

**Lancaster Independent Housing
Requirements Study 2015**
Lancaster City Council

October 2015

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Client

Lancaster City Council

October 2015

Executive Summary

1. Turley – in partnership with Edge Analytics – have been commissioned by Lancaster City Council to update the Independent Housing Requirements Study¹ (IHRS) published in October 2013. The purpose of this report is to update the objective assessment of need (OAN) for housing in Lancaster district ('Lancaster'), by considering the implications of the 2012-based sub-national household projections (SNHP) and the conclusions of the 2014 Review of the Employment Land Position for Lancaster District² (RELP).
2. New guidance has also been published since the previous study was undertaken, with the Planning Practice Guidance (PPG) providing clear guidance on the approach, scope and methodology to be used in assessing housing need.
3. In line with the PPG, it is appropriate to consider Lancaster as a self-contained housing market area for the purposes of assessing housing need. While there are relationships and some commonality with neighbouring areas, there is a relatively high containment of moves within the district, with a high proportion of Lancaster residents also working in the district.

Demographic Projections of Need

4. The 'starting point' for the assessment – as per the PPG³ – is the 2012 SNHP, which shows that the number of households in Lancaster could increase by 325 annually over the plan period from 2013 to 2031. This would generate a need for 341 dwellings per annum, allowing for vacancy. It is, however, important to recognise that the household projections are underpinned by population projections, which show how the population may continue if recent trends – from the past five years – are sustained. The 2012-based sub-national population projections (SNPP) project a relatively low level of growth in Lancaster compared to earlier projections, and the analysis in this report shows that these projections are likely to have been strongly influenced by the recessionary market context over recent years.
5. On this basis, further demographic growth scenarios have been developed by Edge Analytics to show how a continuation of longer term migration trends over the past ten years may change the population of Lancaster. A 10 year Past Growth scenario suggests that the population may increase by around 14,000 over the plan period – approximately doubling the rate of growth implied by the 2012 SNHP – resulting in an annual need for 521 dwellings per annum. This scenario is more likely to reflect pre-recession conditions in the district, although there is some uncertainty regarding historic international migration flows in particular in Lancaster – given that the population did not grow to the extent estimated by ONS between Census years – and this is explored throughout this report.

¹ Turley (2013) Independent Housing Requirements Study – Lancaster City Council

² Turley (2014/15) Review of the Employment Land Position for Lancaster District

³ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_015

Factoring in Likely Job Growth

6. The PPG also highlights the importance of considering likely job growth, ensuring that sufficient new housing is provided to support associated growth in the labour force. The RELP includes two employment scenarios, with a Baseline scenario – based on Experian forecasts released in June 2014 – suggesting an annual growth of 380 full-time equivalent (FTE) jobs over the period from 2013 – the base date of the modelling – to 2031. A second Baseline+ scenario increases annual job creation to 425 jobs to take account of a selected number of strategic projects identified in Lancaster.
7. Modelling undertaken by Edge Analytics shows that the population growth implied by the 2012 SNHP and 10 year Past Growth scenarios would not support forecast job creation in Lancaster, based on conservative assumptions around future economic activity, commuting and unemployment. This suggests that the labour force would need to see a higher level of growth to support likely job growth, which would require higher numbers of people moving to the district and fewer moving out (net migration). The latter could incorporate an assumed increase in retention of graduates and younger working age persons. The modelling implies – based on the application of prudent assumptions around economic activity rates, commuting and unemployment – that supporting this level of additional population growth would suggest the need for between 727 and 765 dwellings per annum.
8. As noted, these scenarios make prudent assumptions about the extent to which economic participation amongst the existing population will change over the modelling period. An increase in economic activity rates would also enable a growth in the labour force in Lancaster without impacting on the need for additional people, resulting in lower levels of implied migration. The Office for Budgetary Responsibility (OBR), for example, forecast changes in economic activity in older age groups, and applying these adjustments would result in the existing latent labour force making a greater contribution towards supporting job creation in Lancaster. This would lower the level of housing need to 639 dwellings per annum to support the same level of forecast job growth with the impact being a reduction in the level of additional migration required to grow the labour force in the context of an ageing population. It is important to recognise that the economic forecasts underpinning this analysis, which are prepared by Experian are also underpinned by assumptions about the extent to which economic activity rates amongst older people in particular will change, with this also assuming a notable capacity to support employment growth using the existing projected growth in the labour force. In the context of the modelling presented within this report, it is recognised that there is considerable uncertainty about how economic activity rates amongst other labour force factors may change in the future.

Taking Account of Market Signals

9. This report also considers a number of market signals to establish the balance between supply and demand in Lancaster – following the guidance in the PPG – with evidence showing that there has been considerable growth in house prices, exceeding growth seen nationally and in all neighbouring authorities. While house prices remain generally lower in the district than elsewhere, this growth could be driven by an increase in demand which has not been matched by supply, although it is notable that this has not

led to an increase in overcrowded households or concealed families. Affordability has also worsened, although the district does remain relatively affordable compared to elsewhere, and the rate of development slowed during the period of policy constraint and subsequent recession, resulting in a sizeable backlog accumulating against planned targets.

10. The comparatively low level of new housing provision – in light of sustained demand – is likely to have influenced price increases in Lancaster, and is likely to have also contributed to the falling number of people moving to the district from other parts of the UK. Along with worsening affordability issues, it is also likely to be a factor in the reduced levels of household formation amongst younger households in the district.
11. In order to test these impacts, alongside the development of variant population projections which use a longer historic period upon which to project forward change, a sensitivity has been developed by Edge Analytics to explore the impact of reversing declining household formation rates amongst younger age groups – where this has not already been anticipated in the 2012 SNHP dataset – to reach a level last seen in 2001. This was the last point at which the ratio between house prices and earnings was at the long-term average level, and a return to this set of market conditions could suggest a healthier and more sustainable housing market.
12. Applying this sensitivity to the scenarios results in an increased projected growth in households, generating an additional need for around 30 to 40 additional dwellings under each scenario (representing a minimum uplift of 5%). This adjustment to household formation rates can be considered reasonable and appropriate given that it would support a return to more positive levels of household formation amongst younger people who may have been constrained by both local and wider market conditions.

Objective Assessment of Need

13. While the 2012 SNHP represents the starting point for assessing housing need, it is notable that this scenario is based on notably low levels of net migration to Lancaster, in the context of historic trends. If longer term trends were to continue, this suggests that the 2012 SNHP would underestimate the level of population growth in Lancaster, and for this reason the 10 year Past Growth scenario is considered to represent a reasonable demographic based projection of population growth, which more accurately reflects longer term growth in the district. This suggests a need for 553 dwellings per annum over the plan period from 2013 to 2031, based on the application of adjusted household formation rates which are considered appropriate based upon the analysis of market signals.
14. It is, however, clear that provision of this scale would not support likely job growth in the district, and would only generate limited growth in Lancaster's labour force based on prudent assumptions around commuting, economic activity and unemployment. Applying the same assumptions suggests that the population would need to grow to a greater extent than suggested in the demographic based scenarios. Given the sensitivity of the economic scenarios to different modelling assumptions it is considered that using the 763 dwellings needed annually under the Baseline employment-led scenario (with

the application of the household sensitivity adjustment) is an appropriate upper limit of potential need.

15. This suggests that there is a need for between **553 and 763 dwellings per annum** in Lancaster between 2013 and 2031. This evidently represents a wide range against which to consider and plan for future need. The SHMA recommends a narrower range of between **650 and 700 dwellings per annum** as representing the objectively assessed need for Lancaster district, noting that this should be applied in full across the emerging Local Plan period (2011 – 2031). This would meet demographic needs in full, represent a positive response to market signals, including a recognition of the potential impact of historic under-provision of housing in relation to plan targets⁴ and also allows for an uplift to this implied level of need in response to employment growth opportunities whilst allowing for some flexibility regarding the role of future changes in economic participation rates amongst older people.

⁴ It is noted that this range represents an upwards adjustment of between 25% and 34% from the recommended demographic assessment of need (521 dwellings per annum based on the 10 Year Past Growth Scenario with no adjustment to headship rates). This level of need is therefore considered to take account of the evidence of the implications of worsening market signals taking into account the impact of potential constrained headship rates recognising a worsening in a number of market signals and the historic undersupply of housing against Plan targets in the authority.

1. Introduction

1.1 Turley – in partnership with Edge Analytics – have been commissioned by Lancaster City Council to update the Independent Housing Requirements Study⁵ (IHRs), published in October 2013. This study objectively assesses the need for housing in Lancaster district ('Lancaster').

1.2 The primary objective of this report is to assess the implications of the release of the 2012-based sub-national household projections (SNHP) – which represent the 'starting point' when assessing the need for housing – and the conclusions of the 2014 Review of the Employment Land Position for Lancaster District (RELP)⁶.

1.3 This report has therefore been developed within the context of evidence which has been previously prepared, and does not represent a full Strategic Housing Market Assessment (SHMA). This report should be read alongside previous evidence prepared and commissioned by the Council.

1.4 It is also important to acknowledge that new guidance on assessing housing need has been published since the previous study was undertaken. The Department for Communities and Local Government (DCLG) published the web-based Planning Practice Guidance (PPG) in March 2014, which includes guidance on '*Housing and economic development needs assessments*'. This provides clear guidance on the approach, scope and methodology to be used in such assessments.

1.5 Within the PPG, need is defined as:

*"The scale and mix of housing and the range of tenures that is likely to be needed in the housing market over the plan period – and should cater for the housing demand of the area and identify the scale of housing supply necessary to meet that demand"*⁷

1.6 A clear distinction is made between the 'objective assessment of need' and the development of planning policy to provide for future needs:

*"The assessment of development needs is an objective assessment of need based on facts and unbiased evidence. Plan makers should not apply constraints to the overall assessment of need, such as limitations imposed by the supply of land for new development, historic under performance, viability, infrastructure or environmental constraints. However, these considerations will need to be addressed when bringing evidence bases together to identify specific policies within development plans"*⁸

1.7 Regarding the calculation of need, the PPG also states:

"There is no one methodological approach or use of a particular dataset(s) that will provide a definitive assessment of development need. But the use of this standard

⁵ Turley (2013) Independent Housing Requirements Study – Lancaster City Council

⁶ Turley (2014/15) Review of the Employment Land Position for Lancaster District

⁷ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/the-approach-to-assessing-need/#paragraph_003

⁸ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/the-approach-to-assessing-need/#paragraph_004

*methodology is strongly recommended because it will ensure that the assessment findings are transparently prepared. Local planning authorities may consider departing from the methodology, but they should explain why their particular local circumstances have led them to adopt a different approach where this is the case. The assessment should be thorough but proportionate, building where possible on existing information sources outlined within the guidance*⁹

- 1.8 The PPG identifies that the household projections published by DCLG should provide the starting point for the estimate of overall housing need, but – importantly – states:

*“Plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to the underlying demographic projections and household formation rates. Account should also be taken of the most recent demographic evidence including the latest Office of National Statistics population estimates”*¹⁰

- 1.9 The PPG also recognises the importance of taking other long-term drivers of the housing market into account in understanding future projections of need. The guidance states that importance should be attributed to employment trends, noting:

*“Plan makers should make an assessment of the likely change in job numbers based on past trends and/or economic forecasts as appropriate and also having regard to the growth of the working age population in the housing market area...Where the supply of working age population that is economically active (labour force supply) is less than the projected job growth, this could result in unsustainable commuting patterns (depending on public transport accessibility or other sustainable options such as walking or cycling) and could reduce the resilience of local businesses. In such circumstances, plan makers will need to consider how the location of new housing or infrastructure development could help address these problems”*¹¹

- 1.10 In addition to economic factors, the PPG also notes the importance of taking market signals into account:

*“The housing need number suggested by household projections (the starting point) should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings”*¹²

- 1.11 The PPG also provides guidance on the scope of assessment, noting that needs should be assessed in relation to the relevant functional housing market area, which is defined as:

⁹ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/the-approach-to-assessing-need/#paragraph_005

¹⁰ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_017

¹¹ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_018

¹² http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_019

“A geographical area defined by household demand and preferences for all types of housing, reflecting the key functional linkages between places where people live and work. It might be the case that housing market areas overlap”¹³

Report Structure

1.12 This report responds to the new guidance in the PPG and builds upon previous evidence, and adheres to the following structure:

- **Section 2 – Defining the Housing Market Area Geography** – the latest evidence on migration, commuting and house prices is considered to determine the extent to which Lancaster functions as a single housing market area;
- **Section 3 – Current Housing Market** – the current housing market in Lancaster is profiled, with analysis of population and demographics alongside the existing stock of housing in the district. Evidence on labour market characteristics is also referenced from the RELP¹⁴;
- **Section 4 – Demographic Projections of Need** – the need for housing based on demographic projections is considered, with the 2012 SNHP forming the ‘starting point’ and alternative demographic projections also introduced and analysed;
- **Section 5 – Employment Trends and Implications for Housing Need** – evidence from the RELP is considered to establish likely future job growth in Lancaster. This is reviewed alongside projected future change in labour force, with modelling undertaken to determine the level of population required to support likely job growth;
- **Section 6 – Market Signals** – in line with the PPG, a range of market signals are reviewed to identify any imbalances between supply and demand in Lancaster. The implications of any imbalance on household formation are established, with sensitivity modelling undertaken; and
- **Section 7 – Objective Assessment of Need and Conclusions** – the analysis is drawn together to establish the implications for the objective assessment of housing need.

¹³ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/scope-of-assessments/#paragraph_010

¹⁴ Turley (2014/15) Review of the Employment Land Position for Lancaster District

2. Defining the Housing Market Area Geography

2.1 In defining the scope of housing needs assessments, the PPG includes a definition of housing market areas:

“A geographical area defined by household demand and preferences for all types of housing, reflecting the key functional linkages between places where people live and work”¹⁵

2.2 The 2013 IHRS included a review of migration and commuting flows in Lancaster – and the outcome of the 2011 Housing Needs Survey – and concluded that the district operates relatively strongly as its own housing market area. The evidence suggested that there was a high level of self-containment of commuters, with limited flows of migrants to and from other surrounding authorities. There were, however, identified spatial dynamics, with a notable relationship with South Lakeland in particular.

2.3 In the absence of up-to-date comprehensive data, the analysis within the IHRS was based on 2001 Census data and migration flows from the Patient Register Data Service (PRDS). Importantly, the release of 2011 Census data on migration and commuting provides an up-to-date profile of movements within, to and from Lancaster. This latest data can be reviewed to test the extent to which Lancaster can be considered as a single and self-contained housing market area.

2.4 The publication of the PPG also provides further guidance on the approach to defining housing market areas, with the identification of a number of key indicators which should be reviewed:

- **House prices and rates of change in house prices** - analysis of these indicators is intended to provide a market-based reflection of housing market area boundaries;
- **Household migration and search patterns** – considering peoples movements provides an indication of housing search patterns, and the extent to which people move house within a specific geography. Importantly, the PPG states that the findings can identify areas within which a relatively high proportion of household moves – typically 70% – are contained¹⁶;
- **Contextual data** – the guidance suggests that this could include commuting patterns, retail and school catchment areas. Commuting can provide information about commuting flows and the spatial structure of the labour market, which can influence household price and location. These geographies can also provide

¹⁵ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/scope-of-assessments/#paragraph_010

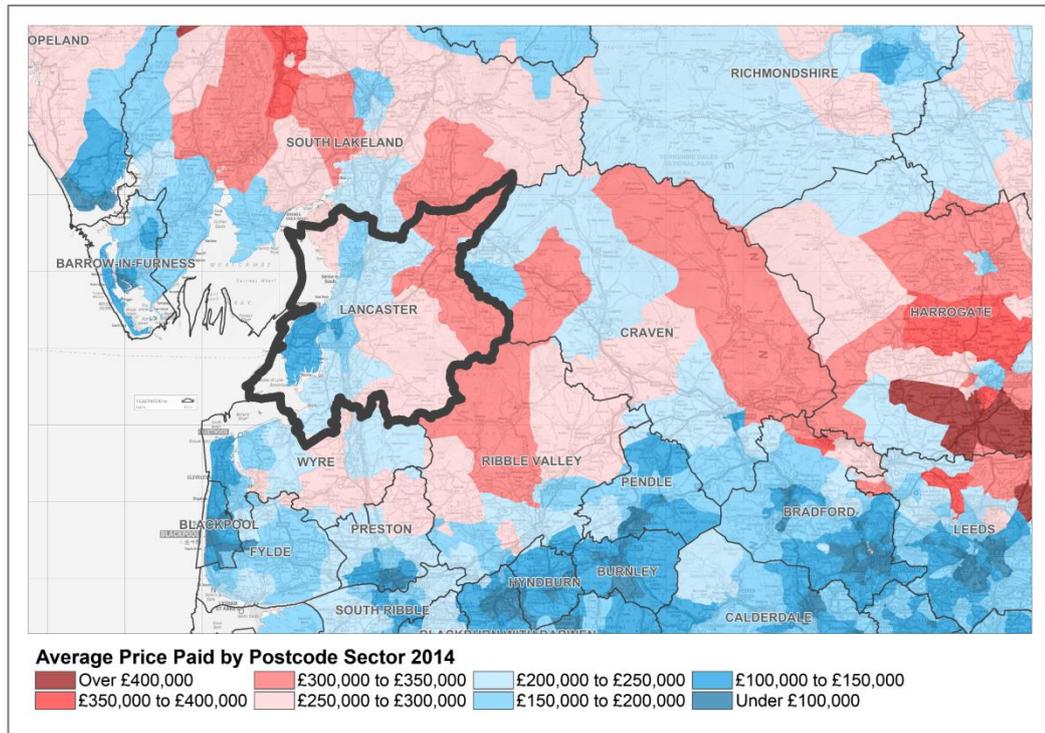
¹⁶ The PPG notes that the containment of around 70% of all moves excludes long distance moves, which may be made due to a change of lifestyle or retirement. Following correspondence with DCLG, it is assumed that these long distance moves fall within the 30% of moves which are not self-contained, and no migration flows have been excluded from this analysis. The exclusion of long-distance moves would further elevate levels of containment beyond those presented within the analysis in this section.

information about the areas within which people move without changing other aspects of their lives, such as work or service use.

House Prices

- 2.5 The PPG suggests that house prices should be analysed in order to understand housing market area geographies. This recognises that house prices – which reflect the outcomes of supply and demand in the market – can be used to identify patterns in the relationship between housing demand and supply across different locations. An analysis of house prices therefore provides a market based reflection of housing market area geographies, allowing the identification of areas with clearly different price levels to surrounding areas.
- 2.6 The following plan shows the average price paid in each postcode sector in Lancaster and surrounding areas in the calendar year of 2014.

Figure 2.1: Average Price Paid by Postcode Sector 2014



Source: Turley, 2015

- 2.7 Figure 2.1 shows that there are notable house price variations across the district. The main urban areas of Lancaster and Morecambe are shown to have lower average house prices with the rural areas to the west showing increasing average values of property.
- 2.8 Looking at the distinctions in price across the authority, the map highlights a relationship between more rural areas of the district and parts of South Lakeland, Ribble Valley and Craven, with a similar price geography across these areas.

- 2.9 The urban area of the district is more self-contained, in average prices, with limited consistency in values compared to South Lakeland to the north. There is some commonality with values in areas of Wyre, however, and overall it is clear that the urban areas demonstrate values which are more closely aligned with the other larger urban areas across the mapped geography.
- 2.10 Overall, house price analysis for the district does not provide a conclusive picture of market definition. Evidently, the district includes a range of market values, which – on the basis that a housing market area represents “a geographical area defined by household demand and preferences for all types of housing”¹⁷ – suggests that the district as a whole contains a sufficiently diverse mix of values, which provides households with choice and flexibility to move up and down the property ladder. Equally, it is apparent at a more local level that these house price distinctions suggest the operation of more localised markets within Lancaster.
- 2.11 House prices are also considered within this report as a market signal to determine the relationship between supply and demand. Figure 6.2 shows that house price growth in the district has outpaced all neighbouring authorities, although the average house price in Lancaster continues to be relatively low within this context. There is, however, some similarity with values in Wyre, although here there has been more limited price growth over recent years. Wyre also shows a greater relationship with the other Fylde Coast authorities, as detailed in the recent SHMA for the area¹⁸.

Migration

- 2.12 The PPG recognises that migration flows and housing search patterns can help to identify relationships around housing preferences, and can highlight the extent to which people move home within an area. The concept of containment of moves is therefore central to the definition of housing market areas, and the release of migration data from the 2011 Census in July 2014 – following publication of the IHRS – provides a reliable and up-to-date picture of movements across the country.
- 2.13 Calculating the proportion of people moving from an address in Lancaster in the year before the 2011 Census shows the likelihood of moving households to remain within the district. This is summarised in the following table, alongside other destinations for households moving from the district.

¹⁷ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/scope-of-assessments/#paragraph_010

¹⁸ Turley (2013/4) Fylde Coast Strategic Housing Market Assessment

Figure 2.2: Containment of Moves 2010/11

	Proportion of all moves from Lancaster
Lancaster	67.0%
South Lakeland	1.7%
Manchester	1.3%
Wyre	1.2%
Preston	1.0%

Source: Census 2011

- 2.14 This suggests that 67% of people who moved from an address in Lancaster in the year before the 2011 Census remained within the district. This falls slightly below the 70% threshold cited in the PPG but suggests, noting that long-distance moves have not been excluded, a high level of local containment of moves.
- 2.15 In this context, it is also significant that the other destinations with the highest proportions of moves all represent only a relatively small proportion of total moves. The strongest relationship is with South Lakeland, but this only represents 1.7% of moves. Indeed, this is not significantly higher than the next greatest proportion of 1.3% to Manchester, which represents comparatively long distance moves. This does not suggest that Lancaster and South Lakeland share a sufficiently high level of containment to support the definition of a combined strategic market geography.
- 2.16 A further calculation can show the proportion of people who moved to an address in Lancaster during the year before the Census that moved from another area within the district. This provides an indication of the origin of migrants, as summarised in the following table.

Figure 2.3: Origin of Moves 2010/11

	Proportion of all moves to Lancaster
Lancaster	62.7%
South Lakeland	3.0%
Wyre	1.2%
Preston	0.9%
Manchester	0.9%

Source: Census 2011

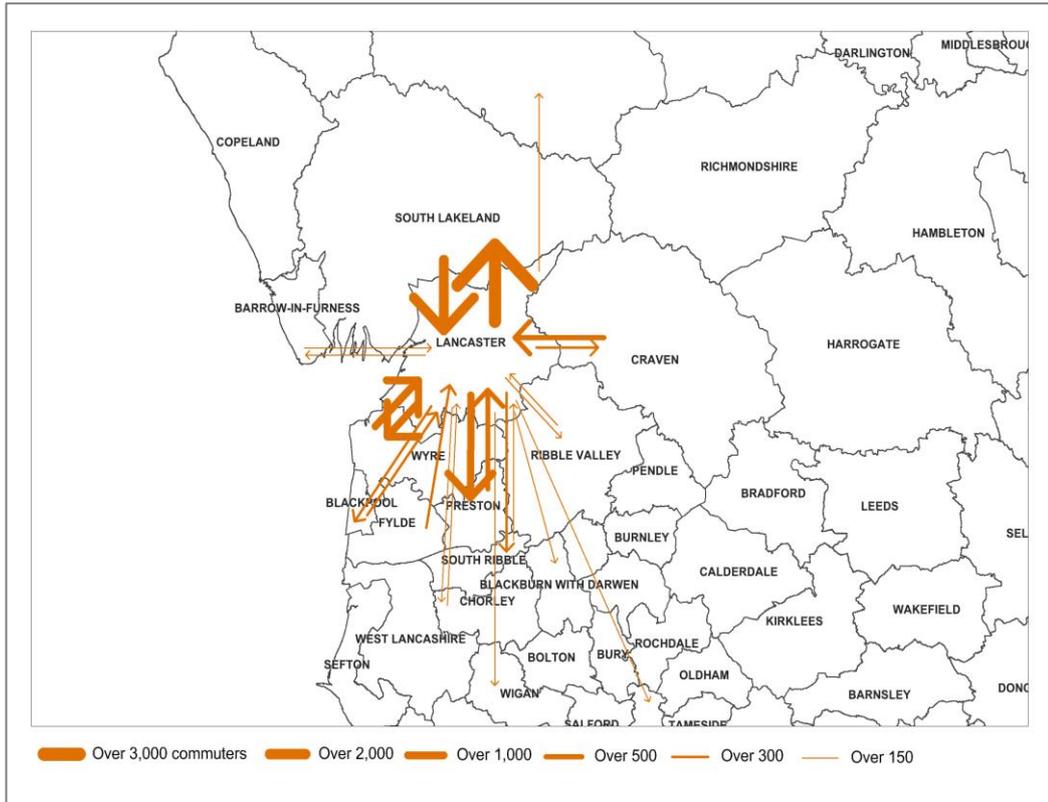
- 2.17 This shows a slightly lower level of containment, with around 63% of people who moved to an address in Lancaster during the year before the Census originating in the district. South Lakeland shows the highest proportion of inward flows from South Lakeland but again at 3% this is not a significant flow, with the second largest relationship with Wyre.

- 2.18 On the basis of migration flows, the evidence suggests a sufficiently high level of containment in Lancaster, and the absence of a clear and strong relationship with an adjacent authority suggests that Lancaster can be considered to represent a housing market area based on this indicator.

