefore subject to the same reliability issues that affect the dwelling stock forecasts. In general, the forecasts become less reliable the further they project into the future. The total population forecasts will be more reliable than for individual ages and sexes.

2) Dwelling Stock Forecasts

Dwelling stock forecasts form the basis of the population forecasts. Table 16 sets out the future levels of house-building assumed in the forecasting model. Overall, in this forecast around 24,080 additional dwellings are assumed will be completed between mid-2011 and mid-2036. These include the Great Haddon development.

Table 16: Summary of house-building, 2011-2036

1: Actual completions 2011-2018	2: Expected provision 2018-2036	3: Total 2011-2036
6,610	17,470	24,080

Source: PCC and CCC

The phasing and location of new housing by ward is determined through the Local Plan process. At the time of the production of the 2017-based dwelling stock forecasts, Peterborough's Local Plan was in the examination stage. This set of 2017-based dwelling stock forecasts has been produced with reference to the housing phasing indicated by a combination of the housing trajectory in the Five Year Land Supply Report published by Peterborough City Council in October 2018 and the proposed housing target of 19,440 dwellings required between 2016 and 2036, as set out in EO53 Schedule of Proposed Main Modifications to Peterborough Local Plan, published January 2019. This target includes the estimated need for 600 new dwellings to accommodate students in relation to Peterborough's vision for an independent university. The target was subsequently confirmed in the final Draft Local Plan, which is due for consideration by Cabinet on 10 July and Full Council on 24 July 2019.

The housing trajectory published in the Five Year Land Supply Report details the number and phasing of dwellings expected to come forward on individual sites. This trajectory was used to guide the distribution of house-building between wards for the period 2018-23. For the latter part of the forecast period, 2023-36, the housing trajectory published in the Five Year Land Supply report was again used to guide the distribution of house-building, with scaling such that the Local Plan's overall housing target of 19,440 net additional dwellings is met over the period 2016-36. Individual sites by location were scaled such that total expected completions in each location group match the broad distribution of dwellings by location that is included within the Local Plan. Table 17 sets out the net completions and forecast completions by location for the period 2016-36 used within CCC's 2017-based dwelling stock forecasts. The figures match those that are presented in Table 5, p89 of Peterborough's Draft Local Plan. (Draft Peterborough Local Plan May 2019).

Table 17: Summary of house-building, 2016-2036

Location	Net completions, 2016-18	Forecast completions, 2018-36	Forecast completions, 2016-36	% of total
Urban Area	1,286	3,962	5,248	27%
Urban Extensions	456	11,014	11,470	59%
Rural / Villages	228	744	972	5%
Windfall		1,750	1,750	9%
Total	1,970	17,470	19,440	100%

Source: PCC and CCC

The trajectory follows financial years, while the CCC forecasts reflect the mid-year point. For simplicity, the financial years are assumed to correspond to the nearest mid-year point. In other words, where a trajectory details developments expected between April 2017 and March 2018, these are assumed to occur between mid-2017 and mid-2018 in our forecasts.

Reliability & Local Factors:

The authority and ward-level dwelling stock forecasts present an optimistic view of dwelling stock growth as they assume that all planned dwellings are built according to policy. In terms of planning for the future it is necessary to consider the full implications of policy, even if there are questions as to whether policy can be achieved. The extent to which policy targets are achieved depends on many factors, including market forces and the economy. All development is subject to the development control system; development on designated sites depends on suitable planning applications being received from developers. In addition, “windfall” sites, which have not been allocated for housing growth, can become available.