Commuting

- 2.19 As recognised in the introduction to this section, the PPG identifies travel to work relationships as one of a number of contextual datasets used to potentially identify housing market areas. The RELP includes a review of the economic geography of Lancaster, with commuting flows from the 2011 Census providing an insight into the relationship between where people live and where they work.
- 2.20 An analysis of containment – as detailed in the RELP – shows that over 77% of residents in Lancaster also work within the district. There is a relatively balanced commuting position in the authority, albeit with a small net export of labour due to a small surplus of workers over jobs. It is apparent that this level of containment has fallen slightly since 2001 with the 2013 IHRS identifying that the 2001 Census suggested a comparable containment figure of 82%. This is a high level of containment, which surpasses the 75% threshold applied by the ONS for defining Travel to Work Areas (TTWA).
- 2.21 The following plan shows the main in and outflows of labour in Lancaster, based on the 2011 Census, highlighting the relatively strong relationship with South Lakeland to the north. Preston is also an important employment destination, while around 2,000 residents travel to work in the Fylde Coast. Links are generally weaker with neighbouring Ribble Valley and Craven.

Figure 2.4: Main Commuting Flows 2011



Source: Census 2011

- 2.22 It is also important to consider where people who work in Lancaster live, with the RELP citing 2011 Census data showing that around 83% of jobs in the district are taken by residents of Lancaster. Again, there is a comparatively strong relationship with Wyre and particularly South Lakeland when considering the underpinning data.
- 2.23 In its analysis of functional economic relationships, the RELP confirms that the connection with South Cumbria (ie South Lakeland) is the most pronounced. This is likely to be in part due to the presence of major employers such as Glaxosmithkline and Siemens in Ulverston. The employment opportunities at BAE Systems in Barrow-in-Furness are also recognised as an important destination for workers.
- 2.24 The RELP further considers these aspects in the context of planned investment and job growth, recognising that the Census trends represent a point in time and will be sensitive to planned job creation both in Lancaster and outside of the district. A number of strategic projects in Lancaster are identified within the RELP, which will continue to potentially strengthen local economic relationships. Planned investments at Glaxosmithkline and BAE Systems, however, were also suggested as potential places of work for residents of the district, potentially influencing commuting patterns in the area.
- 2.25 On the basis of commuting flows, it is apparent that Lancaster represents a distinct geography, with a high level of containment. It is likely that this will continue based on

the analysis within the RELP, although there are important economic linkages with South Cumbria.

Other Definitions

- 2.26 The 2013 IHRS referenced a national study of HMA geographies commissioned by the DCLG and National Housing and Planning Advice Unit (NHPAU), published in 2010¹⁹. This study is referenced in the latest Planning Advisory Service (PAS) guidance as forming an important starting point for considering housing market areas²⁰.
- 2.27 As set out in the 2013 report, the Strategic HMA definition (upper) within the DCLG study classified Lancaster as an independent strategic market area. Lancaster was also identified as a HMA under the 'single-tier' definition within the research based upon authority geographies.
- 2.28 Whilst the above further serves to underpin the conclusion that Lancaster operates as a housing market area, it is noted that the underpinning data and analysis within the national research is based on data from the 2001 Census, which has now been superseded, while the thresholds for defining geographies are also not defined or aligned with the PPG.

Summary and Implications

- 2.29 This section has reviewed a number of spatial indicators to consider the extent to which Lancaster can be considered as a single housing market area, following guidance in the PPG. This updates the analysis in the 2013 IHRS – which concluded that the district operates relatively strongly as its own housing market area – to take account of new data releases.
- 2.30 The updated evidence does, however, continue to suggest that Lancaster operates as a self-contained housing market area. New migration data from the 2011 Census shows that 67% of people who moved from an address in Lancaster during the year before the Census remained within the district, with only limited relationships with other authorities and no single authority standing out as having a more distinct relationship.
- 2.31 Commuting data from the 2011 Census – as detailed within the RELP – also shows that there is a containment of labour within Lancaster, with over 77% of residents occupying jobs in the district. Furthermore, around 83% of jobs in Lancaster are taken by residents in the authority, showing that Lancaster residents form a sizeable part of the workforce.
- 2.32 An analysis of house prices shows a commonality between more rural areas of Lancaster and parts of South Lakeland, Ribble Valley and Craven. The urban area is more self-contained, with limited similarity to South Lakeland in the north but some consistency with values in areas of Wyre. Average house prices in Lancaster as a whole, however, are generally lower than neighbouring authorities, although there has been sizeable growth in prices which has exceeded that seen in other areas. The analysis of house prices suggests a level of 'choice' for households moving within the

¹⁹ DCLG, (2010), Geography of Housing Market Areas

²⁰ Planning Advisory Service (2014) Objectively Assessed Need and Housing Targets

district but does not add conclusively to the analysis of containment in terms of migration and commuting in defining the HMA geography.

- 2.33 Collectively, the indicators presented in this section suggest that it remains appropriate to consider Lancaster as a single self-contained housing market area, in accordance with the PPG. This therefore provides a suitable geography for assessing housing needs.

3. Current Housing Market

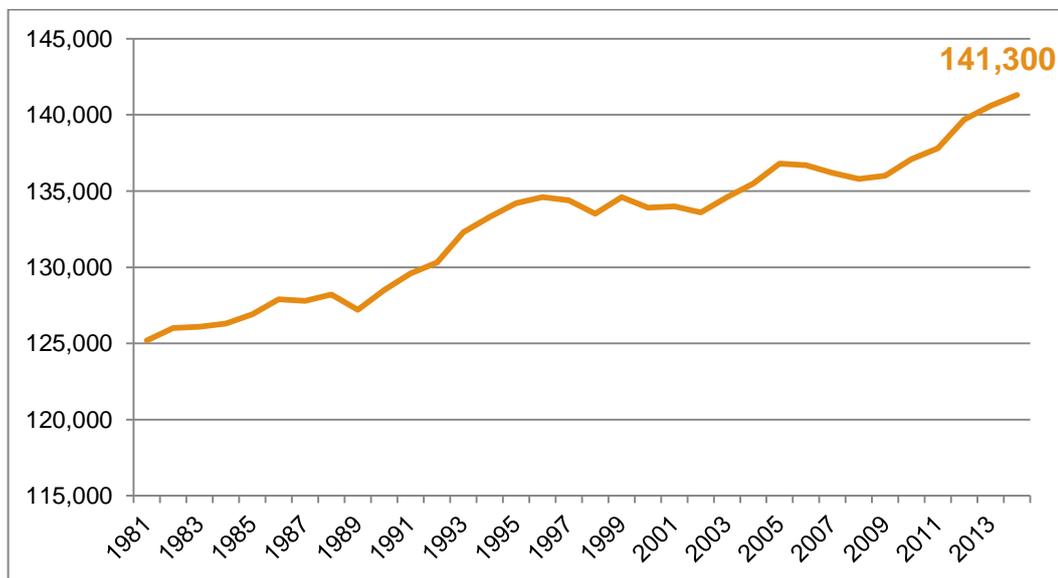
- 3.1 In order to understand how the need for housing in Lancaster may change in the future, it is first important to establish how the current market operates, and how it has changed historically.
- 3.2 This section therefore considers how the population and demographic profile of the district has changed over recent years, and draws upon evidence from the RELP, as appropriate regarding characteristics of the labour force. The existing housing stock is also profiled within this section with this forming an important context as to the operation of the housing market historically.

Population and Demographics

Historic Population Change

- 3.3 The IHRS included an assessment of recent demographic trends, which can be updated following the release of new mid-year population estimates (MYE) by ONS. This suggests that, in mid-2014, the population of Lancaster stood at 141,300²¹. As shown in the following graph, this has continued the district's long-term growth trajectory, with the population growing by an average of 0.4% per annum since 1981. This falls slightly below the national average annual growth rate of 0.5% seen over the same period.

Figure 3.1: Historic Mid-Year Population Estimates



Source: ONS, 2014

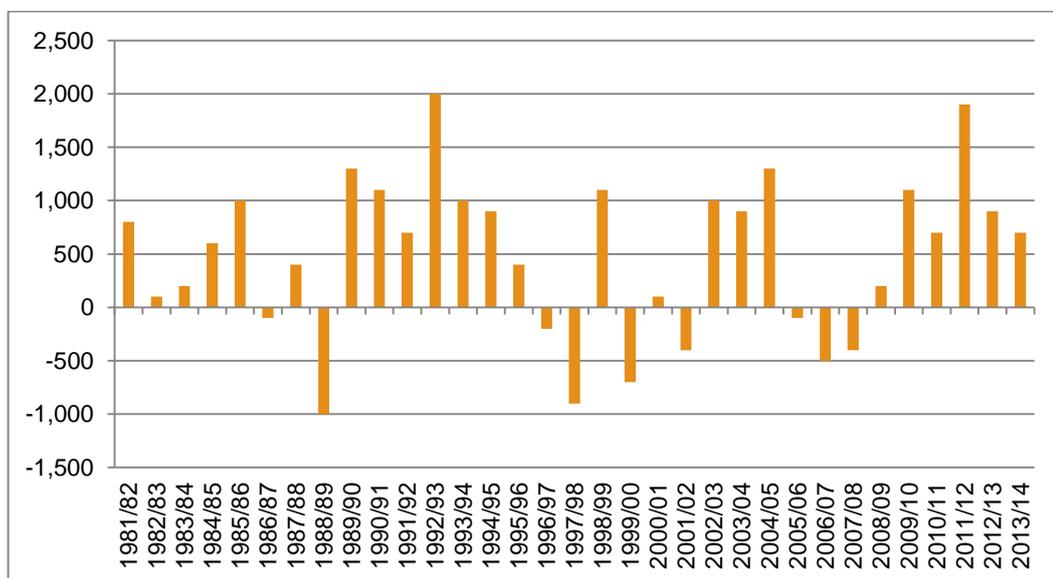
- 3.4 Figure 3.1 confirms that whilst Lancaster has historically seen a general trend of growth the rate of growth has shown some significant variance over the 30+ year time period

²¹ In June 2015, the ONS released the 2014 MYE. Whilst this data is presented in the analysis in this section it has not been integrated within the modelling presented within this report with the 2013 data used as the base-point for the Edge Analytics modelling presented within the report. The 2014 MYE suggested that Lancaster's population had continued to grow with the ONS estimating in 2014 that there were 141,300 people living in Lancaster, an increase of approximately 725 persons since 2013. Further analysis of this dataset is presented in Figure 4.6.

considered. The 1980s saw the population of Lancaster grow at a relatively limited rate with the district seeing, by way of contrast, a rapid growth in population in the late 1980s up to around 1996. The population then remained relatively static until 2003 before a recovery to stronger rates to 2005. The authority then saw a period in which its population remained relatively static until 2010 prior to another period of stronger growth.

- 3.5 These trends are illustrated more clearly in Figure 3.2 which shows absolute levels of change in population on an annual basis. As noted above this shows that the district has seen sustained population growth over the last five years, with growth in the last four years surpassing the long-term average growth rate of around 480 persons per year since 1981 – equivalent to 0.4% per annum. Prior to this, there were periods of strong growth – such as the early 1990s – and also occasional periods of population decline.

Figure 3.2: Historic Change in MYE

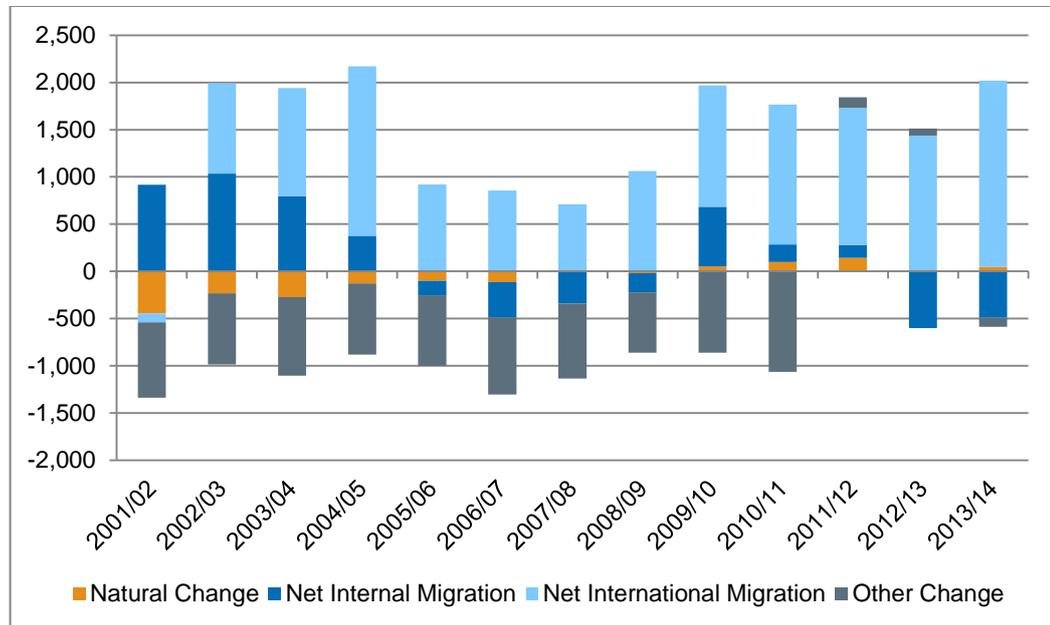


Source: ONS, 2014

- 3.6 The relative volatility in population change suggests that Lancaster has been influenced by a range of factors. For example, Lancaster saw a decline and stabilising of the population in advance of the recession, with this likely to be driven by other factors. These are considered in further detail throughout this section, and in section 4.
- 3.7 Looking in more detail at the scale of population change between the 2001 and 2011 Censuses enables a useful understanding of recent changes to the population of Lancaster. Between 2001 and 2011, the population of Lancaster grew by 4,461 persons, representing a growth rate of 3.3%. This fell below the longer term growth rate of 0.4% per annum cited above, and also falls below the national rate of growth (7.9%) over the same period.
- 3.8 Over this more recent period, it is possible to analyse the components of population change, in order to identify the main drivers of population growth in Lancaster. This therefore requires a consideration of the interplay between natural change (births minus

deaths) and migration in more detail. This is presented in the following graph, based on the ONS MYE dataset.

Figure 3.3: Components of Population Change



Source: ONS, 2014

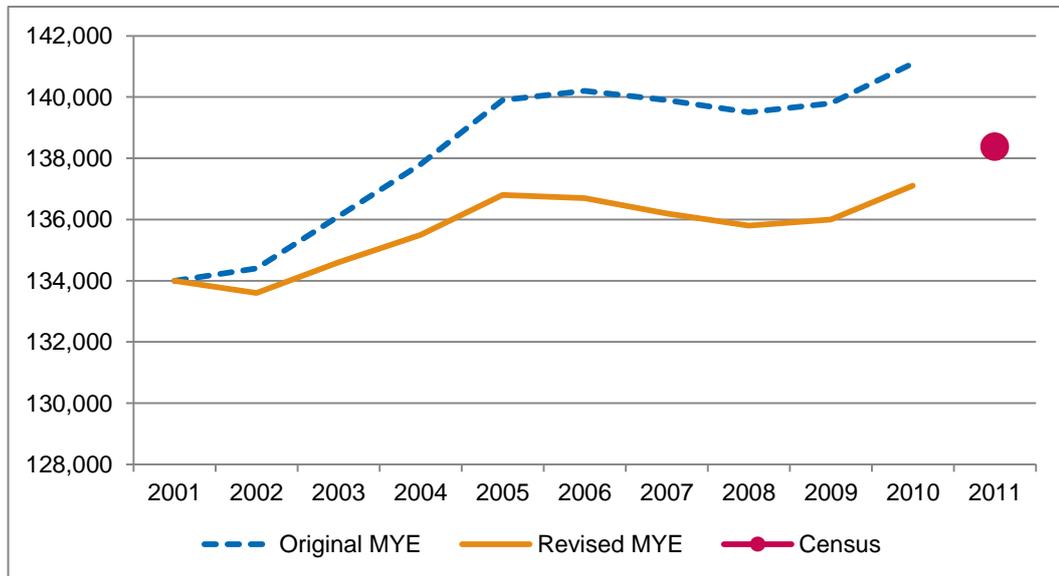
- 3.9 Migration is evidently the main driver of change in Lancaster, although it is notable that this has varied throughout the period shown. Internal migration – moves to and from other places within the UK – fell and indeed became negative between 2005 and 2009. The analysis in section 6 of this report shows that there was a concurrent slowdown in the rate of new housing development in Lancaster at this time, and this could be a major driver in the fall in net in-migration to the district over this period. There was, however, subsequently a recovery, although the latest year’s evidence suggests a net outflow. It is clear that this is lower than the levels of internal migration seen in the early 2000s.
- 3.10 The IHRS includes an analysis of the age of migrants, and this highlighted that there are sizeable net inflows of younger migrants – aged between 15 to 19 – with a comparable outflow of those aged 20 to 24. This is likely to reflect the movement of students to Lancaster, with the majority choosing not to remain in the district after completing their studies. This is considered further in a separate sub-section below.
- 3.11 The role of natural change has also changed over the period considered, suggesting an increasing balance between births and deaths in Lancaster.
- 3.12 International migration appears to be a significant driver, generating relatively consistent growth of around 1,080 per annum over the period shown. This level of growth associated with international migration is notably high in the context of the overall population of the authority.
- 3.13 Within this context, it is important to consider the sizeable negative ‘other change’ identified by the ONS in their revised MYE dataset. This reflects the fact that the 2011

Census suggested that the population of Lancaster was lower than previously estimated by the ONS in their MYE dataset. This is considered in more detail below.

Unattributable Population Change

- 3.14 As noted above, an element of unattributable population change (UPC) has been identified by ONS for Lancaster following the publication of the 2011 Census. This is included within the ‘other’ change component shown in Figure 3.3. This component has been identified by the ONS to account for any over- or under-estimation in previously released ONS mid-year population estimates against the population count from the 2011 Census.
- 3.15 Given that births and deaths are recorded in a more accurate manner than migration, Edge Analytics consider that it is likely that migration – and specifically international migration – has been estimated incorrectly in mid-year estimates. The ONS acknowledge that there is an absence of clear evidence to confirm whether discrepancies lie in the Census numbers – from either 2001 or 2011 – or in the estimation of migration flows²². The ONS have, however, continued to refine and improve their methodology for estimating international migration flows²³, and this remains the best data source for understanding these trends.
- 3.16 It is beneficial to understand the scale of this under or over-estimation in population estimates, and Figure 3.4 therefore shows both the previously released MYE dataset and the final dataset, which were released following publication of the 2011 Census. This helps to understand how the population was estimated to have changed between Census years, and the impact of the 2011 Census on these estimates.

Figure 3.4: Original and Revised Mid-Year Estimates



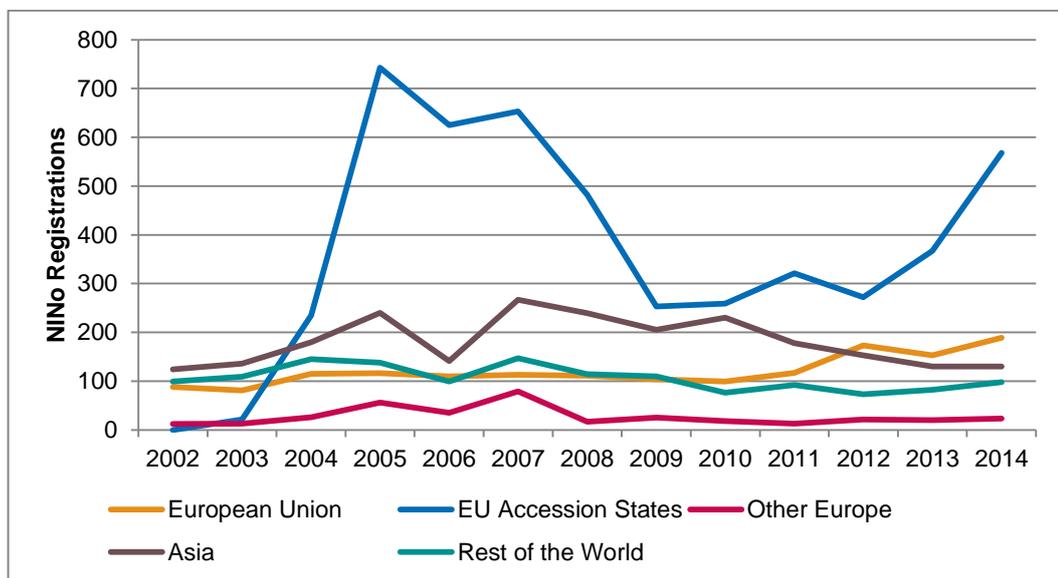
Source: ONS, 2014

²² ONS (2014) Questions and Answers: 2012-based Subnational Population Projections

²³ ONS (2014) 2012-based Subnational Population Projections for England – Report on Unattributable Population Change

- 3.17 As shown, the population of Lancaster at the 2011 Census was around 2,700 persons lower than the estimated population in mid-2010. This showed that the population had not grown to the extent estimated by the ONS, with an adjustment subsequently made in the revised dataset. As it is not known when the divergence from the estimates occurred, the adjustment has largely been applied consistently across the historic period since 2001.
- 3.18 Assuming that UPC is most likely to be attributable to international migration, a further analysis of international migration flows can provide some information on when significant international migration occurred in Lancaster. The scale and origin of international migrants can be established using National Insurance Number (NINo) registrations – sourced from the Department for Work and Pensions – with migrants grouped by world region. This provides a measure of gross registrations, and therefore only captures inward international migration rather than emigration.

Figure 3.5: NINo Registrations to Adult Overseas Nationals Entering the UK



Source: DWP, 2015

- 3.19 It is clear that there was a period of significant international in-migration following the enlargement of the European Union, with this driving NINo registrations in Lancaster between 2004 and 2007 in particular. This subsequently fell during the recession, suggesting that higher levels of international migrants moved to Lancaster prior to the recession. Whilst this data only shows inflows of international migration, this would suggest that any over-estimation of population growth is more likely to have been driven by mis-estimation of migration flows prior to the recession. It is important to note, for example, that the spike in international migration in 2004/05 is also reflected within the components of change chart (Figure 3.2).
- 3.20 The NINo data also suggests a return to higher levels of registrations from 2012, which aligns with the higher levels shown in the latest MYEs. This reflects an important national trend, with ONS estimates of net international migration into the country showing a strong return to levels seen earlier in the previous decade and exceeding

those previously projected. The latest two years of MYE datasets published by the ONS reveals a national²⁴ net international migration of around 185,000 persons in 2012/13, rising to approximately 257,500 persons in 2013/14. This compares with an average of around 230,000 persons per annum over the preceding ten years. By contrast at an England level the 2012 SNPP projects a long term average of 151,550 per annum and 151,450 on average per annum over the last two years since the base date (2012 – 2014).

- 3.21 On the basis of the degree of uncertainty associated with the recording of international migration flows, if it is assumed that the UPC is largely attributable to international migration, it is possible that international migration levels have historically been overestimated in Lancaster. As noted above, however, the timing of this mis-estimation is important, with the analysis above suggesting that the highest flows into Lancaster were prior to the recession and have subsequently fallen.
- 3.22 Furthermore, it is also important to recognise that the latest ONS MYE datasets suggest a return to higher rates of international migration. Given this uncertainty, it is important to consider sensitivities regarding the inclusion and exclusion of UPC²⁵. The scenarios developed by Edge Analytics – introduced in subsequent sections of this report – therefore test the impact of both including and excluding UPC, given the uncertainty associated with this component of change.

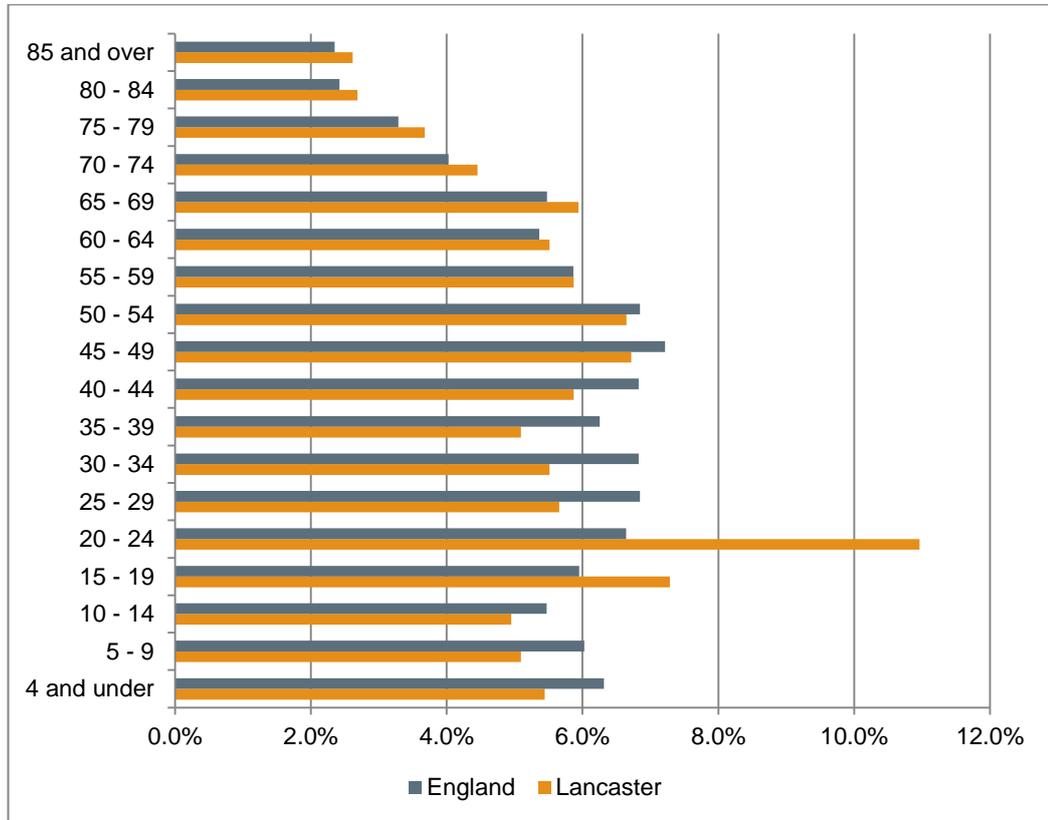
Age Profile

- 3.23 The 2013 MYE dataset can be broken down by age and compared to the national profile, which – as shown below – illustrates that a comparably high proportion of residents of Lancaster are aged 15 to 24. This is likely to reflect the numbers of students attending universities in the district, although it is notable that subsequent age groups – particularly aged 25 to 39 – show a divergence against the national profile, suggesting that these groups are by contrast under-represented in the district. This is an important profile distinction within the authority, which is also considered in more detail within later sections.

²⁴ England, Scotland and Wales

²⁵ Simpson and McDonald (April 2015) Making Sense of the New English Household Projections, Town and Country Planning

Figure 3.6: Age Profile of Lancaster and England 2013



Source: ONS, 2014

3.24 The age profile in also highlights that Lancaster has a slightly higher proportion of older persons aged 60 and over, compared to the national average. This again is important when considering the future composition of the population and their housing needs.

Students

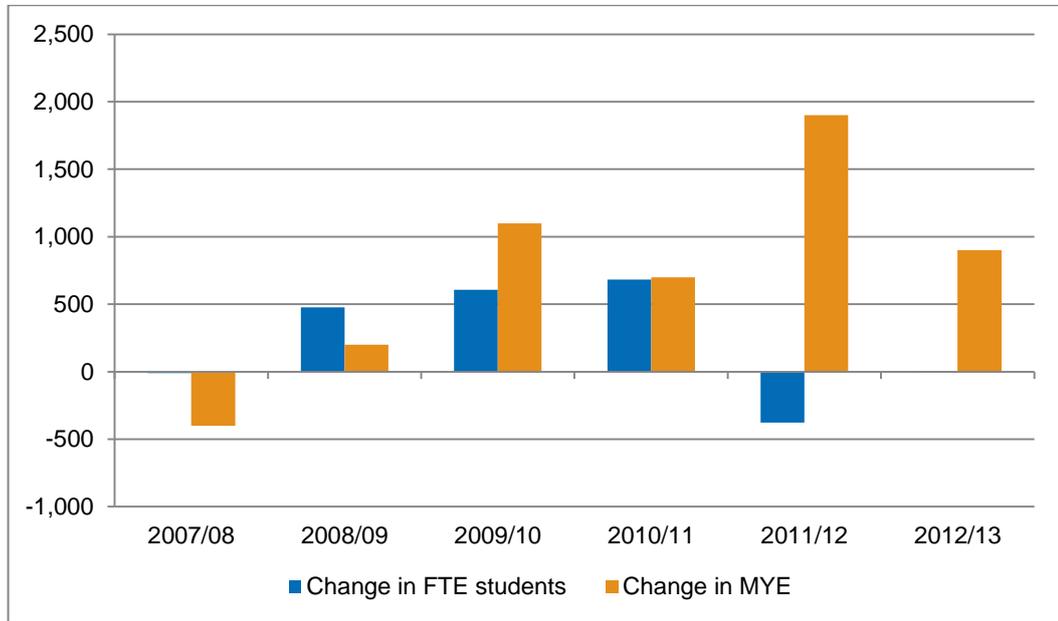
3.25 As noted above, the IHRS illustrated the extent to which younger people accounted for a substantial number of moves to and from Lancaster. This is likely to be attributable to the district’s universities – which attract students from across the country – although a significant proportion of these students are not retained after graduation.

3.26 The analysis prepared by Edge Analytics – presented in Appendix 1 – includes a review of change in student numbers and the extent to which this drives migration trends in Lancaster. This recognises that students are not explicitly identified as a separate group in the statistics published by ONS, and therefore increases or falls in student numbers are included in both population estimates and estimated migration flows.

3.27 Indeed, as the following graph shows, it is likely that – in some years – growth in student numbers has been an important driver of population change in Lancaster. Data on change in student numbers is available since the start of the 2007/08 academic year, and this is compared with corresponding change in population in the mid-year population estimates published by ONS. This shows that, in 2009/10 and 2010/11 in particular, student growth accounted for a substantial proportion of the total change in

population. This is by no means the only driver of growth, however, with the population of Lancaster increasing considerably in 2011/12 despite a fall in student numbers in the district.

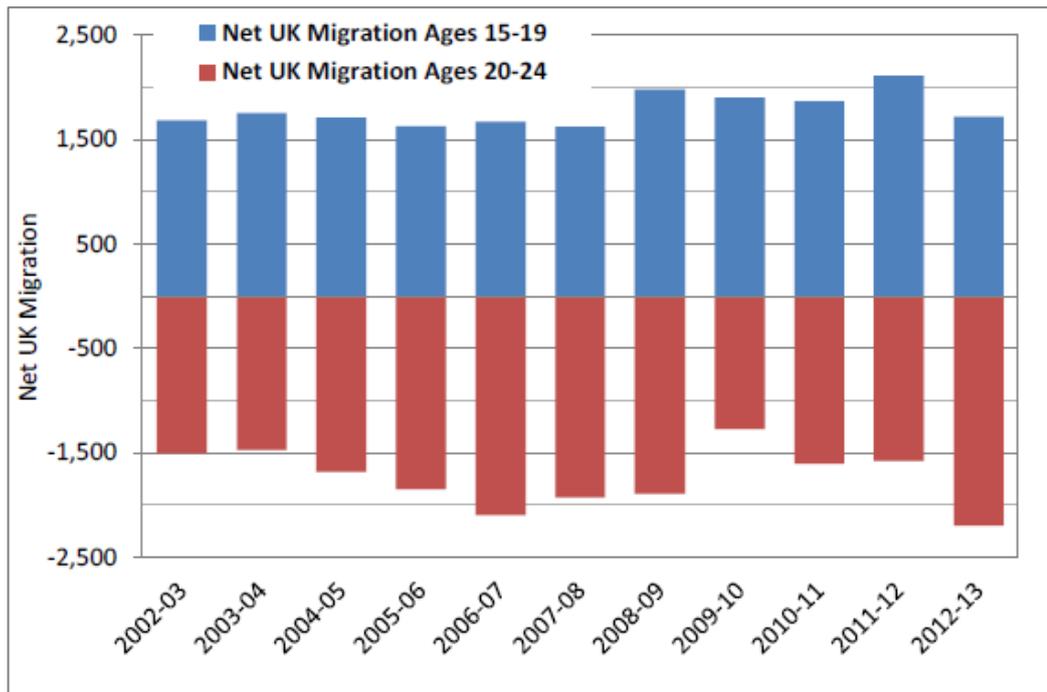
Figure 3.7: Change in FTE Student Numbers and Population 2007 – 2013



Source: ONS, 2014; Lancaster City Council, 2015

- 3.28 The data presented in Appendix 1 shows that Lancaster has a student population of around 14,400 full-time students, with this fluctuating since 2007/08 with overall average annual growth of 229 per year over the seven years to 2013/14. This growth in student numbers has included a growth in international students attending the universities in the district. Indeed, growth in international students has represented around 275 students per annum between 2007/08 and 2013/14, with this evidently an important driver of the overall change in student numbers over this period.
- 3.29 The impact of the student population is reflected in Lancaster migration flows, with a large inflow when students begin their courses and a corresponding large outflow when they complete their course. These flows are captured by the ONS in their internal and international migration statistics, although it is difficult to gain comprehensive and reliable data on the latter.
- 3.30 The net internal migration flows are shown in Figure 3.8. This shows that the migration profile of Lancaster is characterised by a large net inflow within the 15 – 19 age group that correlates to undergraduate students arriving in Lancaster, with a correspondingly large net outflow within the 20-24 age-group, as studies are completed.

Figure 3.8: Net UK Migration to Lancaster – age 15-19 and 20-24



Source: Edge Analytics, 2015

- 3.31 Figure 3.8 also reveals a number of important wider demographic factors, which provide important context to the historic changing population profile considered earlier in the section. The period of population growth seen in Lancaster between 2002 and 2005 also corresponds with a period in which the outflow of those aged 20-24 was comparatively low, and indeed lower than the net-inflow of those aged 15-19. This potentially implies a stronger level of graduate retention within the district. By contrast, the period of population decline from 2005 – 2008 is also one where there were recorded high levels of out-migration of those aged 20-24. The changing picture of Lancaster’s ability to retain this age group – which, on the basis of the above, is likely to include a significant number of graduates – evidently has a significant impact on the overall population of the district. This is likely to reflect an important link between population and the scale of employment opportunities available, an issue considered in more detail in section 5.
- 3.32 On the basis of their review of demographic data and historic student numbers, Edge Analytics conclude that the growth in student numbers is included within historic migration patterns, which form the basis for the demographic modelling introduced later in this report. Edge Analytics consider that the migration data used in the modelling is consistent with recent growth in student numbers, for both UK students and those moving from overseas.
- 3.33 These scenarios do, however, assume that current trends will continue, and if the universities change their admissions policy to either increase or decrease student numbers, migration data would require revision to reflect those changes. A review of university strategies does not suggest that a specific student target is currently being pursued, and it is therefore not considered appropriate to deviate from this historic trend for the purposes of this assessment.

Households

- 3.34 As noted in the IHRS, the population increase seen in Lancaster has led to growth in the number of households in the district. In 2011, there were 57,822 households in Lancaster, representing an increase of 1,983 – or 0.4% per annum – compared to 2001. This falls below the national rate of 0.8% per annum, and closely aligns with the growth in population recorded by the Census in Lancaster over the same period (0.3% per annum).
- 3.35 In 2011, the average household in Lancaster contained 2.24 persons, which falls slightly below the national average of 2.36 persons per household. This also represents a slight decline compared to the average household size of 2.27 recorded in Lancaster in the 2001 Census.
- 3.36 The Census also provides a further insight into the type of households in Lancaster, and this is summarised in the following table based on 2011 data. In addition, the percentage change seen in each household type since 2001 is also presented.

Figure 3.9: Change in Household Type 2001 – 2011

	2011	% Change 2001 – 2011
All households	57,822	3.6%
One person household aged 65+	8,225	-8.9%
Other one person household	10,613	21.0%
One family household aged 65+	5,388	-3.7%
Married couple with no children	7,634	3.3%
Married couple with dependent children	7,603	-11.6%
Married couple with non-dependent children	2,798	4.2%
Cohabiting couple with no children	3,121	30.6%
Cohabiting couple with dependent children	2,370	30.7%
Cohabiting couple with non-dependent children	296	86.2%
Lone parent	5,634	1.3%
Other households with dependent children	1,072	10.2%
All full-time students	860	2.1%
Other	2,208	8.8%

Source: Census 2001; Census 2011

- 3.37 In 2011, around one third of households contained only one person, although interestingly the number of such households with residents aged 65 and over has declined over the preceding decade. There has, however, been growth in other one person households.

- 3.38 There has similarly been growth in the number of married and particularly cohabiting couples with no children, while there has been a relatively sizeable increase in the number of cohabiting couples with dependent children. This is offset to some degree by a fall in the number of married couples with dependent children in Lancaster.
- 3.39 It is also interesting to note that there has been an increase in households with non-dependent children (both cohabiting couple and married couple). Evidently non-dependent children²⁶ are older and it is recognised nationally that the ability of younger persons to form independent households has been affected by affordability challenges. This is considered further within section 6 of this report.

Labour Market Characteristics

3.40 The RELP included analysis of the employment base in Lancaster, with the findings summarised below:

- There were around 90,200 persons of working age (16 – 64) in the district in mid-2012. This represents 64.6% of the overall population, which is slightly higher than the regional (64.0%) and national (64.2%) averages;
- Around 65,400 residents were economically active, representing around 71% of the working age population. This is lower than the national (77.3%) and regional (75.4%) rates over the same time period²⁷;
- 60,600 of those economically active residents were in employment, representing 65.7% of the working age population. This is significantly lower than the regional (69.1%) and national (71.1%) averages;
- 64% of employees in Lancaster hold a full-time position, with the remaining 36% working part-time;
- There was steady growth in the number of local residents in employment between 2004 and 2007, which was followed by a subsequent sharp decline during 2007 and 2008. There was a slight recovery to June 2011, but since then the evidence suggests that the number of residents in employment has fallen. The RELP noted that this position could be expected to begin to recover in line with improving economic prospects;
- Focusing on workplace-based employment, there were 53,899 employee and self-employed jobs at workplaces in Lancaster in 2012. This represents a decline of around 0.3% since the BRES data series commenced in 2009;
- Compared to the wider region, professional occupations are over-represented in Lancaster, with further above average representations of skilled trades and caring and leisure related occupations. Managerial and associate professional occupations are under-represented in the district; and

²⁶ The ONS 2011 Census Glossary of Terms defines a dependent child as: “any person aged 0 to 15 in a household (whether or not in a family) or a person aged 16 to 18 in full-time education and living in a family with his or her parent(s) or grandparent(s). It does not include any people aged 16 to 18 who have a spouse, partner or child living in the household.”

²⁷ Annual Population Survey - July 2012 to June 2013

- The workforce of Lancaster is also well qualified, with nearly 35% educated to degree level or above and the proportion of residents with no qualifications only around half the regional benchmark.

Housing Stock

3.41 The Census provides information on how the housing stock has changed in Lancaster, as detailed in the IHRS. This found that:

- Lancaster has seen an increase in property of all types, with flatted properties seeing the greatest absolute and proportionate increase;
- There has been a notable fall in the number and proportion of households owning their property with a mortgage, aligning with national trends and reflecting the impact of the credit crunch in limiting the role of the mortgage market. The number and proportion of households who own outright has, however, risen over the decade to 2011;
- The private rented sector has seen a significant increase in Lancaster, with the number of households privately renting increasing by around one quarter; and
- 3 bedroom properties represent the largest single housing type in 2011, with a slightly higher than national average proportion of stock containing 2 bedrooms. There are slightly fewer larger properties with 4 bedrooms or more.

Summary and Implications

3.42 This section has set out key drivers and characteristics of the current housing market, in order to provide important context for the remainder of this report. This builds upon – and updates where appropriate – the analysis presented in the IHRS and RELP.

3.43 The population of Lancaster in mid-2013²⁸ stood at 140,600, following a period of sustained population growth which has seen an increase of around 0.4% per annum since 1981. The latest 2014 mid-year estimates – published after the modelling in this report was undertaken – suggests that the population has continued to see strong growth, with the population increasing to 141,300. Migration is the main driver of change in the district, although this has fluctuated over recent years, with the rate of development one variable which can influence migration flows in the area.

3.44 International migration appears to also be a significant driver of change, although – following publication of results from the 2011 Census – it is likely that this has been overestimated by the ONS in their previously published population estimates. Revised estimates have been released to adjust the population estimates based on the 2011 Census, with this adjustment spread throughout the inter-Census period and labelled as unattributable population change (UPC). It is not clear when this deviation from estimates occurred, although evidence presented in this section shows that international migration – measured through NINo registrations – peaked prior to the recession. Given the scale of flows at this time, it could be that UPC is more likely to be a factor prior to

²⁸ Base date of modelling presented in this report

the recession. This does, though, have implications for trend-based projections of need, as considered throughout this report.

- 3.45 A comparably high proportion of Lancaster residents are aged 15 to 24, although subsequent age groups are relatively under-represented compared to the national profile. As detailed in the IHRS, this reflects the sizeable net inflow of younger migrants and comparable outflow of those aged 20 to 24, and is likely to be driven by the movement of students to and from the universities in Lancaster. The analysis of demographic trends and students confirms that these student numbers are integrated in migration assumptions and reflect a steady growth in student numbers over the recent historical period. The analysis also highlights that an important driver behind comparable annual levels of population growth is the number of graduates retained within Lancaster following the completion of their studies.
- 3.46 The growth in population has led to growth in the number of households in Lancaster, although the average household size has fallen slightly between 2001 and 2011. Around one third of households contain only one person, while there has been growth in the number of married and cohabiting couples with no children.
- 3.47 The RELP included a review of the labour market in Lancaster, highlighting that there were around 90,200 persons of working age (16 – 64) in the district in mid-2012, representing 64.6% of the overall population. Around 71% of this group were economically active – slightly lower than the national and regional rates – while the proportion of economically active residents in employment was also relatively low at 65.7%. There was steady growth in the number of local residents in employment immediately prior to the recession, although there has since been a decline.
- 3.48 The IHRS includes evidence from the Census to show how the housing stock in Lancaster has changed, with an evident increase in property of all types – particularly flats – between 2001 and 2011. There have been changing tenure trends in the district, with a fall in the number of households owning their property with a mortgage – reflecting the impact of the credit crunch on the mortgage market – and a significant increase in the number of households privately renting.

4. Demographic Projections of Need

- 4.1 The PPG establishes the 'starting point' for assessing housing need, citing the 2012-based household projections as an estimate of overall housing need. This reflects its trend-based nature, given that they show how the number of households, and the underpinning population, may change if past demographic trends continue.
- 4.2 However, the PPG does suggest that the 'starting point' may require adjustment, based on factors affecting local demography and household formation rates. This section therefore provides an overview of the 'starting point' – the 2012-based household projections – and also considers a range of alternative scenarios to test the impacts of different demographic assumptions in line with the PPG.
- 4.3 Data is presented over the period from 2013 to 2031, reflecting the fact that population change up to this point – and the rate of new housing development – has been officially recorded. 2013 mid-year population estimates are used as a base point in the modelling undertaken by Edge Analytics²⁹.

The 'Starting Point'

- 4.4 The 2012 sub-national household projections (SNHP) were released in February 2015, representing a full new official dataset published by DCLG. This forms the 'starting point' for assessing housing need, as set out in the PPG.
- 4.5 The 2012 SNHP is underpinned by the population growth projected under the 2012 sub-national population projections (SNPP), published by ONS. The 2012 SNPP dataset was released in May 2014, and provides the latest official benchmark for the analysis of population growth, taking full account of the 2011 Census.
- 4.6 The 2012 SNHP have been derived through the application of projected household representative rates – also referred to as headship rates – to a projection of the private household population, disaggregated by age, sex and relationship status.
- 4.7 The following table shows the projected growth in population and households in Lancaster over the plan period from 2013 to 2031³⁰. This has also been converted to dwellings through the application of a vacancy rate assumption, in order to reflect the functional operation of the housing market. A vacancy rate of 4.8% has been applied by Edge Analytics, based on 2011 Census data for Lancaster. No assumption has been made regarding the re-use of vacant property within the existing stock, with this requiring a separate consideration outside of the objective assessment of need.

²⁹ The modelling undertaken in this report was undertaken by Edge Analytics prior to the publication of 2014 mid-year estimates in June 2015, and hence the modelling does not include this historic data

³⁰ ONS 2013 Mid-Year Estimate of population is used as base point for all scenarios

Figure 4.1: 2012 Population and Household Projections 2013 – 2031

	Change 2013 – 2031		Average per year	
	Population change	Households change	Net migration	Dwellings
SNHP 2012	6,974	5,850	333	341

Source: Edge Analytics, 2015

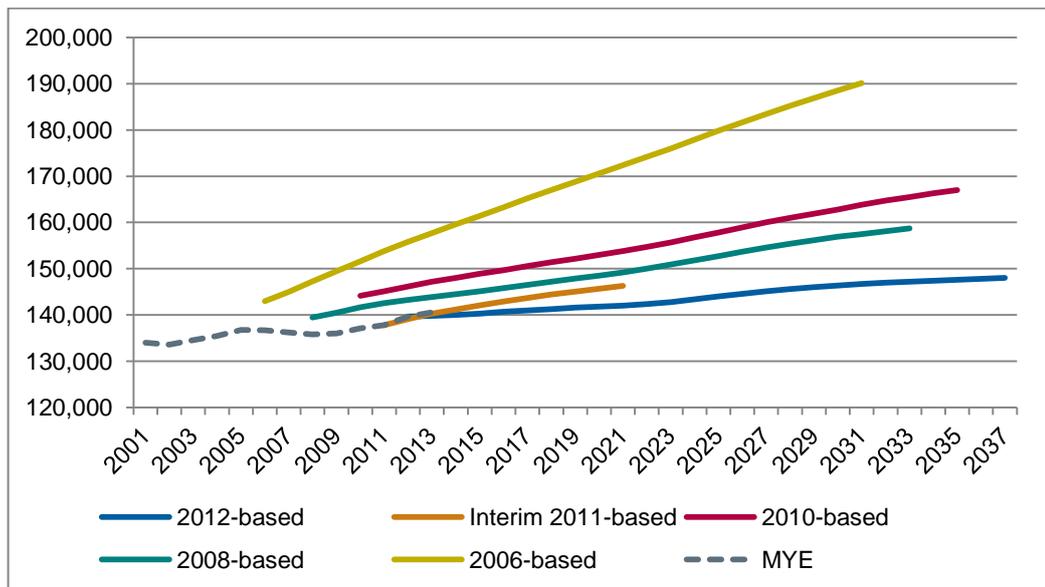
4.8 Under the 2012 SNHP and SNPP, the population is expected to grow by around 7,000 people, increasing the number of households in Lancaster by 5,850 or 325 per annum over the plan period. This is driven by a net inflow of 333 migrants per annum. Applying a vacancy rate, this results in a need for 341 dwellings per annum over the plan period.

2012 Sub-National Population Projections

4.9 As noted, the 2012 SNHP is underpinned by the 2012 SNPP, which shows how the population may change if recent trends continue. This includes assumptions about the changing role of migration and natural change in future population and growth – with the former generally based on a five year trend – and these assumptions should therefore be considered in the context of historic trends in Lancaster.

4.10 The following chart shows the latest 2012-based population projections in the context of previous ONS published SNPP datasets, which were evidently based on different historic time periods. The historic mid-year estimates (MYE) are also presented for context³¹.

Figure 4.2: Change in Official Population Projections for Lancaster



Source: ONS, 2014

³¹ Note these are the total population counts and therefore take account of the ‘Other Change’ component identified in Section 3.

4.11 There has evidently been considerable variation in the scale of population growth projected in Lancaster, with the 2012 SNPP projecting a notably low level of growth in the context of previous datasets. Indeed, as the following table shows, the projected annual growth of 332 persons per annum over the full 25 year projection period is significantly lower than earlier datasets, with the 2006-based projections, for instance, expecting over five times the level of population growth. The differing levels of per annum population growth projected by the ONS under various datasets are illustrated in Figure 4.3.

Figure 4.3: Change in Projected Average Annual Population Growth

	2012-based	2011-based ³²	2010-based	2008-based	2006-based
Annual change	332	850	912	768	1,884

Source: ONS, 2014

- 4.12 As noted above, this is likely to be driven at least in part by the different historical periods on which the projections are based. Given that the 2012-based projections base migration assumptions primarily on the historical period 2006/07 – 2011/12 – a period which has been influenced by the recession and in the case of Lancaster a period of comparatively low population growth, seeing fewer households move home – it is possible that migration levels in the 2012 SNPP are unduly reflective of this recessionary period, which is unlikely to be sustained throughout the plan period.
- 4.13 This is also reflected in historic household projections. The 2008-based household projections – which were the last to cover a longer term period – project the formation of 11,125 additional households between 2013 and 2031, representing 618 households per annum. This is some 90% higher than the new ‘starting point’ of the 2012-based projections, as summarised below.

Figure 4.4: Change in Projected Annual Household Formation

	Total change in households 2013 – 2031	Average annual change
2012-based	5,850	325
2008-based	11,125	618

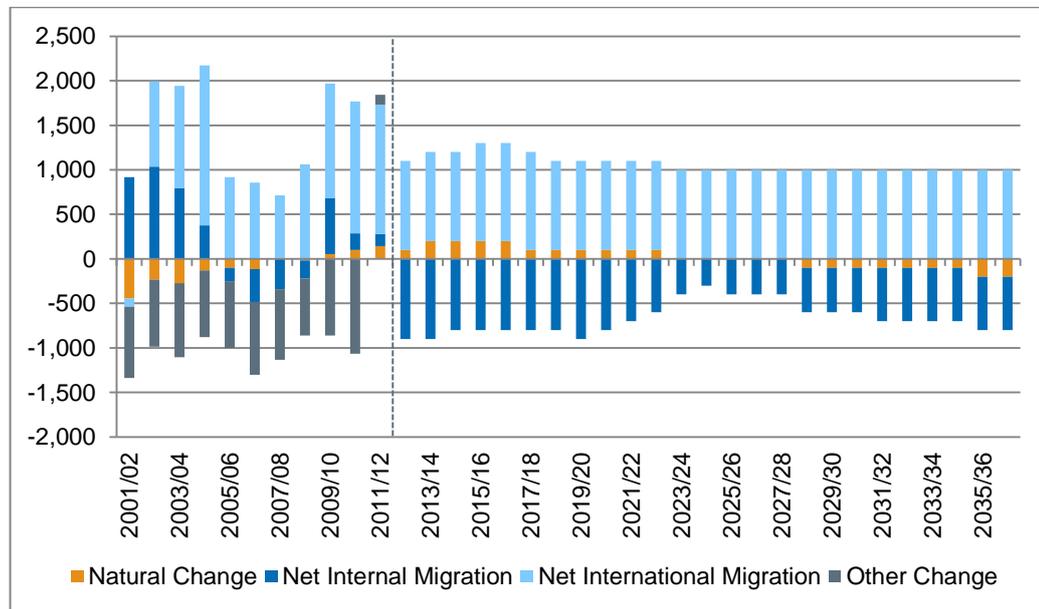
Source: DCLG, 2015

- 4.14 As set out at Figure 4.3, however, it is important to recognise that the 2008-based projection is underpinned by a more positive population growth projection, as well as different household formation rate assumptions (explored in more detail in this section). This is a useful reference point, however, for a form of contrast with the 2012-based datasets, recognising the different economic and market contexts upon which they were based.