Appendix 3: Map of Peterborough and surrounding districts

Map 1 – Peterborough and surrounding districts

Appendix 4: 2016 ward boundary changes, Peterborough

2016 ward boundaries

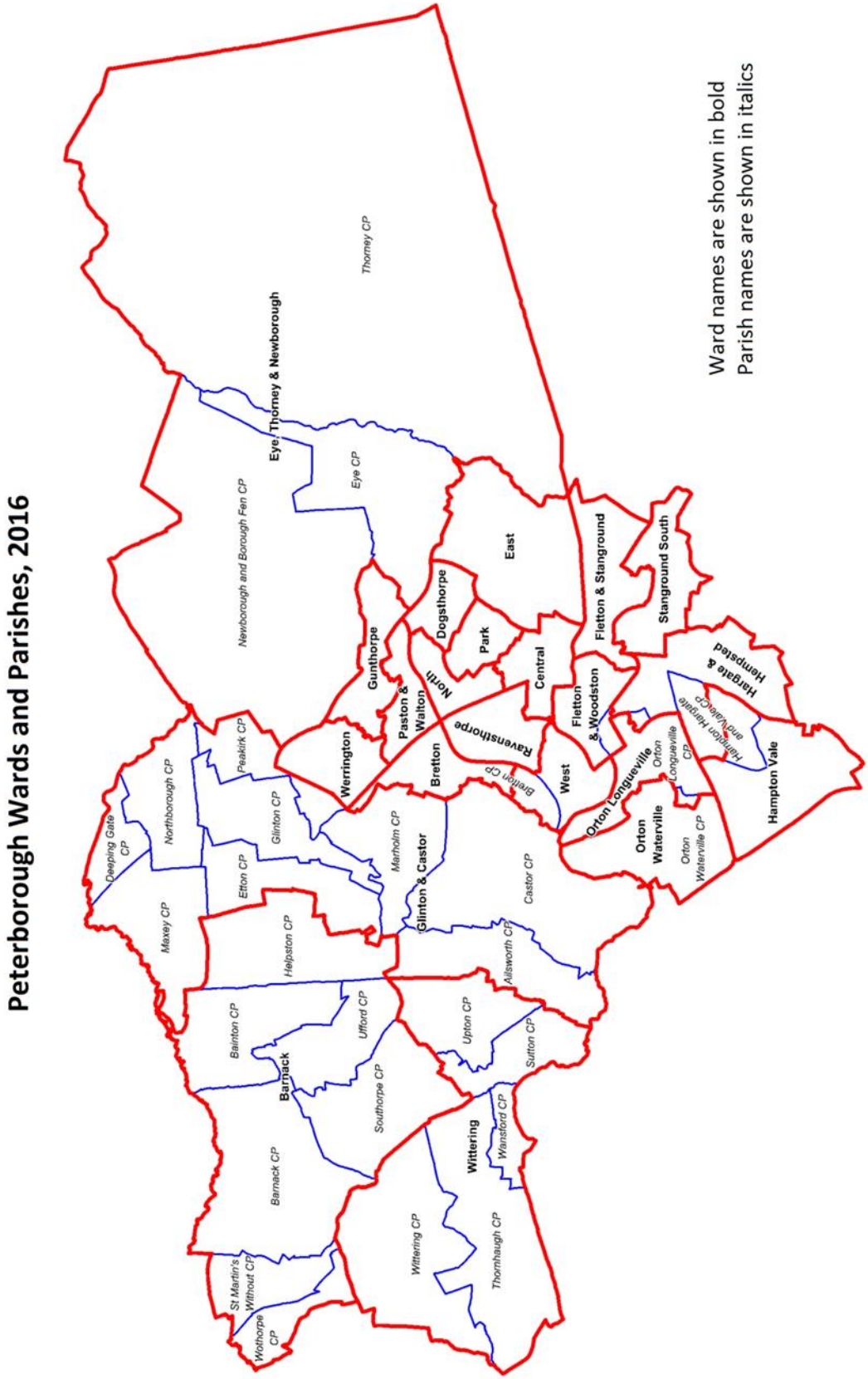
At the local elections in 2016 new ward boundaries for Peterborough took effect. The new boundaries were the result of the boundary review which took place during 2015, with the Peterborough (Electoral changes) Order 2015 confirming the new ward boundaries in late 2015. From 2016, 22 wards replaced the 24 wards that were in place. The rural wards were reshaped, with the 5 wards being replaced by 4 and only Barnack remaining unchanged. The rural ward of Glinton and Castor included an element of non-parished area that was previously in the old Werrington North urban ward. Table 18 details the new rural wards with their parishes that took effect in 2016. The 19 urban wards were replaced by 18. Whilst the previous urban wards of Bretton North, Dogsthorpe and Park were effectively unchanged, (although the previous ward of Bretton North was renamed Bretton), all other urban wards were changed. This Appendix includes maps of the previous ward boundaries and those that have applied since 2016.

Table 18: 2016 rural wards

2016 Rural Wards	Parishes
Barnack	Bainton Barnack Helpston St Martin's Without Southorpe Ufford Wothorpe
Eye, Thorney and Newborough	Eye Thorney Newborough
Glinton and Castor	Ailsworth Castor Deeping Gate Etton Glinton Marholm Maxey Northborough Peakirk Non-Parished Area
Wittering	Sutton Thornhaugh Upton Wansford Wittering

Source: CCC

Map 2 – Peterborough wards and parishes, 2016



Map 3 – 2011-2015 Peterborough wards and parishes