³² Interim dataset covers only a ten year period from 2011 to 2021, rather than the full 25 year horizon of other projections

4.15 To illustrate this point, the 2012 SNPP includes a breakdown of the components of projected population change in Lancaster. This is illustrated in the following graph, with the historic position – introduced in section 3 – also presented for context.

Figure 4.5: Components of Projected Population Change in Lancaster



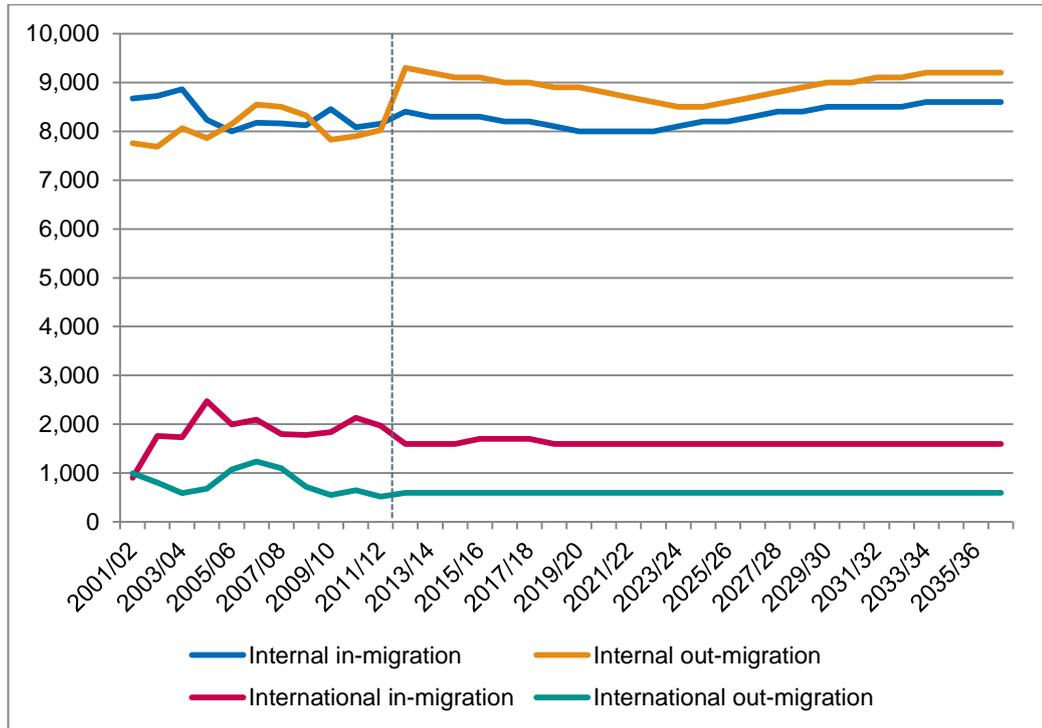
Source: ONS, 2014

4.16 International migration is projected to be a key component of growth in Lancaster, with a net inflow of around 1,000 international migrants annually. This represents a continuation of the historic trend, although – importantly – the methodology note accompanying the 2012 SNPP states that UPC has not been directly taken into account. As noted in section 3, a negative UPC – as seen in Lancaster – is considered by Edge Analytics to likely be driven by an overestimation of international migration flows. Given that UPC is not taken into account in the 2012 SNPP, the projected net international migration flow to Lancaster may be overestimated in the projections.

4.17 Conversely, the 2012 SNPP projects a sustained net outflow of migrants from Lancaster, with close to 16,000 people projected to move out of the district over the full projection period. This represents a deviation from the historic trend, which saw an average net inflow of 274 migrants per year over the period shown. There is therefore a risk that the role of migration in Lancaster may be underestimated under this dataset. The interaction of varying migration components within the ONS model is complex with this internal migration assumption likely to be related, at least in part, to the assumptions around international migration and in this context it is useful to consider them collectively and in more detail.

4.18 This can be further illustrated through analysis of projected moves both into and out of Lancaster, with this illustrated in the following graph alongside historical data from the mid-year estimates for context.

Figure 4.6: Historic and Projected In and Out-migration in Lancaster



Source: ONS, 2014

- 4.19 It is apparent that the 2012 SNPP projects a notable increase in the number of migrants moving from Lancaster to other parts of the UK, considerably beyond the levels seen historically over the period shown. The significant departure from historical trends is difficult to reconcile as to a justification for a notably different forward looking picture. It is important to recognise that the assumed higher rate early in the projection rate is assumed to be sustained throughout the projections. By contrast, the number of inward migrants is projected to remain relatively steady – albeit with some growth towards the end of the projection period – although again it is important to note that this is lower than levels seen early in the last decade.
- 4.20 The above projection assumptions are particularly important to consider given that two further mid-year population estimates have been released by the ONS since publication of the 2012 SNPP, as considered in section 3³³. These datasets have consistently identified a higher population growth over these two years than the 2012 SNPP. Indeed, as of mid-2014 the ONS have suggested that the population of Lancaster was 141,300, some 1,300 persons higher than projected under the 2012 SNPP. This represents an average under-estimation of change by some 650 persons per annum over a two year period.
- 4.21 Figure 4.6 compares the different components of population change in the MYEs and the 2012 SNPP. This suggests that the under-estimation is partially due to lower than expected levels of net out-migration to other parts of the UK and partially a higher than anticipated flow of international migrants. This suggests that there has already been a

³³ This dataset was released at the end of the study period, and therefore has not been included within the modelling produced by Edge Analytics. All scenarios presented use 2013 as a base date for population

significant deviation from the 2012 SNPP in terms of population change, which – if sustained – would result in a different demographic projection of population growth for Lancaster.

Figure 4.7: Projected and Estimated Mid-Year Population

	2012 SNPP ³⁴	ONS MYE
Mid-2012 population	139,600	139,665
Natural Change	100	10
Net Internal Migration	-900	-601
Net International Migration	1,000	1,429
Other Change	–	72
Mid-2013 population	139,800	140,575
Natural Change	200	47
Net Internal Migration	-900	-490
Net International Migration	1,000	1,972
Other Change	–	-97
Mid-2014 population	140,000	141,300

Source: ONS, 2015

- 4.22 Collectively, these factors suggest that it is important to consider alternative variant projections to establish the impacts of different levels of migration in Lancaster. These are considered later in this section.

Household Formation Rates

- 4.23 In addition to variation in the underlying scale of projected population growth, the conversion of the population to households – through the application of household representative rates, or headship rates – represents an important factor in understanding the anticipated need for housing.
- 4.24 The 2012 SNHP – in converting the 2012 SNPP into households – makes assumptions about the likelihood of different age groups and household types³⁵ forming households and being a household representative. It is important to consider these assumptions in further detail, given that the PPG acknowledges that they may be influenced by historic undersupply and worsening affordability of housing. These factors may constrain the ability of households to form, thereby underestimating housing need amongst certain groups.

³⁴ Rounded figures are presented

³⁵ Further detail on projected household types expected in Stage 2 release later in 2015

4.25 The latest 2012 SNHP includes a number of important updates compared to the previous interim 2011 dataset, with the inclusion of the following new information³⁶:

- Household population by sex, age and relationship-status consistent with the 2011 Census (rather than estimates for 2011, which were derived from 2001 Census data, projections and national trends, as used in the 2011-interim projections);
- Communal population statistics by age and sex consistent with the 2011 Census (rather than the previous estimate, which were calibrated to the total communal population from the 2011 Census);
- Further information on household representatives from the 2011 Census relating to aggregate household representative rates by relationship status and age;
- Aggregate household representative rates at a local authority level, controlled to the national rate, based on the total number of households divided by the total adult population (rather than the total number of households divided by the total household population); and
- Adjustments to the projections of the household representative rates in 2012 based on the Labour Force Survey (LFS).

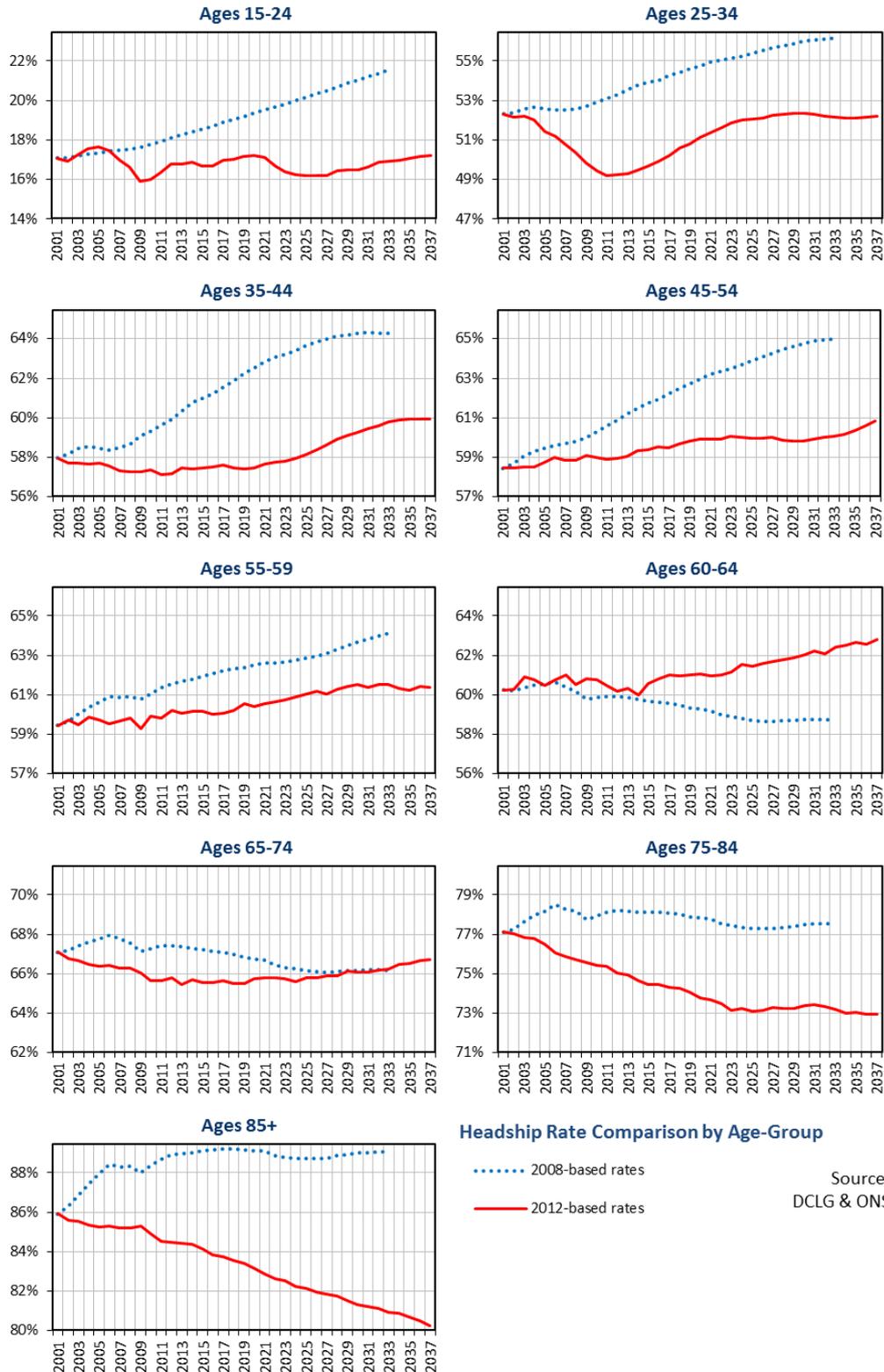
4.26 The latest dataset – which factored in this new information – can be compared against the 2008 SNHP, which represents the latest previous full sub-national set of projections given that the 2011 SNHP – as an interim release – covered only a ten year period. Both of these headship rates were applied in the IHRS, with an average taken between modelling outputs, and therefore the release of new headship rates represents an important update to this study.

4.27 The assumed household formation rates in the 2012 SNHP can therefore be compared against the 2008 SNHP, albeit while continuing to recognise – in line with the PPG – that the 2012 SNHP are the *'most up-to-date estimate of future household growth'*³⁷. This comparison is made in the following charts, broken down by age group, with the y-axis of each graph showing the likelihood of a person in each age group being a household representative.

³⁶ DCLG (2015) Household Projections 2012-based: Methodological Report

³⁷ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_016

Figure 4.8: Comparison of 2008 and 2012 Headship Rates - Lancaster



Source: DCLG, 2015; DCLG, 2010

4.28 With the exception of household representatives aged 60 to 64, the 2008-based dataset makes more positive assumptions around the formation of households in different age groups compared to the new 2012-based rates for Lancaster. This assumes that people

in most age groups are more likely to form households, suggesting that the new 2012-based rates may represent a less positive position.

- 4.29 This is particularly important to consider for younger households, given that their capacity and ability to form households is most likely to be impacted by housing market factors, such as worsening affordability. The potential for this issue is recognised within the DCLG methodology note accompanying the new projections³⁸.
- 4.30 Indeed, it is clear from the charts that the updated historical data used within the 2012 datasets – which is based on 2011 Census results – shows that household formation for those aged 25 to 34 fell considerably, rather than rising as expected in the 2008 dataset. Rates also fell to a lesser extent for adjacent age groups (15 to 24 and 35 to 44). For these age groups, it is more likely that market (i.e. affordability) factors as opposed to demographic factors – in relation to older households – have influenced household formation.
- 4.31 Recognising the status of the 2012 SNHP, headship rates from this dataset will be applied to all of the scenarios presented in this report. However, the impacts of its potentially constrained position for younger households are considered further in section 6 of this report.

Alternative Demographic Projections of Need

- 4.32 Following the analysis of the assumptions underpinning the 2012 SNPP, it is reasonable to undertake a process of sensitivity testing in relation to variant trend-based demographic projections. This follows guidance in the PPG:

“Plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to the underlying demographic projections and household formation rates”³⁹

- 4.33 Notably low levels of assumed net in-migration under the 2012 SNPP – and a possible overestimation of international migration flows – suggests that levels of migration should be considered to test the impacts of basing migration assumptions on a longer term historic trend.
- 4.34 A scenario has therefore been developed by Edge Analytics which bases both internal and international migration on historic trends seen between 2003/04 and 2012/13. This evidently covers a longer historic time horizon than used within the 2012 SNPP, and also covers a period which extends prior to the onset of the economic recession and subsequent housing market downturn which influenced the propensity of households to move. UPC is excluded from this scenario, but is included in a further scenario detailed later in this section.
- 4.35 Appendix 1 provides further information on the methodology used by Edge Analytics to model future demographic scenarios. The POPGROUP modelling prepared uses the historic demographic evidence to define future migration *rates* for internal migration, and

³⁸ DCLG (2015) Household Projections 2012-based: Methodological Report

³⁹ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_017

fixed migration *counts* for international migration. This is consistently with the ONS SNPP methodology, as is the application of migration rates to an external 'reference' population, which is defined by those areas with which there are historically significant migration links. This ensures a level of integration within the modelling, which is important – in the ONS model – to ensure that sub-area projections sum to the national level.

- 4.36 The outputs of this scenario are presented in the following table, with the SNHP 2012 scenario also presented for comparison.

Figure 4.9: 10 Year Past Growth 2013 – 2031

	Change 2013 – 2031		Average per year	
	Population change	Households change	Net migration	Dwellings
SNHP 2012	6,974	5,850	333	341
10yr Past Growth	14,071	8,927	604	521

Source: Edge Analytics, 2015

- 4.37 Taking a longer term migration trend results in a higher projected level of growth in Lancaster, with the population modelled to increase by approximately 14,000 – or around 780 per annum – over the projection period. This is around double the level of growth projected under the SNHP 2012 scenario, due to the underpinning higher assumed levels of net in-migration to the district. This higher level of migration would be a driver in growing the population by around 0.6% per annum over the projection period, which represents a slight increase compared to the historic annual rate of 0.4% seen since 1981 and continues to fall below the projected 0.7% annual growth expected nationally under the 2012 SNPP. Importantly, however, this level of per annum population growth is slightly below that identified by the ONS in the two MYEs published since the base-date of the 2012 projections (Figure 4.7), which show an average growth of 818 persons per annum over the two years.
- 4.38 Converting this population into households, the application of 2012 headship rates suggests that around 8,900 additional households will form in Lancaster under this scenario, representing 496 per annum – again, notably higher than the 325 households projected to form annually under the 2012 SNHP. This results in an increased need for housing, requiring an additional 521 dwellings per annum following application of a vacancy rate.

Treatment of Unattributable Population Change

- 4.39 For consistency with the modelling produced by ONS and DCLG, the scenario presented above excludes UPC. For Lancaster, this means that historically overestimated levels of international migration have not directly been taken into account, and therefore this overestimation may be maintained throughout the modelling period.
- 4.40 In order to test the impact of UPC, a further scenario has been developed by Edge Analytics which includes UPC, thereby integrating the correction applied following

publication of the 2011 Census. The outputs of this scenario are presented below, again alongside the other scenarios introduced in this section.

Figure 4.10: 10 Year Past Growth (including UPC) 2013 – 2031

	Change 2013 – 2031		Average per year	
	Population change	Households change	Net migration	Dwellings
SNHP 2012	6,974	5,850	333	341
10yr Past Growth	14,071	8,927	604	521
10yr PG with UPC	7,920	6,710	325	392

Source: Edge Analytics, 2015

- 4.41 Evidently, the inclusion of UPC has a significant impact on modelled growth in Lancaster, compared to the 10 year Past Growth scenario which excluded this component. The total population growth of 7,920 is around 6,000 lower than the 10 Year Past Growth scenario, but remains around 1,000 greater than suggested under the SNHP 2012 scenario. This shows that taking a longer term demographic trend uplifts the level of growth suggested under the ‘starting point’ scenario, regardless of whether UPC is included or excluded for Lancaster.
- 4.42 As noted in section 3, the interplay between the different migration components is complex. While there is a considerable amount of uncertainty regarding how UPC is accounted, ONS datasets remain the most comprehensive source of information on international migration, and provide a robust basis from which to assess housing needs. The analysis in section 3 also highlighted that the impact of adjustments were more likely to have impacted earlier in the previous decade. On this basis whilst the above scenario provides a useful indication as to the potential impact of including UPC it does not form a robust a representation of long-term demographic projections of need. Further consideration is given to the implications of the outputs of this demographic modelling in section 7 of this report.

Summary and Implications

- 4.43 The 2012-based sub-national household projections (SNHP) are identified as the ‘starting point’ for assessing housing need in the PPG, and show that the number of households in Lancaster could increase by 325 per annum over the plan period from 2013 to 2031. This is underpinned by population growth of around 7,000 people – increasing the total population by 5% – and would generate a need for 341 dwellings per annum over the plan period, allowing for vacancy.
- 4.44 The household projections are underpinned by population projections published by the ONS, which show how the population may change if recent trends continue. The 2012-based sub-national population projections (SNPP) – published in 2014 and forming the basis for the household projections – project a comparably low level of growth in the context of previous datasets, and this is likely to be due to the historical period on which these projections are based. The 2012 SNPP base migration assumptions on recent

trends, which have been influenced by the recession, and it is therefore possible that migration levels in this dataset are underestimated. Indeed, it is assumed that there will be a sustained net outflow of migrants from the district throughout the projection period, which deviates from the historic trend, although international migration may be overestimated due to UPC in Lancaster, detailed in section 3. The latest mid-year population estimates show that there has already been a deviation from the projected population, which – if sustained – would result in a different demographic future for Lancaster than suggested under the 2012 SNPP.

- 4.45 For this reason – in line with the PPG – it is appropriate to consider alternative demographic scenarios, by considering the impacts of varying migration assumptions based on a longer term trend. A scenario has been developed by Edge Analytics to show how a continuation of migration trends over a 10 year period may change the population in future, and this suggests that the population may increase by around 14,000 over the plan period. This represents an approximate doubling of the ‘starting point’ implied by the 2012 SNHP, and would result in an annual need for 521 dwellings per annum.
- 4.46 For consistency with the modelling produced by ONS and DCLG, this scenario excludes UPC, which means that historically overestimated levels of international migration have not directly been taken into account. Applying this correction by including UPC suggests a lower level of population growth – totalling 7,920 persons between 2013 and 2031 – which would generate a need for 392 dwellings per annum. This is due to considerably lower assumed levels of migration, which show a closer alignment with the 2012 SNHP. As identified throughout this section – as a result of the considerable uncertainty around how UPC is accounted for in the context of the analysis for Lancaster – it is not considered appropriate to directly include UPC within trend-based projections. As noted earlier, the ONS has explicitly not sought to take UPC into account in its own projections. The implications for the future implied levels of population and household growth underpinning housing need are considered further within section. 7.

5. Employment Trends and Implications for Housing Needs

5.1 The PPG is clear in expecting local authorities to take employment trends into account when considering housing need, with plan makers required to make an assessment of likely job growth and consider the level of housing needed to support this likely job creation.

5.2 The RELP includes an assessment of likely future job growth, and this section therefore draws together this evidence to consider the implied level of labour force response required – and the potential associated housing need – to support this anticipated level of job creation.

Likely Future Job Growth

5.3 The RELP estimates employment land requirements based on two scenarios:

- The **Baseline** scenario is based on Experian forecasts released in June 2014; and
- The **Baseline+** scenario factors in approximately 797 additional jobs to the Baseline scenario, associated with elements of strategic projects that are classified as ‘game changers’ for Lancaster.

5.4 For consistency with the demographic scenarios developed in section 4 – and to reflect the 2013 base date of the modelling undertaken by Edge Analytics – this section considers likely change in job growth between 2013 and 2031. The following table summarises the forecast change in employment in Lancaster over this period, showing that the Baseline scenario forecasts the creation of 380 jobs per annum between 2013 and 2031, increasing to 425 under the Baseline+ scenario.

Figure 5.1: RELP FTE Employment Scenarios

	2013	2031	Total Change	Average Annual Change
Baseline	46,889	53,737	6,848	380
Baseline+	46,889	54,534	7,645	425

Source: Experian, 2014; Turley, 2014/5

5.5 It is, however, important to note that the RELP considered change in FTE employment over the entire plan period from 2011, with the forecasts suggesting that 9,551 additional FTE jobs⁴⁰ could be created between 2011 and 2031 under the Baseline scenario, increasing to 10,348 under the Baseline+ scenario.

⁴⁰ Figure of 9,595 cited in Table 5.3 of RELP based on summing of broad individual sectors

- 5.6 The forecasts evidently assumed a high level of job creation (approximately 2,700 jobs) between 2011 and 2013, reflecting a trend whereby economic forecasts generally show strong short-term growth in years immediately following the base date⁴¹. This is generally based on an assumed continuation of strong national levels of job growth, which is then modelled down to individual regions and local authorities.
- 5.7 Given the uncertainties regarding historic job growth and the impact any deviation from this within the forecasts might have on the future projected growth it is considered appropriate to continue to align with the forecasts and phasing of job growth directly taken on an annual basis from the Experian forecasts in this instance⁴².
- 5.8 It is also important to recognise that these forecasts show change in full-time equivalent (FTE) jobs. Experian convert all jobs into FTE jobs to provide:

“A constant yard-stick of full-time employment for all industries, regions and industry-region based on thirteen working weeks in a quarter at 37.8 hours a week. 37.8 hours is the average hours worked by a full-time worker in the UK between 1990 and 2009”⁴³

- 5.9 The RELP uses FTE jobs in its development of land requirements and the analysis of the Baseline+ scenario only included FTE outputs. In order to model the scenarios consistently, FTE jobs have been used for both scenarios. It is recognised that this has the potential to marginally under-estimate the relationship between people and jobs, with some parts of the labour force only undertaking a single part-time job. However, it is also noted that other persons in the labour force may undertake more than one job, with this frequently referred to as “double-jobbing”. The RELP confirms that the difference in workforce jobs (all jobs) and FTE jobs over the full forecast period from 2011 to 2031 was approximately 1,000 jobs⁴⁴.

Labour Force Factors

- 5.10 In order to understand how the labour force supply will impact on employment growth in the future, it is important to recognise how the existing age structure of the population may change in future if past demographic trends continue.
- 5.11 The 2012 SNPP can be broken down to show the implied changing age profile of Lancaster over the plan period. In the context of the labour force, it is particularly important to consider in this context how the working age population may change in the future. Figure 5.2 shows the suggested change by 5 year group of the population between 2013 and 2031 in Lancaster.

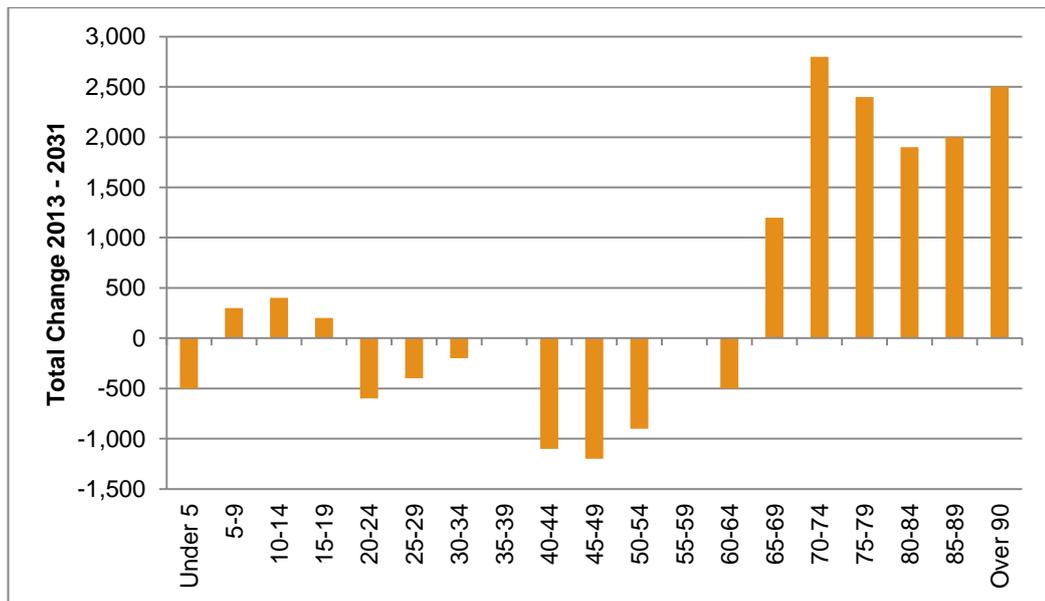
⁴¹ It is understood that 2012 represented the historical endpoint in the June 2014 Experian forecasts

⁴² An alternative approach would be to assume that the 9,551 additional FTE jobs forecast to be created over the whole plan period are delivered evenly across the period, representing an average annual growth of 478 jobs between 2011 and 2031 under the Baseline scenario if this was simply averaged pro rata, increasing to 517 per annum under the Baseline+ scenario. This would evidently uplift the annual level of job creation over the period – from 2013 to 2031 to that actually directly forecast within the scenarios. It is evident, however, that job growth has not been uniform historically in Lancaster and therefore this approach is not considered in the context of the evidence in the RELP as preferential to retaining an alignment with the direct forecast Experian outputs.

⁴³ Experian (2015) Data Guide – UK Regional Planning Service

⁴⁴ Referenced in paragraph 5.7 of the RELP (2015)

Figure 5.2: Change in Age Structure 2013 – 2031



Source: ONS, 2014

5.12 As shown, the 2012 SNPP suggests a significant growth in the older population, with the majority of growth concentrated in those aged 65 and over. Declines are expected in all other age groups, with the exception of residents aged 5 to 19. This will have implications for the size of the working age population, and therefore by association the scale of the labour force.

5.13 The level of job growth that can be supported by the 2012 SNPP – and other variant demographic scenarios – can be established through the modelling undertaken by Edge Analytics. This is generated through the application of a number of prudent assumptions relating to economic activity, unemployment and commuting. These are set out in further detail in Appendix 1, but include:

- Commuting rates based on the 2011 Census, and held constant over the projection period;
- Economic activity rates based on the 2011 Census, and held constant for those aged 16 to 60. Modifications have been made to the economic activity rates for those aged 60 to 69, in order to take account of planned changes to the state pension age; and
- Unemployment rates have been incrementally reduced over the period from 2013 to 2020 from a recession average (2009 – 2013) to a pre-recession average (2004 – 2007). The unemployment rate has been fixed thereafter.

5.14 On the basis of the application of the assumptions above, the level of job growth supported under both the SNHP 2012 and 10 year Past Growth scenarios are shown below. This is presented to show change over the modelling period from 2013 to 2031.

Figure 5.3: Job Growth Supported by Demographic Scenarios 2013 – 2031

	Jobs per annum	Population change per annum	Dwellings per annum
SNHP 2012	-54	387	341
10yr Past Growth	142	782	521

Source: Edge Analytics, 2015

- 5.15 The changing age profile under the SNHP 2012 scenario – as suggested by the age profile change in Figure 5.2 – would be likely to lead to a fall in the number of jobs supported by the labour force, with 54 fewer jobs supported each year over the projection period on average⁴⁵.
- 5.16 The higher level of population growth – and in particular migration – implied within the Past Growth scenario (excluding UPC) by contrast would suggest that job creation would be able to be supported. Under this scenario, the higher assumed population growth – underpinned by higher levels of net in-migration – is indicated to be able to support the creation of around 140 jobs per annum over the projection period. This nevertheless falls below the levels of likely job growth suggested in the RELP – and outlined earlier in this section – suggesting that higher levels of net in-migration may be required if this level of job creation is realised in Lancaster. This would be likely to imply both a greater retention of working age people who are projected under the demographic scenarios to migrate out of the district – reflecting on the age profile of migrants shown in Figure 3 – as well as the attraction in of a greater proportion of working age persons to Lancaster.

Future Change in Economic Participation

- 5.17 As explained earlier, the POPGROUP modelling undertaken by Edge Analytics⁴⁶ integrates a number of prudent assumptions around factors which impact the alignment of the labour force and change in jobs. However, it should be acknowledged that the Experian forecasts referenced in the RELP are themselves underpinned by population projections, with short-term adjustments made to the labour supply in response to demand conditions. This reflects the economic reality that when demand is high, the participation rate rises, as potential workers are drawn into the labour force by the relatively buoyant conditions. When demand is low, the participation rate declines as disillusioned workers leave the labour force due to poor job market conditions.
- 5.18 Experian also factor in known changes to state pension ages⁴⁷, and apply assumptions to economic activity rates to offset the impacts of the ageing population. Indeed, as the following chart shows⁴⁸, a continuation of current participation rates at a national level ('flat') would result in a fall in overall economic participation, and this implies that some changes would be required to maintain current participation levels. The green line

⁴⁵ It is noted that the RELP identifies that the 2012 SNPP could support a total of around 460 FTE jobs over the period from 2011 to 2031. This is not directly comparable given the longer forecast period

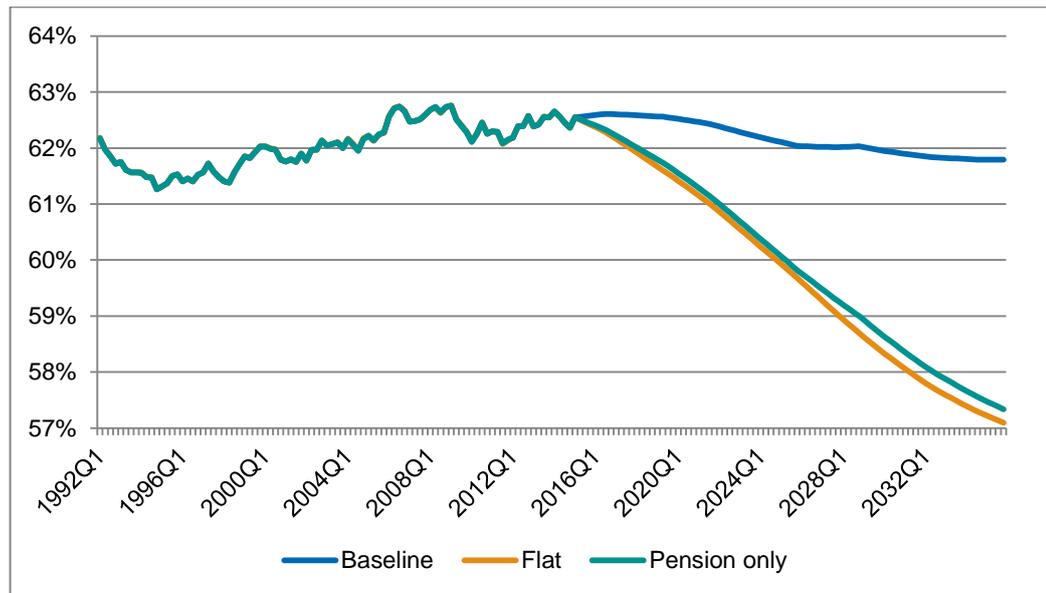
⁴⁶ POPGROUP is introduced in Appendix 1

⁴⁷ Modelling undertaken by Edge Analytics also assumes changing economic activity rates for those aged 60 to 69 to reflect changing state pension ages

⁴⁸ Experian (2015) Employment Activity and the Ageing Population

(‘pension only’) illustrates the impact that known changes to state pension ages (SPA) would have on participation rates in the future, with Experian’s analysis highlighting that this is considered to have only a marginal impact. The blue line (‘baseline’) shows the assumptions currently made by Experian to broadly maintain current levels of participation, although it should be noted that similarly detailed information is not available for the June 2014 forecast on which the RELP was based.

Figure 5.4: Counterfactual vs Forecast Participation Rate 16+



Source: Experian, 2015

- 5.19 To offset these effects, Experian’s briefing note⁴⁹ recognises that older workers will need to form an increasing proportion of the potential labour force. Experian expect participation rates to increase across all older bands for both men and women, particularly with the UK economy becoming more service-oriented, although many could be expected to work reduced hours. Experian intend to introduce new assumptions about economic activity in older people based on the evidence published in their May 2015 note, although a similar level of detail is not available to understand the assumptions underpinning the June 2014 forecast used in the RELP.
- 5.20 The Office for Budget Responsibility (OBR) also recognise that the ageing of the population will impact upon the size and composition of the labour force:

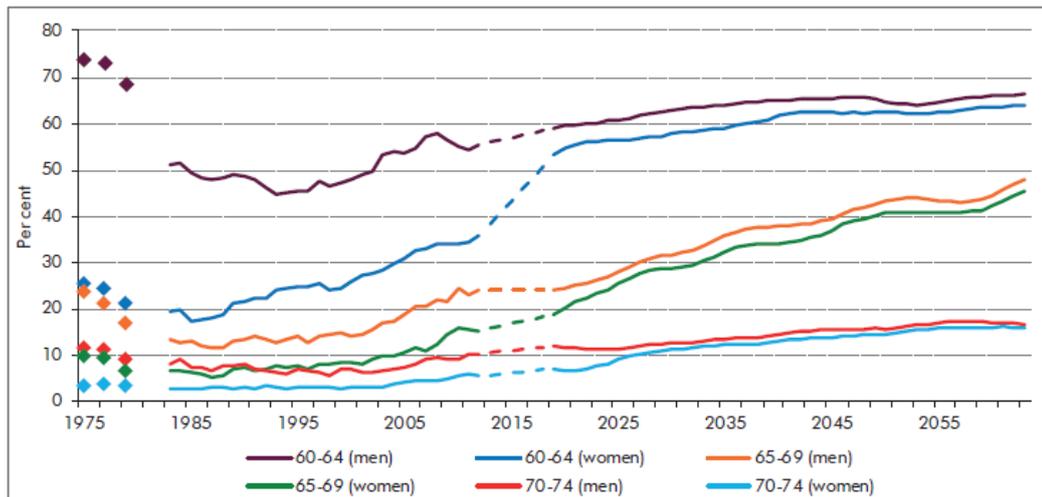
“Employment rates for men aged 60 to 64 years will continue rising over time, although slightly more gradually than in the recent past, and ending the period below the level seen in the 1970s. Employment rates for women of the same age are projected to pick up more significantly over the next five years, as the SPA (state pension age) is equalised. And SPA changes are also projected to raise the shares of both men and

⁴⁹ Ibid

women working into their late sixties. We do not assume that this pace of change continues into later life⁵⁰

5.21 The following chart shows the changing employment rates assumed by OBR for 60 to 74 year olds, relative to the historic position⁵¹.

Figure 5.5: OBR Employment Rates (60 – 74 year olds)



Source: OBR, 2014

5.22 Based on further analysis of OBR data, Edge Analytics have established the adjustments made by OBR to the rates between 2011 and 2031, and this is summarised in the following table.

Figure 5.6: OBR Economic Activity Rate Adjustments 2011 – 2031

	60 – 64	65 – 69	70 – 74
Males	17%	39%	20%
Females	71%	93%	83%

Source: OBR, 2014; Edge Analytics, 2015

5.23 Both Experian and OBR expect changes to economic participation rates in older groups in the future beyond those simply implied by changes to state pension ages. It is apparent, however, that there is uncertainty about the extent to which these changes will occur.

5.24 These short-term responses and adjustments contrast with the prudent modelling assumptions applied by Edge Analytics, where the economic activity rate is held constant for all but those aged 60 and over and changes for those older groups are limited to adjustments aimed at taking account of changing state pension ages. Given

⁵⁰ OBR (2014) Fiscal Sustainability Report

⁵¹ Prior to 1983, the Labour Force Survey does not contain an annual series for these indicators, so only available years are shown. Medium-term forecast are produced top-down, rather than bottom-up, so the dotted lines for that period are a simple linear extrapolation

the uncertainty associated with future changes in economic activity rates, the modelling presented in the central projections using POPGROUP can therefore be considered as making relatively conservative assumptions to model the scale of labour force growth required to support input levels of job growth. A departure from these recent trends – with increased participation levels amongst older people in particular, as forecast by Experian and the Office for Budget Responsibility⁵² – would result in a greater utilisation of the existing labour force, thereby requiring a lower level of population growth to support job creation associated with each of the employment-led scenarios. A sensitivity scenario is included in the variant scenarios presented below which illustrates the impact that applying the OBR adjustment makes on the implied population growth.

Variant Employment-led Projections

- 5.25 As noted, the levels of growth suggested under the demographic scenarios presented above would not support the level of employment growth forecast in the RELP, based on conservative assumptions around economic participation and unemployment. Further modelling can be undertaken to show the level of growth required in the labour force implied under higher levels of job creation, and the subsequent implications for housing need.
- 5.26 Assumptions on economic activity, commuting and unemployment are consistent with those set out at paragraph 5.13, and more fully in Appendix 1.

Figure 5.7: Employment-led Scenario Outputs

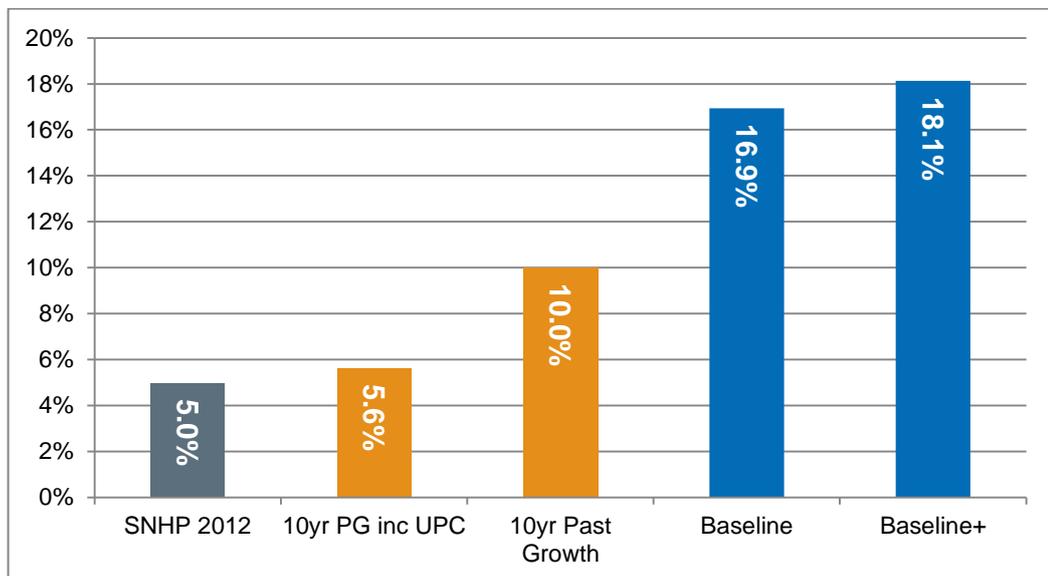
	Change 2013 – 2031		Average per year	
	Population change	Households change	Net migration	Dwellings
Baseline	23,817	12,449	1,130	727
Baseline+	25,482	13,096	1,212	765

Source: Edge Analytics, 2015

- 5.27 This modelling suggests that supporting forecast employment growth over the modelling period would require a significantly higher level of population growth in order to grow the labour force, with growth of around 24,000 people required – around 1,300 persons annually – to support Baseline job growth in Lancaster. This rises to around 1,400 persons to support the Baseline+ scenario, or approximately 25,500 in total. This is considerably higher than the demographic scenarios presented in the previous section, which modelled growth of 387 persons per annum under the 2012 SNHP, rising to 782 persons per annum under the 10 year Past Growth scenario (excluding UPC).
- 5.28 The scale of projected population growth is illustrated in the following graph, which compares the proportionate growth in population modelled over the projection period under each scenario.

⁵² Office for Budget Responsibility (2015) Fiscal Sustainability Report

Figure 5.8: Proportionate Modelled Growth in Population 2013 – 2031 - Lancaster



Source: Edge Analytics, 2015

- 5.29 The Baseline and Baseline+ scenarios both show sizeable increases in the population of Lancaster. Notably, the implied level of population growth under the employment-led scenarios considerably exceeds the rate of population growth expected nationally, with the 2012 SNPP expecting the population of England to increase by 12.3% between 2013 and 2031.
- 5.30 The implied growth in population under the employment-led scenarios are also considerably higher than the long-term rate of population growth in Lancaster, with the analysis in section 3 showing that the population of the district increased by 0.4% annually back to 1981. Assuming this level of growth over the projection period would equate to growth of 6.9%, which suggests a closer alignment with the demographic scenarios and notably falls below that implied by the employment-led projections.
- 5.31 Figure 5.7 highlights that the significant driver of the additional population growth under the employment-led scenarios is higher levels of migration. The two employment-led scenarios suggest that supporting forecast levels of job growth would require an increase in the number of people moving to Lancaster, with a need for an annual net inflow of over 1,100 migrants to grow the labour force even under the Baseline scenario.
- 5.32 These higher levels of migration are primarily driven by a modelling assumption that greater numbers of working age persons are attracted into Lancaster in order to support the job growth planned. This also recognises that the retention of a greater number of prospective out-migrants is likely to be a key factor in driving higher levels of net migration in Lancaster. The modelling also further assumes that significant changes in economic activity would not occur – with more recent trends maintained in Edge Analytics’ prudent assumptions – and therefore the labour force would not grow substantially as a result of an increased number of older workers, for example. The

implication of applying the OBR assumptions around more notable uplifts to the economic activity rates of older age groups is considered below.

OBR Labour Force Adjustments – Sensitivity

5.33 As noted above, forecasts of future employment rates were produced by OBR which expect older people to remain part of the labour force for longer in future. From this dataset – as set out in Figure 5.6 – Edge Analytics have derived future changes in economic participation over the plan period from 2011 to 2031. These adjusted rates have been applied by Edge Analytics in order to show the scale of population growth required to support forecast job creation under the Baseline Economic Scenario.

Figure 5.9: Employment-led Modelling Outputs – Impact of OBR Economic Activity Rate Sensitivities

	Change 2013 – 2031		Average per year	
	Population	Households	Net migration	Dwellings
Baseline	23,817	12,449	1,130	727
Baseline (OBR)	19,926	10,947	934	639

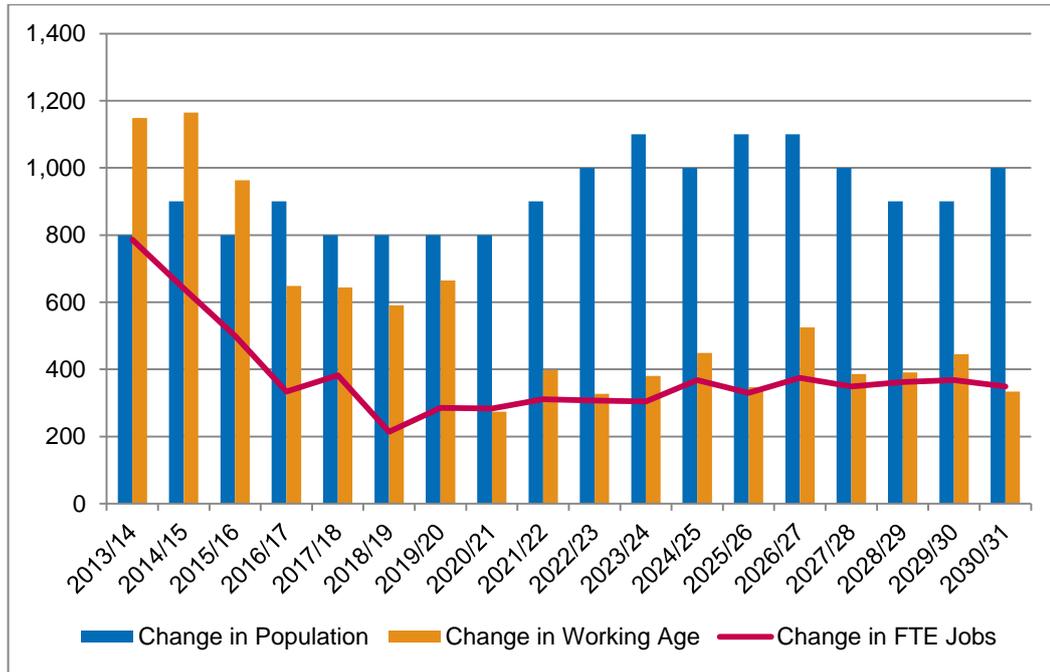
Source: Edge Analytics, 2015

5.34 The assumption – in line with the OBR forecasts – that a higher proportion of older working age persons increasing remain in work has an impact on the modelling outputs. Under this set of assumptions, the modelling implies that a smaller level of net in-migration is required to grow the labour force of Lancaster, due to an assumption that existing older residents will join the labour force and support employment growth in the district. This lowers the modelled level of population growth, consequently lowering the level of housing need.

5.35 In terms of population, it is, however, important to recognise that the Experian forecasts underpinning both the Baseline and Baseline+ scenarios are themselves underpinned by population projections, as noted above. It is understood that the June 2014 forecasts as referenced in the RELP are based on official 2010-based population projections published by ONS, and this suggests that the Experian model generates growth of 6,848 FTE jobs (Baseline) over the plan period through population growth of 16,500. This is lower than the population growth of 23,817 implied by the POPGROUP modelling as being required to support the same level of job growth, and the growth of circa 20,000 people suggested under the OBR adjustment. This implies that Experian apply more extensive adjustments to economic participation than OBR, resulting in a still further utilisation of the existing labour force of Lancaster.

5.36 This is illustrated in the following graph, which shows assumed change in total population, total working age population and FTE jobs in the June 2014 forecasts for Lancaster.

Figure 5.10: Forecast Change in Population and FTE Jobs – Experian (June 2014)



Source: Experian, 2014

5.37 The Experian forecasts assume a sizeable growth in the working age population early in the forecast period, due to an assumed fall in the number of people of retirement age following the gradual increase in state retirement age. This supports higher levels of job growth, which is assumed to fall later in the forecast period due to more limited annual growth in the working age population.

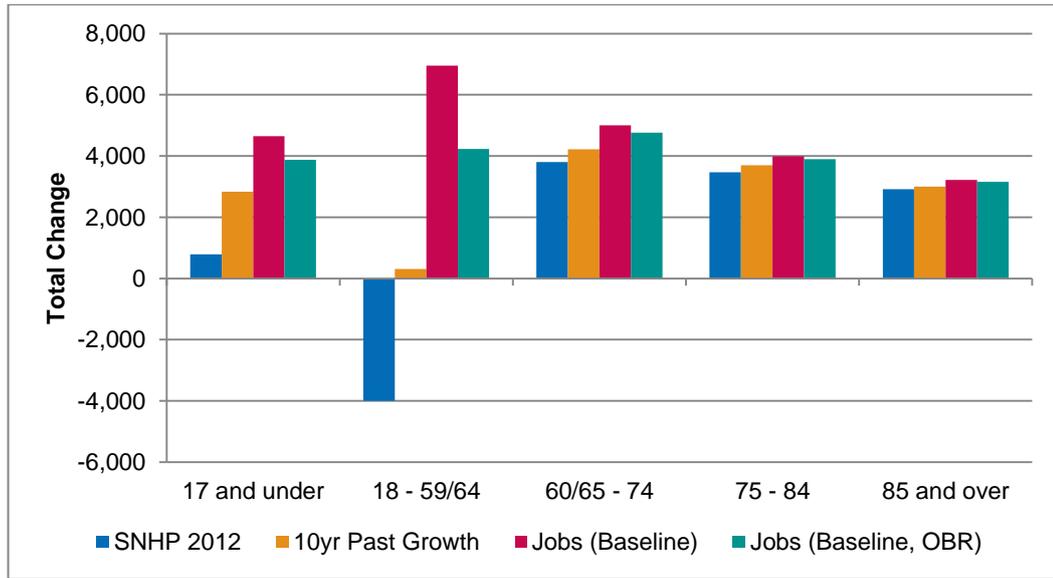
5.38 This reflects variance in assumptions about economic activity and unemployment in particular, with the Experian forecasts suggesting an assumed return of unemployed and economically inactive residents to the workforce. This evidently contrasts with the more prudent assumptions applied by Edge Analytics within the POPGROUP modelling, whereby commuting rates are held constant, unemployment rates have been incrementally reduced to reach a pre-recession average and only moderate adjustments have been made to economic activity rates. It is apparent that the cumulative impact of the assumptions made by Experian also exceed those aligned within the OBR forecasts.

Implications for a Changing Labour Force

5.39 In the scenarios considered above, it is evident that the application of different labour force assumptions impact upon the scale of population growth over the plan period. This primarily relates to the level of net migration indicated as being required to grow the working age population of Lancaster, once consideration is given to the existing potential available labour force. This is illustrated through the following graph, which shows the modelled changes in key age groups⁵³ under selected scenarios.

⁵³ Working age population (18 – 59/64) is consistent with ONS definitions for retirement, which are set at 60 for females and 65 for males

Figure 5.11: Modelled Change in Age Groups 2013 – 2031



Source: Edge Analytics, 2015

- 5.40 It is apparent that all of the scenarios expect growth in the older persons population, although it is clear that the main difference between different scenarios relates to the future size of the working age population. As noted earlier, the SNPP 2012 projects a significant fall in the size of the working age population, which would present challenges for future job creation in Lancaster. The 10 year Past Growth scenario – excluding UPC – would largely sustain the size of the existing working age population, but a growth of around 7,000 persons of working age would be required to support Baseline job creation in Lancaster⁵⁴. As noted earlier in this section, however, this assumes that existing economic participation rates will only marginally deviate from the recent historic profile, to take account of known changes to state pension ages. Assuming that economic participation rates in older people will change over the plan period – in line with that assumed by OBR – implies that job creation under the Baseline scenario can be supported by a growth of around 4,200 working age residents. This reflects the assumption that older people will make a greater contribution towards supporting employment growth in Lancaster.
- 5.41 Whilst recognising that there is likely to be a level of uncertainty around the assumptions linking job growth and labour force change, the modelling collectively suggests that an uplift to the demographic scenarios is likely to be required in order to support forecast job growth in Lancaster, as set out in the RELP. The provision of a higher number of houses annually in the district above that suggested by the demographic scenarios would enable the formation of more households, with residents subsequently able to grow the labour force and support job growth.

⁵⁴ Note: The implied growth in the working age population should not be directly compared with forecast change in job numbers as the modelling also considers economic activity rates, unemployment and commuting aspects.

Summary and Implications

- 5.42 The PPG expects local authorities to take employment trends into account when considering housing needs, and this section therefore establishes the level of population growth required to support the likely level of job growth identified in the RELP.
- 5.43 The RELP includes two employment scenarios, with a Baseline scenario – based on Experian forecasts released in June 2014 – suggesting an annual growth of 380 full-time equivalent (FTE) jobs over the modelling period from 2013 to 2031 and a further Baseline+ scenario increasing annual job creation to 425 FTE jobs to take account of strategic projects identified in Lancaster.
- 5.44 The existing labour force can play a role in supporting job creation, although a continuation of recent demographic trends would see the size of the labour force in Lancaster shrink considerably, with sizeable growth in the older population. Indeed, based on the application of prudent assumptions on economic activity, commuting and unemployment rates, the SNHP 2012 scenario would be likely to lead to a fall in the number of jobs supported by the labour force, with 54 fewer jobs supported annually over the plan period. The 10 year Past Growth scenario implies, however, on the basis of stronger population growth the capacity to support the creation of 142 jobs per annum. The lower level of population growth implied by the 10 Year Past Growth scenario including UPC, however, again suggests a population profile which would potentially fail to support employment growth within the authority.
- 5.45 Whilst the higher level of population growth implied by the 10 Year Past Growth scenario implies that a level of job growth could be supported this evidently falls short of the forecast job growth within the RELP. Modelling has been undertaken by Edge Analytics which suggests that the population of Lancaster would need to increase by 16.9% to support the Baseline creation of 380 jobs per annum using a prudent set of labour force assumptions. This would generate a need for 727 dwellings per annum, increasing to 765 dwellings per annum under the Baseline+ scenario, where the population would need to grow by 18.1%.
- 5.46 This is largely based on a retention of recent economic participation rates in Lancaster – applying only marginal adjustments to take account of changes to state pension ages – and Edge Analytics have also used POPGROUP to assess the impact of adjusting economic activity rates to reflect forecasts produced by the OBR. This assumes that employment growth can be supported by increased participation amongst existing older residents, requiring a lower level of population growth and migration to support the levels of job growth supported in the RELP. The application of this adjustment results in an implied need for 639 dwellings per annum between 2013 and 2031, a reduction of around 90 dwellings per annum relative to the core economic activity rate assumption.
- 5.47 It is also, however, important to recognise that the Experian forecasts cited in the RELP are themselves underpinned by official population projections, and the forecasts therefore assume a still greater utilisation of the existing labour force in Lancaster, beyond that implied by OBR. Under the assumptions applied by Experian, it is implied that the Baseline level of job creation could be supported through a more modest population growth. This shows the sensitivity of employment-led modelling, and there is

evidently considerable uncertainty about how economic activity rates in particular may change in future.

- 5.48 Nevertheless, based on the modelling undertaken by Edge Analytics, both the Baseline and Baseline+ scenarios would require a significant increase in net migration, with an increase in the number of people moving to Lancaster to offset the ageing of the population. The retention of a greater number of prospective out-migrants is likely to be a key factor in driving higher levels of net migration in the district, resulting in a sizeable growth in the working age population in order to support job growth.
- 5.49 Whilst recognising that there is likely to be a level of uncertainty around the assumptions linking job growth and labour force change, the modelling collectively suggests that an uplift to the demographic scenarios is likely to be required in order to support forecast job growth in Lancaster, as set out in the RELP.

6. Market Signals

6.1 The IHRS includes a review of the active housing market, building upon analysis presented in the 2011 Housing Need Survey⁵⁵. This highlighted that prices had remained relatively stable following the credit crunch, although the number of transactions had fallen considerably.

6.2 The PPG was published following completion of the IHRS, and includes a clear methodology for assessing market signals to understand the balance between supply and demand. It is stated that:

“The housing need number suggested by household projections (the starting point) should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings. Prices or rent rising faster than the national/local average may well indicate particular market undersupply relative to demand”⁵⁶

6.3 This report therefore follows the guidance in the PPG to establish the balance between supply and demand in Lancaster and the implications for the OAN.

Market Signals in the PPG

6.4 Six market signals are identified for review in the PPG:

- **House prices** – assessing proportionate levels of inflation as an indicator of long-term imbalances between supply and demand;
- **Rents** – consideration of rental values as an indicator of long-term imbalances between supply and demand;
- **Affordability** – comparing house prices against residents’ ability to pay;
- **Rate of development** – assessing the rate at which development has kept pace with planning targets, in order to establish whether a position of backlog or undersupply exists which should be addressed through future provision;
- **Land prices** – identification of price premiums as an indicator of demand for land relative to supply; and
- **Overcrowding** – considering changing levels of overcrowding, concealed and shared households, homelessness and numbers in temporary accommodation, as an indicator of undersupply.

6.5 Each of these factors is considered in turn below, with Lancaster compared to its neighbours and the national profile.

⁵⁵ DCA (2011) Lancaster Local Housing Needs and Demand Survey

⁵⁶ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_019

House Prices

- 6.6 The PPG states that longer term increases in house prices can be indicative of an imbalance between supply and demand. Data published by Land Registry can be used to calculate the mean price paid in Lancaster, compared to England and neighbouring authorities. In addition, average prices from 2001 and 2007 are also presented, allowing a comparison of the rate of change over this period.

Figure 6.1: Change in Mean House Prices 2001 – 2014

	2001	2007	2014	% Change
Lancaster	£67,460	£157,719	£162,401	140.7%
Ribble Valley	£104,483	£230,802	£228,048	118.3%
England	£121,768	£218,959	£264,350	117.1%
Craven	£99,060	£215,430	£210,169	112.2%
South Lakeland	£114,149	£242,856	£238,879	109.3%
Wyre	£78,641	£172,271	£159,373	102.7%

Source: Land Registry, 2015

- 6.7 Lancaster has seen the highest level of growth in house prices over the period shown, with the average price in 2014 over 140% greater than in 2001. Values have therefore grown considerably, outpacing the growth seen nationally. The average value in 2014 does, however, continue to remain lower than the national average, or many neighbouring authorities. This highlights the low base from which prices rose in 2001, with Lancaster having the lowest average house price in 2001 of any of the comparator areas. Values in Lancaster and indeed across much of the wider area have also remained relatively consistent since the recession, albeit with some falls in value and a slight increase in Lancaster.
- 6.8 Nevertheless, as per the PPG, this rate of growth may be indicative of a potential imbalance between supply and demand in Lancaster over this time period which has contributed to a more rapid rise in prices.

Rents

- 6.9 The PPG suggests that the rental market should also be considered as a market signal, with longer term changes in rental levels indicative of a potential imbalance between the demand for and the supply of housing.
- 6.10 Data published by the Valuation Office Agency (VOA) collates information provided by private rental landlords, and provides a useful benchmark of average rents in Lancaster. The latest available data covers the period from April 2014 to March 2015, with both lower quartile and mean averages presented for Lancaster, neighbouring authorities and England.

Figure 6.2: Monthly Private Rental Cost 2014/15

	Mean	Lower quartile
Wyre	£799	£455
England	£768	£475
Ribble Valley	£658	£500
South Lakeland	£608	£500
Craven	£571	£475
Lancaster	£494	£368

Source: VOA, 2015

- 6.11 The evidence suggests that rents in Lancaster are relatively low, with both the mean and lower quartile falling below all neighbouring authorities and average national rents. As per the PPG, however, it is important to understand how rents have changed, given that this can be indicative of an imbalance between supply and demand. The following table summarises how both mean and lower quartile rents have changed in Lancaster, through a comparison between the values presented above and the oldest available dataset, which covers the year to June 2011. This analysis focuses solely on two bedroom properties, given that change in overall averages – presented in Figure 6.2 – can be skewed by the size of stock in respective samples.

Figure 6.3: Change Monthly Private Rental Cost 2010/11 – 2014/15

	Mean	Lower quartile
England	8.3%	4.2%
Craven	3.5%	10.0%
Ribble Valley	1.9%	4.2%
South Lakeland	1.9%	5.0%
Lancaster	1.8%	1.0%
Wyre	-3.1%	-2.7%

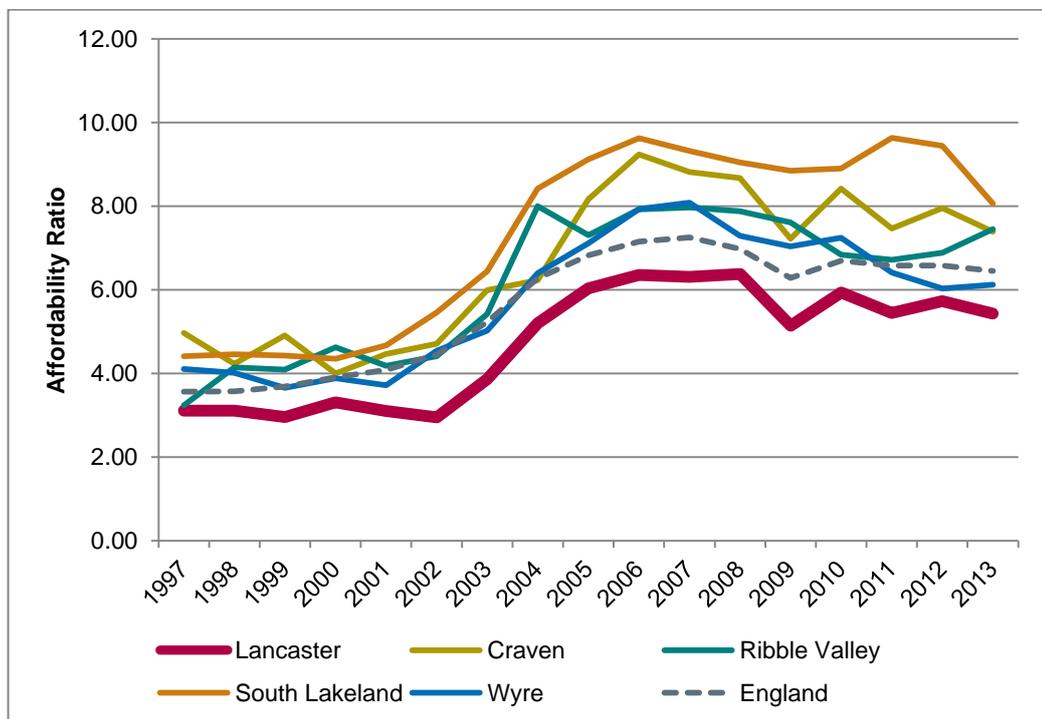
Source: VOA, 2015

- 6.12 There has been limited growth in average rents for two bedroom properties in Lancaster, with growth of around 2% in the circa 4 years presented. There has also been a relatively limited growth in lower quartile rents, falling below the levels seen nationally and in many neighbouring authorities, with the exception of Wyre. This suggests that there is unlikely to be a significant imbalance between supply and demand in the private rented sector.

Affordability

- 6.13 The PPG states that an assessment of the relative affordability of housing within an area should be undertaken, through a comparison of housing costs in the context of households' ability to pay.
- 6.14 Nationally, the housing market has undergone significant change in recent years, with the recent economic downturn constraining the availability of mortgage finance. First time buyers – and those households purchasing at the height of the market – now find themselves in a much more challenging position when looking to either buy a home or move home. Many younger households are increasingly turning to parents for deposit contributions, or looking to alternative housing products with lower immediate financial requirements.
- 6.15 Nationally, this has resulted in a considerable reduction in the number of residential transactions, with many households either saving for a deposit, deciding to remain in their current home due to economic insecurity or looking to the social rented or private rented sector as an alternative option.
- 6.16 The impact of rising house prices on the affordability of homes in Lancaster is demonstrated in the following graph, which shows the ratio of lower quartile house prices to lower quartile earnings.

Figure 6.4: Ratio of Lower Quartile House Price to Earnings (1997 – 2013)



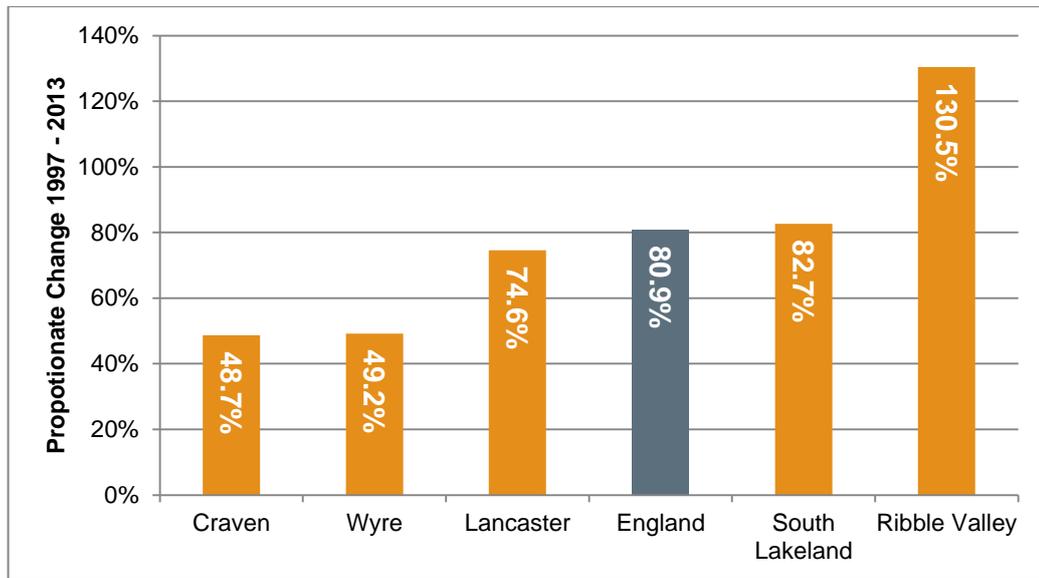
Source: DCLG, 2014

- 6.17 This suggests that households in the lower quartile in Lancaster have historically needed to spend a slightly smaller number of years' income on the cost of accessing housing at the lower end of the market, compared to England and many neighbouring

authorities. There has, nevertheless, been a significant growth in this ratio, increasing from around 3 years' income in 1997 to around 5.5 in 2013.

- 6.18 Understanding the rate of change sets further important context for the purposes of assessing market signals, and the following graph therefore shows how the affordability ratio in each authority has changed between 1997 and 2013. In Lancaster Figure 6.6 suggests that the affordability ratio has grown at a slightly lower rate than seen nationally, exceeding the growth seen in Craven and Wyre but falling some way behind the growth seen in Ribble Valley.

Figure 6.5: Proportionate Change in Affordability Ratio 1997 – 2013



Source: DCLG, 2014

Affordable Housing Need

- 6.19 The IHRS included a partial update of the affordable housing needs as based upon work separately commissioned by the Council, including the 2011 Housing Needs Survey, which followed the calculation set out in the 2007 SHMA Guidance published by DCLG. This document has now been superseded, but the PPG retains the stepped approach to calculating affordable housing needs. The affordable housing calculation has not been re-visited in this study. It is important to note that the scale of affordable housing need may have changed since this assessment was undertaken, given change and worsening in some market signals. The original affordable housing need calculation was undertaken in 2011. Recognising that the PPG identifies that comprehensive assessments are likely to be required beyond a five year time horizon⁵⁷ it is likely that an updated full assessment will therefore be required in the near future as planning policy is developed.

- 6.20 The assessment referenced in the IHRS suggested a total annual need for 578 dwellings per annum, with the following key inputs:

⁵⁷ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/core-outputs-and-monitoring/#paragraph_036

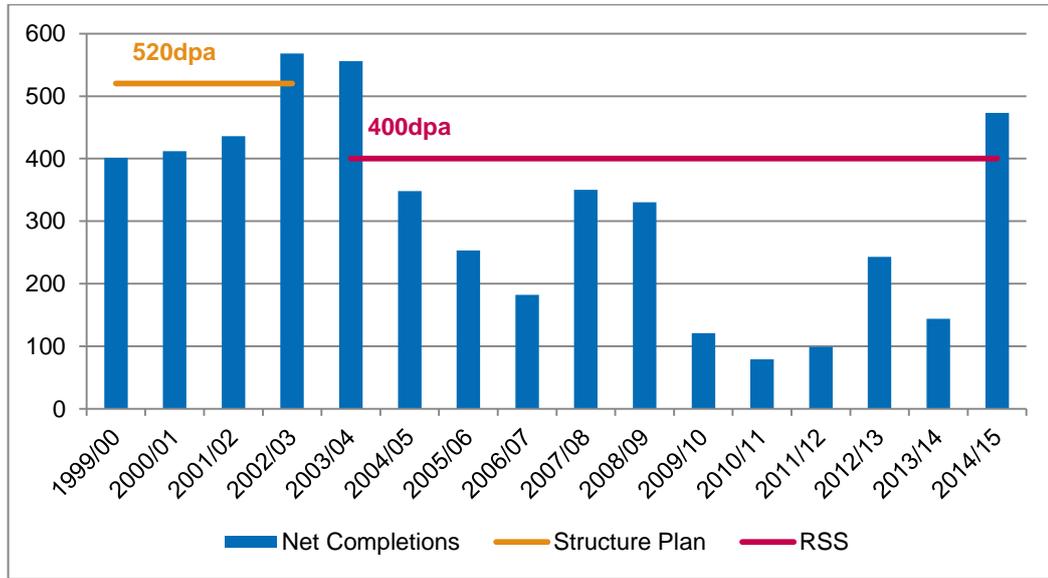
- A backlog of **2,890 households** in current need of affordable housing, based on the number of homeless households, those in temporary accommodation, overcrowded and other groups;
- **730 affordable dwellings** are occupied by households in need, and will therefore become available when these households transfer to other properties. This will assist in clearing the immediate backlog, but will leave a shortfall of 2,160 households in need. Spread over five years – as per the guidance in the PPG – this suggests an annual need for 432 affordable homes over the first five years of the plan period to clear the backlog;
- **424 households** will be in future need of affordable housing, driven by existing households falling into need and newly forming households who are unable to rent in the open market;
- There is an estimated annual supply of **278 affordable homes** which will meet affordable housing needs on an annual basis, resulting in an annual shortfall of 146 affordable homes required to meet future need; and
- Collectively, this suggests a need for **578 affordable homes** per annum for the next five years to clear the backlog and meet future needs. Once the backlog is cleared, only newly arising need will need to be met, resulting in an **annual need for 146 affordable homes**.

Rate of Development

- 6.21 The IHRS included a review of the recent rate of development, which can be updated based on the Council's latest Housing Land Monitoring Report⁵⁸. This shows that the rate of development has reduced significantly from a peak of 568 dwellings in 2002/03 to a low of only 79 net additional dwellings in 2010/11. While there has been a slight recovery in the rate of development in more recent years – as shown in Figure 6.7 – it is clear that there was a sustained under-delivery against plan targets over recent years in particular, with a notable declining trend in the rate of house building from the turn of the century. The latest monitoring year does, however, show that levels of development have recovered to pre-recession levels, and indeed exceeded the planned target in 2014/15.

⁵⁸ Lancaster City Council (2015) Housing Land Monitoring Report

Figure 6.6: Net Completions 1999/2000 – 2014/15



Source: Lancaster City Council, 2015

- 6.22 As acknowledged within the IHRS, a housing target of 400 dwellings per annum was introduced for Lancaster following publication of the North West Regional Spatial Strategy (RSS) in 2008⁵⁹, and was backdated to 2003 to conform to the evidence base upon which the requirement figure was based. Figure 6.7 identifies that over this period the target was only exceeded in the first year 2003/04, with subsequent years consistently falling short of the target until 2014/15.
- 6.23 Along with a number of authorities in the North West – as a result of the established RSS requirement – Lancaster implemented a policy of constraint, with Supplementary Planning Guidance Note 16 describing the Council’s approach to managing housing land supply⁶⁰. This sought to promote urban regeneration in urban areas by reducing the potential for dwelling completions to exceed the housing requirement. This policy was in place during the pre-recession years to 2008, during which time national development rates were considerably above those seen following the recession. The exact impact of this constraint is difficult to quantify, but it was cited as a reason for refusing development on a number of residential applications and potentially dissuaded developers from submitting applications during this more buoyant period of the market.
- 6.24 The IHRS recognised that there has been a significant under-delivery against the housing targets in Lancaster and also referenced the potential implication of the policy of constraint on limiting development during a more positive economic climate prior to

⁵⁹ The RSS evidence base in relation to housing need included the ‘North West Household Growth Estimates Study’ produced by NLP in 2005. This evidence included the presentation of a number of scenarios of housing need using the 2003 population projections and 2002 household projections as well as the NWRDA economic scenarios. The Study concluded that the NWRDA and partners were aspiring to achieve a level of growth aligned to the ‘Improvement Scenario’ which indicated annual household growth across the region of between 18,390 and 39,970. The conclusion notes that the higher end was currently double the ODPM 2002 interim household projections and must be viewed with caution. The Final RSS figure was for the region of 23,111 dpa evidently towards the lower end of the range. The distribution Chapter of this report (section 5) includes the comparable range for Lancaster, suggesting a range of between 380 and 792. The RSS figure of 400 evidently sat at the lower end of this range even in the context of the North West RSS figure.

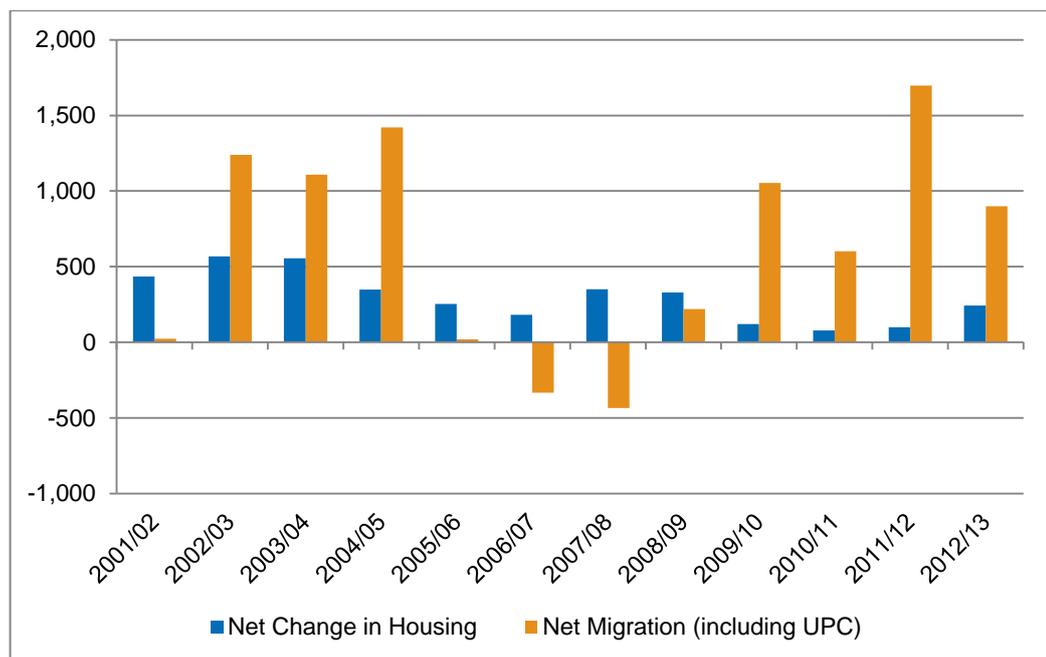
⁶⁰ Lancaster City Council (2004) SPG16 Phasing of New Residential Development

the recession. Over the period from 2003 to 2013 – the base point of the modelling presented in this report – a backlog of some 1,439 dwellings has accumulated against the planned level of provision. This demonstrates that the supply of housing in Lancaster has not increased to the extent planned, and this may have effectively constrained the ability of households to form or forced them to move elsewhere to access housing.

6.25 Indeed, as the following graph shows, there is a relationship between the completion of new dwellings and net migration to Lancaster. In the early part of the period shown, comparably high levels of completions enabled higher levels of net in-migration to Lancaster. The fall in the rate of development prior to and during the recession, however, led to lower numbers of people moving to the district. This suggests that the slowdown in housing delivery is likely to have been a major factor in the lower levels of net migration in Lancaster, and indeed the net outflow of migrants, over this period although there are other wider factors which will have also driven these trends.

6.26 Interestingly, the fact that net migration levels have increased despite a comparably slow rate of development over more recent years shows that there are other factors affecting migration in Lancaster and/or the formation of households.

Figure 6.7: Relationship Between Completions and Net Migration



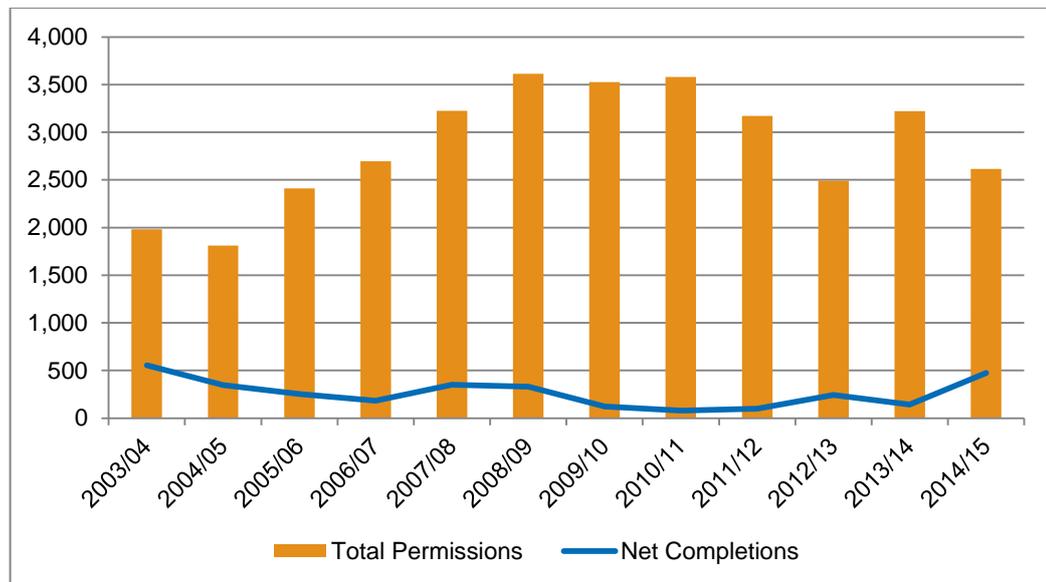
Source: Lancaster City Council, 2015; ONS, 2014

Planning Permissions

6.27 It is important to recognise that the rate of development has continued to fall despite the adoption of the Lancaster Core Strategy in 2008, which provided a framework for the delivery of the 400 dwellings required annually by the RSS. There has therefore been clear policy in place to support housing development, suggesting that other factors, outside of policy, have also influenced the rate of development in the district.

6.28 Understanding how the number of units with extant planning permissions has changed provides important context in this regard, and monitoring data provided by the Council quantifies the number of units with new and extant permissions on an annual basis. This is summarised in the following table. The actual rate of development is also shown for context.

Figure 6.8: Annual New and Extant Planning Permissions 2003/04 – 2014/15



Source: Lancaster City Council, 2015

6.29 Within this context, the rate of development in Lancaster represents only a small proportion of the potential number of units which could be delivered on an annual basis, albeit noting that there would be an inherent time lag as sites are built out. Indeed, on average, the recorded completion rate represents only 10% of all units with permission each year, and this could suggest wider market factors affecting the rate of delivery rather than a prohibitive policy approach.

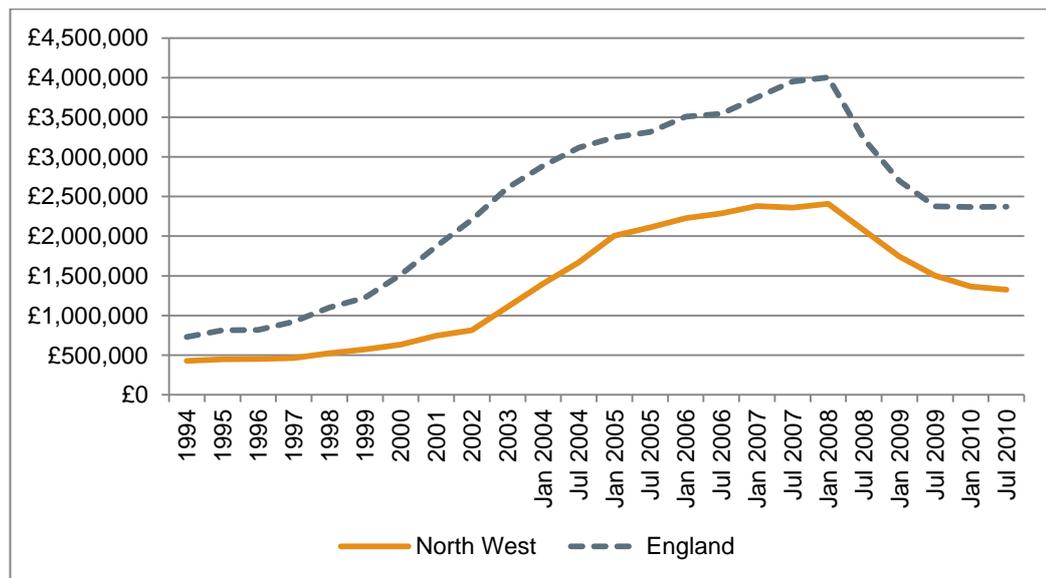
6.30 Overall, it is evident that development rates in Lancaster have fallen below planned targets, although – as noted above – these were not directly reflective of housing need, as now required through the objective assessment of need in accordance with the NPPF and PPG. This has resulted in a notable under-provision or shortfall of housing within Lancaster, which – particularly over recent years – is likely to have played a role in constraining population and household growth. The analysis in section 4 included the development of population projection sensitivities, which take a longer term 10 year period to derive future projections of demographic growth. The importance of taking account of development rates over this longer period is reinforced by this analysis of historic rates of development.

Land Prices

6.31 The PPG notes that land prices are indicative of the demand for land relative to supply, with price premiums providing direct information on a shortage of land within an area.

6.32 Data published by DCLG shows the average valuation of residential building land with planning permission over the period from 1994 to 2010. This data is only available at a regional level, but nevertheless provides an indication of historic supply and demand in the wider North West. Land price trends are also presented for England to enable comparison.

Figure 6.9: Average Valuations of Residential Building Land with Outline Planning Permission



Source: DCLG, 2015

6.33 Historically, the value of residential building land with outline planning permission has been lower in the North West compared to England as a whole, although there was notable growth in values ahead of the recession. This dataset does not extend beyond 2010 due to a decline in market activity.

6.34 The discontinuation of this dataset means that it is challenging to understand how land values have recovered. DCLG have, however, recently published a report setting out estimates of land value for policy appraisal⁶¹. This sets out an estimated value per hectare of a typical residential site in each local authority in England, and allows a comparison between estimated values in Lancaster and its neighbours. A weighted average for England – excluding London – is also presented for context.

⁶¹ DCLG (2015) Land value estimates for policy appraisal

Figure 6.10: Estimated Value of Typical Residential Site

	Estimated value per hectare
South Lakeland	£2,161,000
England (excluding London)	£1,958,000
Lancaster	£1,757,000
Craven	£1,684,000
Wyre	£1,594,000
Ribble Valley	£1,501,000

Source: DCLG, 2015

- 6.35 This dataset suggests that land values in Lancaster fall below the national average, and are also lower than seen in neighbouring South Lakeland. While values are higher than other neighbouring authorities, overall – given that values remain lower than the national average – there is little evidence to suggest a significant price premium for residential land in Lancaster.
- 6.36 It is also important to consider additional evidence prepared by the Council, with the CIL Economic Viability Assessment⁶² citing as a starting point the last Property Market Report published by the VOA in July 2009, which suggested that residential land in Lancaster had a value of £1.55 million per hectare. This had fallen by around 30% compared to the preceding year, however, and therefore this trend was projected forward to arrive at an estimated 2012 value of circa £530,000 per hectare. While this is significantly lower than the 2015 estimate published by DCLG, it is important to recognise that this was based on a continuation of the recessionary trend, which may represent a fairly pessimistic view of the residential land market.

Overcrowded, Concealed and Homeless Households

- 6.37 The PPG suggests that indicators on overcrowding, concealed and sharing households, homelessness and the numbers in temporary accommodation should be analysed, given that they can be indicative of unmet need for housing. The PPG states that longer term increases in the number of such households could signal a need to consider increasing planned housing numbers⁶³.
- 6.38 The 2011 Census shows the number of occupants and the number of bedrooms in dwellings, allowing an understanding of overcrowding. The following table summarises the proportion of households who are overcrowded – with at least one fewer bedroom than required – based on the bedroom standard, as a proportion of all households.

⁶² GVA (2012) CIL – Economic Viability Assessment

⁶³ http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_019

Figure 6.11: Proportion of Overcrowded Households 2011

	Proportion of households overcrowded
England	4.6%
Lancaster	2.5%
Wyre	1.9%
Craven	1.7%
Ribble Valley	1.6%
South Lakeland	1.4%

Source: Census 2011

- 6.39 A comparably high proportion of households in Lancaster contain at least one fewer bedroom than required, surpassing all neighbouring authorities but falling below the national level.
- 6.40 Given that the number of bedrooms was not recorded in the 2001 Census, it is challenging to profile how the level of overcrowding has changed in Lancaster over recent years. However, the Census in both 2001 and 2011 recorded an occupancy rating based on the number of rooms in a household, allowing an understanding of whether there has been an increase in the number of overcrowded households based on the room standard. This is presented in the following table.

Figure 6.12: Change in Overcrowded Households (Rooms) 2001 – 2011

	2001	2011	Change	% change
England	1,457,512	1,928,596	471,084	32.3%
South Lakeland	1,548	1,833	285	18.4%
Lancaster	2,636	3,054	418	15.9%
Craven	847	940	93	11.0%
Ribble Valley	704	715	11	1.6%
Wyre	1,593	1,603	10	0.6%

Source: Census 2011; Census 2001

- 6.41 Lancaster has seen a growth in the number of households living with at least one fewer room than required, with this likely to be driven by an increased tendency towards occupying smaller properties. This could be driven by wider affordability factors, but does fall below the national rate of growth and neighbouring South Lakeland.
- 6.42 A final indicator is the proportion of families who are concealed, with a family classified as concealed if they are a family reference person (FRP) but not a household reference person (HRP). This indicates that they are not the main family in the household.

Figure 6.13: Proportion of Families Concealed by Age of FRP 2011

	Age of FRP					All ages
	Under 24	25 – 34	35 – 49	50 – 64	65+	
England	12.8%	4.0%	0.8%	0.9%	1.8%	1.9%
Lancaster	11.4%	2.4%	0.6%	0.5%	1.1%	1.3%
Wyre	13.3%	3.3%	0.5%	0.5%	0.9%	1.2%
South Lakeland	16.1%	3.0%	0.6%	0.4%	1.0%	1.1%
Craven	12.3%	3.5%	0.5%	0.3%	0.9%	1.0%
Ribble Valley	13.2%	3.0%	0.4%	0.4%	1.3%	1.0%

Source: Census 2011

- 6.43 Overall, 1.3% of families in Lancaster are concealed, with this figure slightly exceeding neighbouring authorities but falling below the national level. It is, though, notable that levels of concealment amongst younger households is particularly low in Lancaster.
- 6.44 Again, it is important to understand how the number of concealed families has changed, although it is not possible to break this down by age. The following table compares the number of concealed families of all ages in 2001 and 2011 in Lancaster, surrounding authorities and England as a whole.

Figure 6.14: Change in Concealed Families 2001 – 2011

	2001	2011	Change	% change
England	161,254	275,954	114,700	71.1%
Wyre	256	386	130	50.8%
Craven	115	171	56	48.7%
South Lakeland	252	346	94	37.3%
Lancaster	349	477	128	36.7%
Ribble Valley	136	178	42	30.9%

Source: Census 2011; Census 2001

- 6.45 Lancaster has seen a relatively small growth in the number of concealed families, increasing by around 37% with an additional 128 concealed families recorded in 2011. While this exceeds the growth seen in Ribble Valley, it falls below many other neighbouring authorities, or indeed the national growth rate of 71%.

Summary

- 6.46 This section has drawn together evidence on market signals – as required by the PPG – in order to determine whether there is an imbalance between supply and demand in Lancaster.

- 6.47 The PPG states that the rate of change is important to consider, and understanding how Lancaster compares with neighbouring areas – and the national profile – provides valuable wider context. The following table therefore compares selected key market signals – where comparable data on change is available across this wider geography – to consider change in house prices, rents, affordability, overcrowding and concealed families. This brings together the analysis undertaken throughout this section.
- 6.48 A rank of 1 – coloured in orange – indicates that an area has the worst market signal relative to the other areas shown, while a rank of 6 – coloured in blue – suggests more favourable market signals.

Figure 6.15: Market Signals Summary

	Lancaster	Craven	Ribble Valley	South Lakeland	Wyre	England
House prices						
Change (mean) 2001 – 2014	1	4	2	5	6	3
Change (LQ) 2001 – 2014	1	5	2	4	6	3
Rents						
Change (mean) 2011 – 2014 (2 beds)	5	2	3	4	6	1
Change (LQ) 2011 – 2014 (2 beds)	5	1	3	2	6	3
Affordability						
Change 1997 – 2013	4	6	1	2	5	3
Overcrowding						
Change 2001 – 2011	3	4	5	2	6	1
Concealed families						
Change 2001 – 2011	5	3	6	4	2	1

Source: Turley, 2015

- 6.49 Lancaster has evidently seen considerable growth in house prices, with the rate of growth exceeding all neighbouring authorities and the national profile, although house prices are generally lower in the district which suggests that some of this growth may be attributable to improvement in an underperforming market. As per the PPG, though, this could be driven by an increase in demand which has not been matched by supply, recognising the historic under-provision relative to planned targets. A continuation of recent growth in house prices could result in a sustained and significant worsening of affordability in Lancaster, particularly if there are not comparable increases in earnings.
- 6.50 While affordability has worsened in the district, it remains relatively affordable compared to other areas when income is taken into account. This is reflected in comparatively low levels of concealment amongst younger families, with limited growth in the number of concealed families. Continued above average increases in house prices, however, would be likely to detrimentally impact the affordability of housing in Lancaster in the future. Growth in rents – for two bedroom properties – has been more limited, however, suggesting that there is unlikely to be a significant imbalance between supply and demand for rented property in the district.

Implications for Household Formation

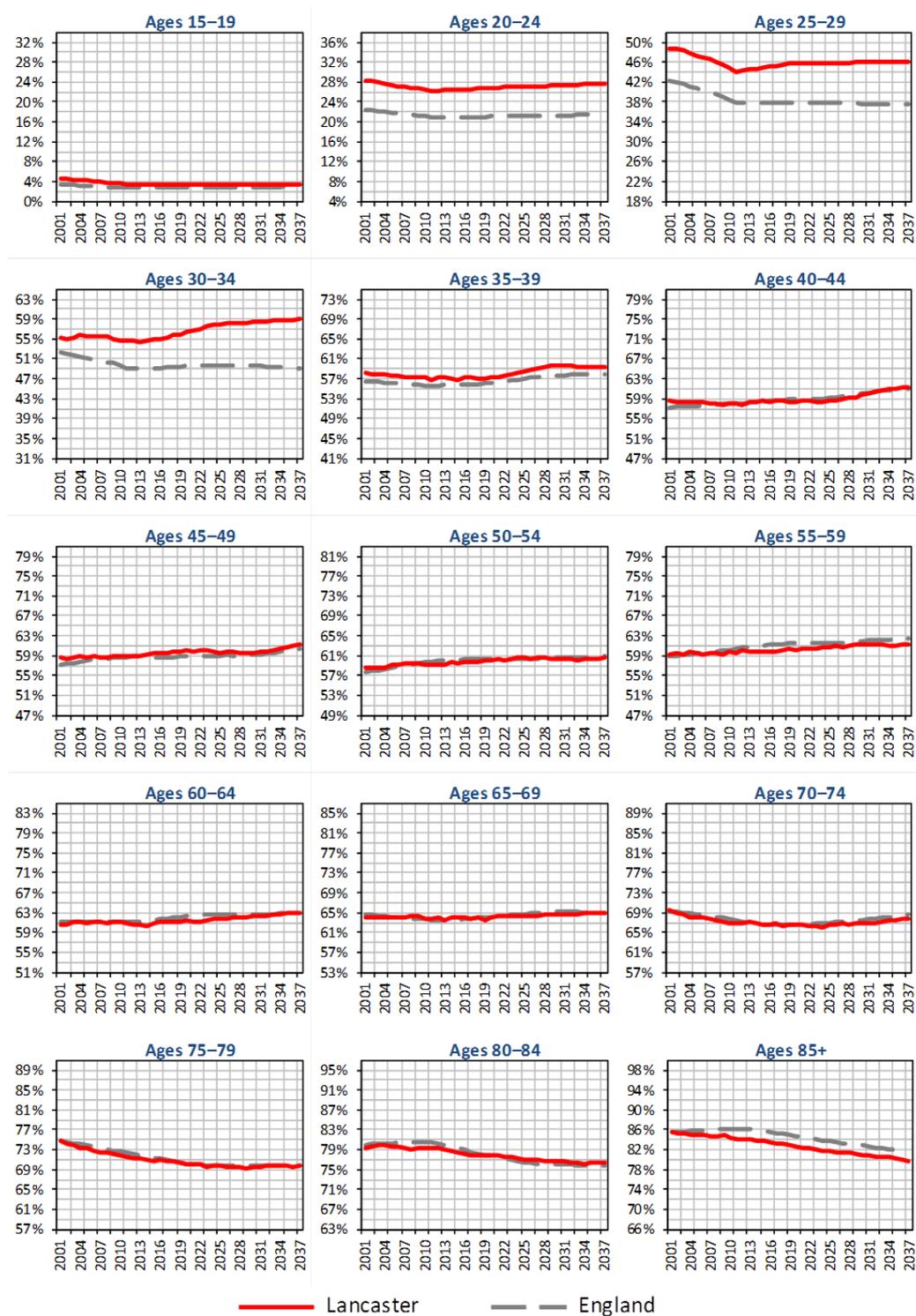
- 6.51 The analysis above highlights a worsening in a number of market signals, though by no means all. It is important to recognise that housing market factors can have wider implications on demographics. Household formation in particular can be constrained if households are unable to afford the cost of forming a new household, due to affordability constraints, and while affordability in Lancaster remains more positive than many neighbouring authorities, it has nevertheless worsened, with households required to spend a greater number of years' income on the cost of accessing housing.
- 6.52 This is acknowledged within the methodological report which accompanied the release of the 2012-based household projections:

“At the present time, the results from the Census 2011 show that the 2008-based projections were overestimating the rate of household formation and support the evidence from the Labour Force Survey that household representative rates for some (particularly younger) age groups have fallen markedly since the 2001 Census. However for this update, it has not been possible to include detailed data on Stage One household representative from the Census 2011”⁶⁴

- 6.53 Whilst it is acknowledged that the DCLG will be publishing further outputs to take account of additional 2011 Census data on household formation, it is important – in accordance with the PPG – to assess how household formation rates have changed historically by individual age groups. This is summarised in the following graphs, which show historic and projected household formation rates under the 2012 SNHP for different five year age groups. National rates are also presented for context.

⁶⁴ DCLG (2015) Household Projections 2012-based: Methodological Report

Figure 6.16: 2012 Headship Rates in Lancaster and England



Source: DCLG, 2015

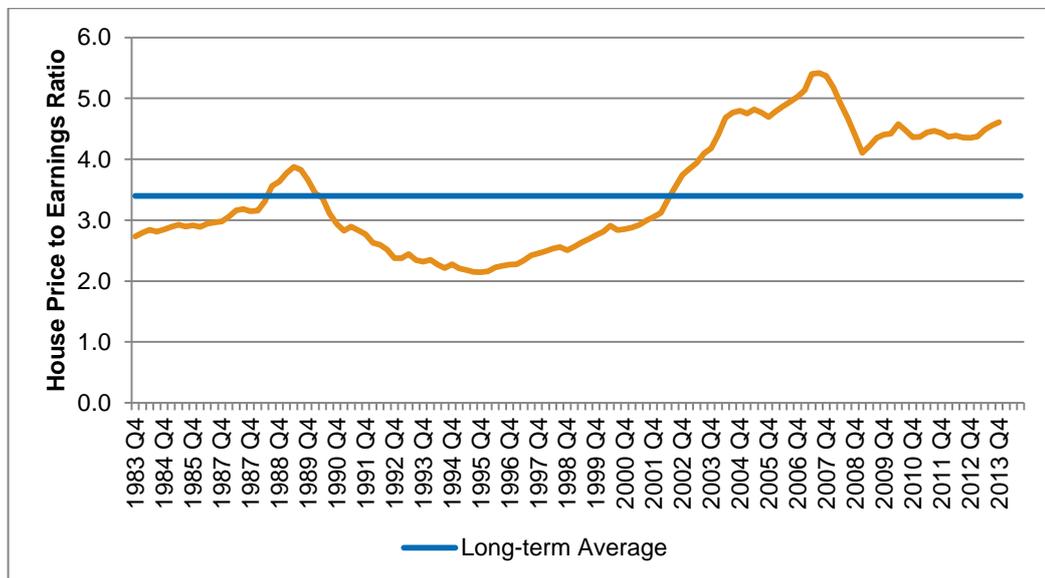
6.54 Based on the evidence presented above, it is clear that household formation rates have fallen in younger households in particular, and it is considered that these households – aged between 20 and 39 years old – are more likely to have been constrained by affordability factors, thereby constraining their ability to form new households. In particular, it is clear that under a number of younger age groups, household formation

rates fell historically and are not projected to recover, instead projecting a continuation of currently suppressed household formation rates or only a moderate uplift. Household formation rates for these groups are therefore projected to continue to remain lower than seen historically in Lancaster.

Headship Rate Sensitivity

- 6.55 As noted in the PPG, sensitivity testing can be undertaken where there is evidence that local factors have influenced the formation of new households. Given that there is evidence that formation rates amongst younger households in Lancaster may have been suppressed by wider market factors, modelling has therefore been undertaken to apply alternative household formation rates to younger household groups.
- 6.56 This sensitivity explores the impact of a reversal of declining household formation amongst younger age groups⁶⁵ – where this has not already been anticipated in the 2012 SNHP dataset – to reach a level last seen in 2001. It is assumed by Edge Analytics that respective 2001 values are reached by 2022.
- 6.57 This year is used as a benchmark, given that it is widely recognised that the housing market has seen a period of significant growth since 2001, with prices far exceeding comparable rises in incomes. This has resulted in affordability issues nationally, as shown in the following chart which compares gross house prices to earnings for first-time buyers in the UK.

Figure 6.17: First-Time Buyer Gross House Price to Earnings Ratio – UK



Source: Nationwide; ONS

- 6.58 Based on this graph, 2001 was the last point at which the ratio between house prices and earnings was at the long-term average, and a return to 2001 rates therefore could be viewed as exploring the impact of returning to a set of market conditions which suggested a healthier and more sustainable housing market. It should be noted,

⁶⁵ 20 to 24; 25 to 29; 35 to 39

however, that the supply of housing at a national level in 2001 continued to fall short of projected levels of need, and therefore could potentially have continued to inhibit the ability of households to form.

- 6.59 The outputs of scenarios modelled under this sensitivity are presented in the following table. The housing need implied under 2012 headship rates without adjustment is also presented, based on the analysis in sections 4 and 5.

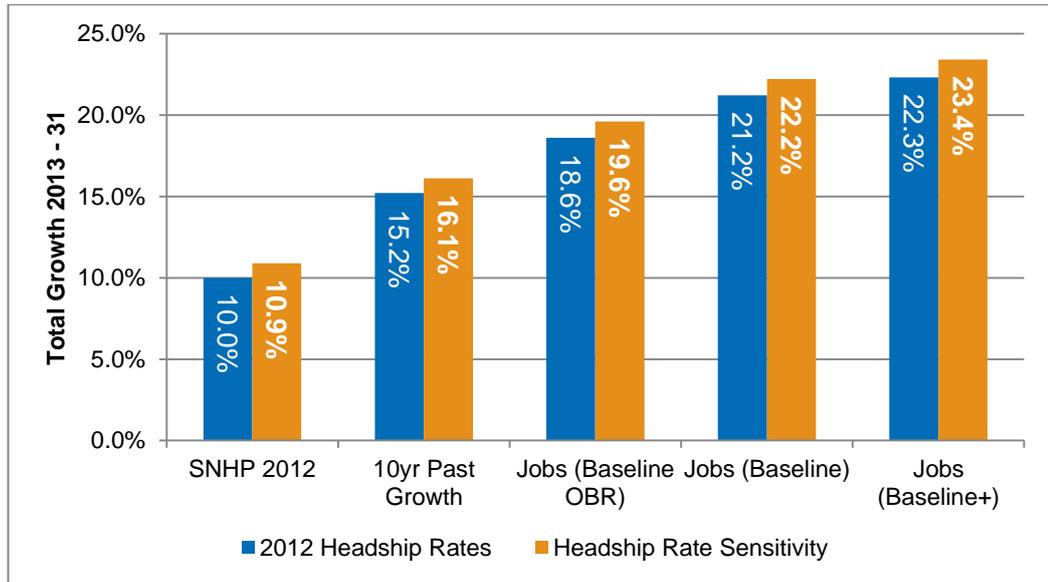
Figure 6.18: Headship Rate Sensitivity – Modelled Outputs 2013 – 2031

	Change 2013 – 2031		Average dwellings per annum – sensitivity	Average dwellings per annum – 2012 Headship Rates
	Population Change	Households Change		
SNHP 2012	6,974	6,343	370	341
10yr Past Growth	14,071	9,480	553	521
Jobs (Baseline)	23,817	13,077	763	727
Jobs (Baseline OBR)	19,926	10,947	673	639
Jobs (Baseline+)	25,482	13,739	802	765

Source: Edge Analytics, 2015

- 6.60 The assumed return to higher household formation rates in younger age groups results in an increased projected growth in households in Lancaster over the plan period. The following graph shows the proportionate growth in households under each scenario, following application of both core and sensitivity headship rate assumptions. In this context, it is useful to reference that the 2012 SNHP suggests a 17.4% growth in households nationally over the same time period.

Figure 6.19: Proportionate Modelled Growth in Households 2013 – 2031



Source: Edge Analytics, 2015

- 6.61 This higher level of growth in turn generates an uplift in the implied annual need for housing, requiring between 30 to 40 additional dwellings per annum compared to the core 2012 headship rates. This represents an uplift of between 5% and 9% approximately. This illustrates that the number of households in the district would increase to a greater degree if there is a return to higher levels of household formation amongst younger people.
- 6.62 This adjustment can be justified in the context of market signals in Lancaster, with a significant increase in house prices leading to a worsening in the affordability of housing in the district. There has also been a significant undersupply compared to the planned housing target, which may have unduly constrained the formation of new households historically. The extent to which this adjustment fully captures these issues is considered further in section 7.

Summary and Implications

- 6.63 The IHRS includes a review of the active housing market, but the publication of the PPG introduces new guidance on how market signals should be assessed to understand the balance between supply and demand. Each of the factors suggested in the PPG is assessed in turn in this section, showing that:
- **House prices** in Lancaster are generally lower than in other neighbouring areas – albeit showing some alignment with Wyre – but average prices have increased considerably between 2001 and 2014. This has exceeded the rate of growth seen both nationally and in surrounding areas, suggesting a potential imbalance between supply and demand;

- Lancaster is characterised by relatively low **rents**, which have seen only limited growth over the past four years. This has fallen below the levels of growth seen nationally or in neighbouring authorities, with the exception of Wyre;
- Households in Lancaster have historically spent a slightly smaller number of years' income on the cost of accessing housing at the lower end of the market, suggesting that the district is relatively affordable. **Affordability** has, however, worsened at a similar rate to that seen nationally, and indeed the IHRS recognised that there is a sizeable need for affordable housing in Lancaster;
- The **rate of development** in Lancaster has evidently declined over the past fifteen years, with a sizeable backlog generated due to under-delivery against the housing target of 400 per annum in the adopted Core Strategy. This may have effectively constrained the ability of households to form or forced them to move elsewhere to access housing;
- DCLG publish statistics on **land prices** which suggests that values fall below the national average, and are also lower than in neighbouring South Lakeland. While values are higher than other neighbouring authorities, there is little evidence to suggest a significant price premium for residential land in Lancaster; and
- A comparably high proportion of households in Lancaster contain at least one fewer bedroom than required, suggesting a comparatively high level of **overcrowding** that nevertheless falls below the national average. The district has also seen growth in the number of households living with at least one fewer room than required, suggesting an increased tendency towards occupying smaller properties. Furthermore, 1.3% of families in Lancaster are concealed, although concealment amongst younger families is particularly low and there has been only limited growth in the number of such families over recent years.

6.64 The analysis presented shows a worsening in a number of market signals, although not all have worsened considerably. The significant growth in house prices may represent, in some ways, an improvement in the performance of the local market to more closely align with the regional and national context, but a continuation of this growth trend would be likely to create significant affordability issues in Lancaster if sustained. Such housing market factors can have implications on demographics, with household formation in particular potentially constrained by affordability and a lack of supply. Indeed, the evidence suggests that household formation rates amongst younger people have fallen over recent years, and this is not projected to recover under the 2012 SNHP.

6.65 A sensitivity has therefore been developed by Edge Analytics to explore the impact of a reversal of declining household formation amongst younger age groups – where this has not already been anticipated in the 2012 SNHP dataset – to reach a level last seen in 2001, reaching this point by 2022. The benchmark of 2001 is used given that this was the last point at which the ratio between house prices and earnings was at the long-term average level, and a return to this set of market conditions could suggest a healthier and more sustainable housing market.

6.66 Applying this sensitivity to the scenarios presented in sections 4 and 5 results in an increased projected growth in households in Lancaster over the plan period, in turn

generating an additional need for housing. This uplifts the implied dwelling needs by around 30 to 40 additional dwellings per annum, compared to the application of the 2012 headship rates presented earlier in this report. This represents an uplift of between 5% and 9% approximately to the implied housing need associated with each respective scenario.

7. Objective Assessment of Need and Conclusions

- 7.1 This report has assessed the implications of the release of the 2012-based sub-national household projections (SNHP) – which represent the ‘starting point’ when assessing the need for housing – and the conclusions of the 2014 Review of the Employment Land Position for Lancaster District (RELPE) on the objectively assessed need for Lancaster district (‘Lancaster’). This updates the findings of the Independent Housing Requirements Study (IHRS) undertaken by Turley and Edge Analytics and published in October 2013.
- 7.2 The analysis in section 2 confirms that it is appropriate – in line with the PPG – to consider Lancaster as a self-contained housing market area, for the purposes of assessing housing need. While there are relationships and some commonality with neighbouring areas, there is a relatively high containment of moves within the district, with a high proportion of Lancaster residents also working in the district.
- 7.3 The analysis in this SHMA update has included updated modelling by Edge Analytics. This modelling updates the projections to include the ONS population count for 2013. On this basis the analysis has been presented for the period 2013 – 2031 with 2013 representing the base date of the population projections. It is recognised at the time of writing that the emerging Local Plan is intended to retain a 2011 to 2031 plan period. Appendix 2 includes the modelling outputs for the period 2011 to 2031, and the implications of the different time period are also considered within this conclusion regarding the OAN.

Demographic Projections of Need

- 7.4 The ‘starting point’ for assessing housing needs – as per the PPG – is the 2012-based household projections (SNHP), which were released by DCLG in February 2015. This shows that the number of households in Lancaster could increase by 325 annually over the plan period from 2013 to 2031, which would generate a need for 341 dwellings per annum, allowing for vacancy.
- 7.5 It is, however, important to recognise that the household projections are underpinned by population projections – published by ONS – which show how the population may change if recent trends continue in the context of a national model. The 2012-based sub-national population projections (SNPP) on which the household projections are based project a comparably low level of growth in Lancaster, compared to previous datasets published by the ONS. This is likely to be, at least in part, due to the historical period on which these projections are based, with recent migration trends influenced by the recession and wider market context and therefore likely to be underestimated. Indeed, the 2012 SNPP assumes a sustained net outflow of migrants from Lancaster, which represents a notable deviation from even the recent historical trend and therefore appears anomalous in the context of historic evidence. This assumption is evidently embedded within the 2012 SNHP, which form the ‘starting point’ for this assessment.

- 7.6 As noted, earlier population projection datasets were based on periods where demographic growth was less likely to be constrained by market conditions. Whilst it is recognised that the ONS has also changed and refined its methodology in subsequent population projections, it is useful to consider the scale of change projected in a range of preceding datasets. The 2006-based population projections did, for example, anticipate over five times the level of annual population growth compared to the current 2012 SNPP in Lancaster, a significant level of difference. The 2008-based household projections – which were the last to cover a longer term period – projected the formation of 618 households annually. This is some 90% higher than the new ‘starting point’ of the 2012-based projections, and highlights the sensitivity and volatility of the ONS published projections for Lancaster, even in the context of changing market circumstances upon which trends are based.
- 7.7 Recognising this significant variance in historic projections, further demographic trend-based projection scenarios have been modelled by Edge Analytics to show how longer-term migration trends over the past ten years may change the projected population growth in Lancaster. In contrast to the ONS projections – including the 2012 SNPP/SNHP which primarily use a five year historic period upon which to base trends – the use of a longer-term trend has the benefit of ‘smoothing’ out periods of notable variation.
- 7.8 The 10 year Past Growth scenarios suggest that the population may increase by around 14,000 over the plan period – approximately doubling the rate of growth implied by the 2012 SNHP – resulting in an annual need for 521 dwellings per annum. This does, notably, show some alignment with the scale of growth projected under the 2008-based official projections, suggesting that this scenario may be more representative of pre-recession conditions.
- 7.9 Drawing upon past trends does, however, present challenges in Lancaster, given that the 2011 Census revealed that the population of Lancaster had been overestimated by the ONS within its historic MYE datasets upon which projections have been based. This is likely to have been driven by an overestimation of net international migration flows to the district. Revised estimates have been released by the ONS to adjust the population estimates, with this correction known as unattributable population change (UPC).
- 7.10 The inclusion of UPC in the modelling, however, suggests a lower level of population growth – totalling 7,920 persons between 2013 and 2031 – which would generate a need for 392 dwellings per annum. This is due to considerably lower assumed levels of migration relating to the adjustment to historic migration primarily. As the SHMA analysis identifies, this adjustment has not directly been taken into account by the ONS in the latest population projection datasets. Given the uncertainties as to the timing of any mis-estimation – with this more likely to have been at the start of the last decade – this is not considered to represent an appropriate projection of demographic need for Lancaster. This is considered further later in this section through a consideration of projected population change in the context of historic trends.

Impact of Students

- 7.11 The analysis in section 3 – and further evidence prepared by Edge Analytics in Appendix 1 – shows that the number of students has increased in Lancaster over recent

years, and in some years this growth has been an important driver of population change in the district.

- 7.12 Students are included in both population estimates and estimated migration flows with the ONS projections not explicitly identifying students as a distinct population cohort. Historic migration flows in particular form the basis for demographic modelling undertaken by Edge Analytics, and the demographic scenarios developed therefore assume that recent flows of students in and out of the district will continue. There is therefore an inherent assumption that this flow will continue according to recent trends, with an implied allowance for increased student numbers. A change in admissions policies which leads to a level of change above recent historical trends – either one of growth or contraction – would not, however, be picked up in the trend-based demographic projection analysed above and would either increase or decrease the net impact of migration on an annual basis in Lancaster.
- 7.13 At the current point in time, a review of university strategies does not suggest that a specific student target is currently being pursued, and it is therefore not considered appropriate to deviate from this historic trend for the purposes of this assessment.
- 7.14 It is important to note that the analysis of need has focused on demand pressures, as opposed to the supply response to changing student numbers. The extent to which students – including any growth in numbers – accommodate purpose built student accommodation will have a potential impact upon other stock within the housing market.

Factoring in Likely Job Growth

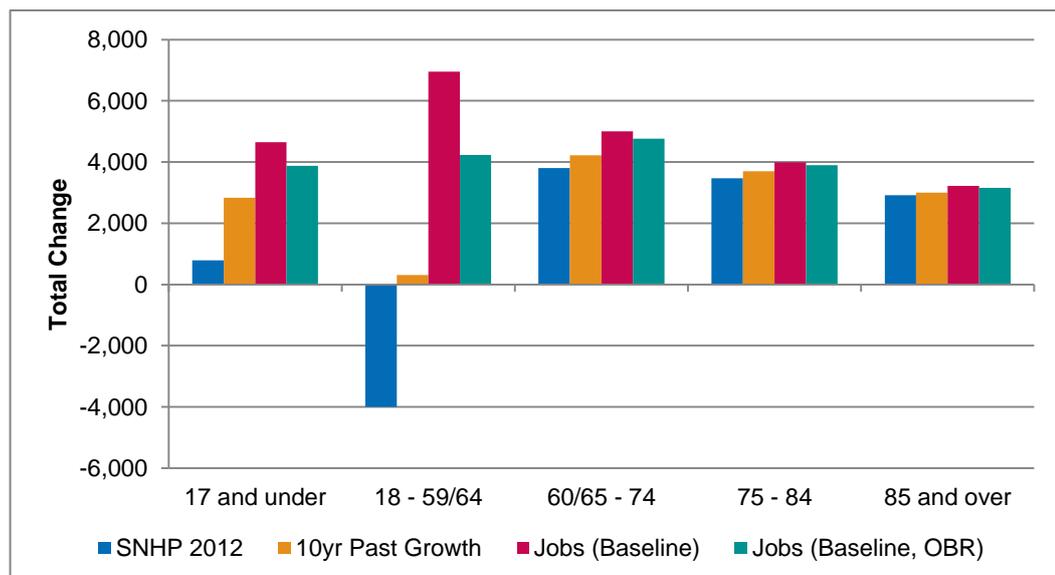
- 7.15 In accordance with the PPG, consideration has also been given in this report to the likely level of job growth in Lancaster, as identified in the RELP, and its implication for housing need. This included using the POPGROUP model to align demographic growth with the two employment scenarios identified in the RELP.
- 7.16 A Baseline scenario – based on Experian forecasts released in June 2014 – suggests an annual growth of 380 full-time equivalent (FTE) jobs over the period from 2013 to 2031, while the second Baseline+ scenario increased projected annual job creation over this period to 425 FTE jobs to take account of a selected number of strategic projects identified in Lancaster⁶⁶.
- 7.17 Analysis of the demographic scenarios highlights the challenges faced by Lancaster due to an ageing workforce. The projected changes to the size and age profile of the population under the 2012 SNPP would be likely to see the size of the labour force in Lancaster shrink to 2031. This changing population profile would be likely to result in a contraction in the number of jobs supported in Lancaster, without substantial changes to commuting, economic activity or unemployment rates. The higher population growth – and stronger migration profile – projected under the recommended representative demographic scenario – the 10 year Past Growth scenario – could, however, support in

⁶⁶ As identified within section 5 the above forecasts of job growth are directly aligned with the Experian forecasts used in the RELP taken from the 2013 base date of POPGROUP modelling. The modelling within the RELP suggested a notably strong level of job growth between 2011 and 2013, which is omitted from the modelling due to the base date with the job figures. In the absence of definitive data to consider job creation in Lancaster over this period and the impact any deviation would have on the forecasts this approach is considered appropriate in this specific context.

the region of 142 jobs per annum in Lancaster, based on the modelling assumptions applied. It is apparent, however, that there is a gap between this level of potential supported job growth and the scale of anticipated job growth identified for Lancaster in the RELP.

- 7.18 A scenario applying consistent prudent assumptions within the POPGROUP modelling on economic activity, unemployment and commuting suggests that the population of Lancaster would need to grow by 16.9% (0.9% per annum) over the plan period to support the Baseline creation of 380 jobs per annum. This increases to 18.1% (1% per annum) under the Baseline+ scenario, suggesting a need for between 727 and 765 dwellings per annum.
- 7.19 A sensitivity scenario has also been run using economic activity rates derived from the national OBR forecasts for older age groups. This assumes that older people are more active in the labour force over the projection period, resulting in a lower implied requirement for net in-migration to grow the labour force and support job growth. This sensitivity has only been applied to the Baseline employment growth scenario, and suggests a need for 639 dwellings per annum between 2013 and 2031.
- 7.20 This scale of population growth is modelled to accommodate a sufficiently large growth in the working age population, which would in turn grow the local labour force and support job growth in Lancaster. This is illustrated in the following graph, which contrasts the fall in working age population under the SNHP 2012 and the comparatively balanced position under the 10 year Past Growth scenario with the increase projected under the employment-led scenarios. The Baseline scenario is used here to illustrate this point, with the impact of different assumptions on economic participation in older people – based on modest changes to reflect state pension ages, and forecast changes by OBR – also highlighted.

Figure 7.1: Modelled Change in Age Groups 2013 – 2031



Source: Edge Analytics, 2015

- 7.21 The implied increase in the working-age population under the employment-led scenarios is driven, within the modelling, by an assumed increase in net migration into Lancaster. In reality, this would be likely to require a combination of a substantial uplift in the retention of graduates and younger working age persons – thereby reducing the number of out-migrants – alongside an increase in the number of working age persons attracted to live in Lancaster. A sustained level of high net in-migration into the authority assumed under the employment-led scenarios would also potentially have impacts on adjoining authorities with which Lancaster has strongest migratory links. This would include South Lakeland, Wyre and Preston. These authorities are also likely to have similar issues related to the implications of an ageing population with any assumed significant gain in working age persons moving to Lancaster likely to impact on the demographic profile of these authorities and therefore their economies. This would need to be considered carefully in terms of the alignment of policy agendas as Local Plans are developed.
- 7.22 As the analysis in section 5 has shown, it is important to recognise that the modelled increase in migration is one aspect of enabling an expansion of the labour force in Lancaster. The Experian modelling assumes more positive assumptions around increases in particular to the economic activity rates of older persons and the population generally than have been applied within the POPGROUP demographic modelling. A greater utilisation of the existing working age population related to less prudent assumptions in relation to economic activity rates in particular – with this assumed to include higher numbers of older persons working for longer – would support a growth in jobs, without requiring the implied levels of migration and population growth shown in Figure 7.1 under the employment-led scenarios. This is illustrated through the sensitivity scenario, which applies OBR adjustments to the economic activity rates of older cohorts.
- 7.23 There is, however, considerable uncertainty about how economic activity rates in particular may change in the future, with this being a very difficult area to project over a 20 year period. The prudent assumptions applied within the POPGROUP scenario are therefore considered reasonable as a starting point in illustrating the potential implications of aligning housing need and employment growth. It is, however, recognised that these do not fully reflect forecast increases in the economic participation of older people, as suggested through the OBR assumptions. Whilst not directly aligned with those applied by Experian, these forecasts also suggest a more positive response in the labour market, with this evidently having varied implications for population growth.

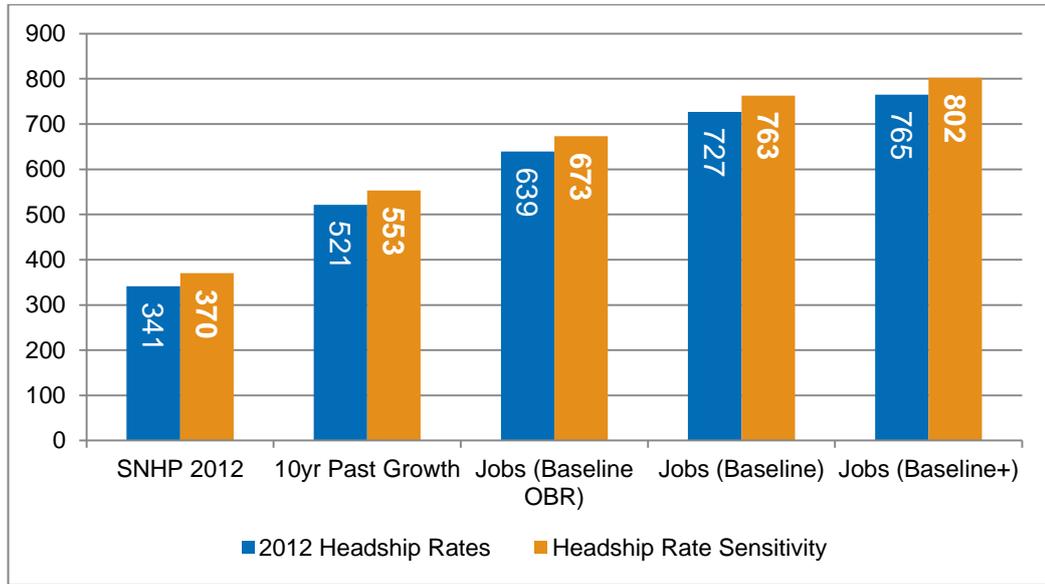
Taking Account of Market Signals

- 7.24 This report has also reviewed a number of market signals to establish the balance between supply and demand in Lancaster, following the guidance in the PPG, and its implication for the need to respond positively through supply in the future. This analysis has shown that Lancaster has seen considerable growth in house prices, with the rate of growth exceeding all neighbouring authorities and the national profile. While house prices are generally lower in the district than elsewhere, this growth could be driven by an increase in demand which has not been matched by supply.
- 7.25 Affordability has also worsened in Lancaster over this period. Importantly, however, the district remains relatively affordable, with the lower house prices noted above resulting

in comparatively low affordability ratios when contrasted with lower quartile earnings in the district.

- 7.26 Taken collectively, this suggests that Lancaster's housing market has essentially gone through a process of realignment with a national picture, with prices rising from a notably low base in 2001 to more closely reflect the regional and national picture. Whilst prices have risen, this has not led to significant increases in concealed families or overcrowded households. However, a continuation of the strong house price increases seen in Lancaster over recent years would be likely to present significant affordability challenges if sustained. Analysis of household formation rates for younger households does indicate a fall – as also seen nationally – in the ability of households of this age group to form, suggesting a wider increase in the number of younger potential concealed households.
- 7.27 Looking at the supply of housing, it is apparent that the rate of development in Lancaster has slowed over the past fifteen years. The district has seen completion levels consistently fall below planned targets, resulting in a comparatively large level of under-provision based on historic rates of development. It is possible that this comparatively low level of provision in the face of sustained demand has contributed to a fall in the numbers of people moving into Lancaster from other parts of the UK (shown in Figure 4.5). This reinforces the importance of considering a longer term historic period upon which to base demographic trend-based projections of need, as considered in section 4 of this report and summarised above. Under-provision of housing against planned targets is also likely to have had implications for the ability of younger households to form, as noted above.
- 7.28 Recognising the evidence of reduced household formation rates of younger households, a sensitivity has therefore been developed by Edge Analytics to explore the impact of a reversal of declining household formation amongst younger age groups – where this has not already been anticipated in the 2012 SNHP dataset – to reach a level last seen in 2001. This was the last point at which the ratio between house prices and earnings was at the long-term average level, and a return to this set of market conditions could suggest a healthier and more sustainable housing market.
- 7.29 Applying this sensitivity to the scenarios results in an increased projected growth in households, generating an additional need for housing. As shown in the following graph, this uplifts the implied dwelling needs by around 30 to 40 additional dwellings annually for each scenario, compared to the core 2012 headship rates. This represents an uplift of between 5% and 9% approximately on the overall implied housing need for each scenario.

Figure 7.2: Modelled Annual Housing Need 2013 – 2031



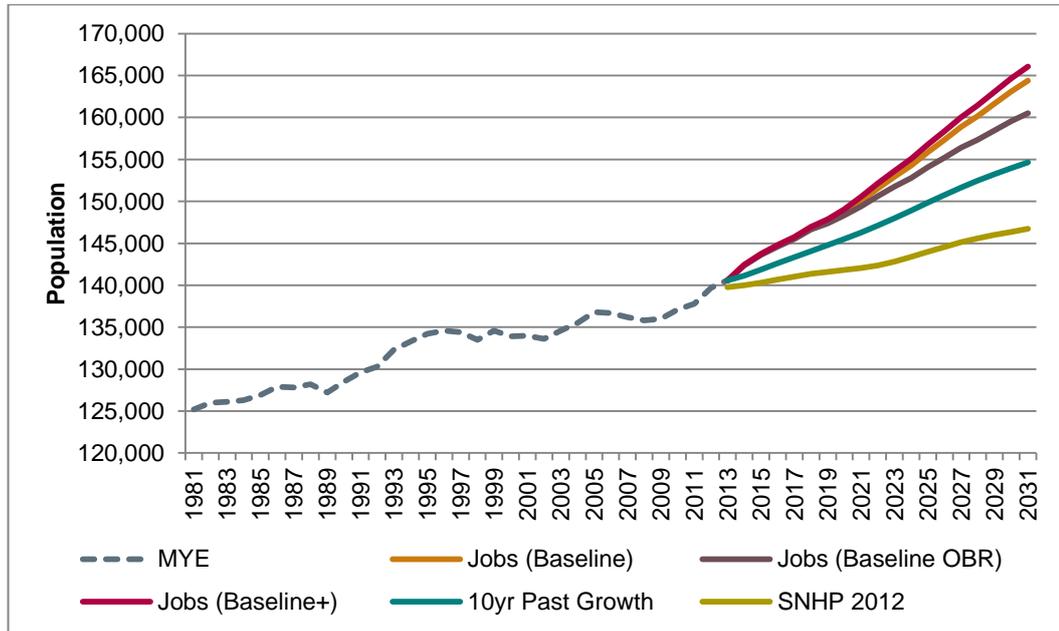
Source: Edge Analytics, 2015

- 7.30 This adjustment to household formation rates can be considered reasonable and appropriate in the context of the worsening of some market signals in Lancaster, given that this would enable a return to more positive levels of household formation amongst younger persons who may have been constrained by both local and wider market conditions, including a historic under-provision of new housing.

Evaluating the Scenarios

- 7.31 The scenarios presented in this report project the population of Lancaster to increase by between circa 7,000 – 25,500, representing proportionate growth of between 5% and 18%. It is useful to consider the projected proportionate change in population in the context of the national population growth of 12% expected over the same period under the 2012 SNPP, which evidently sits roughly midway within this range.
- 7.32 It is also important to consider this projected change in the context of historic change in population within the authority, and the following chart shows how the population is projected to change under each scenario over the plan period. Historic population change since 1981 is also presented.

Figure 7.3: Modelled Change in Population



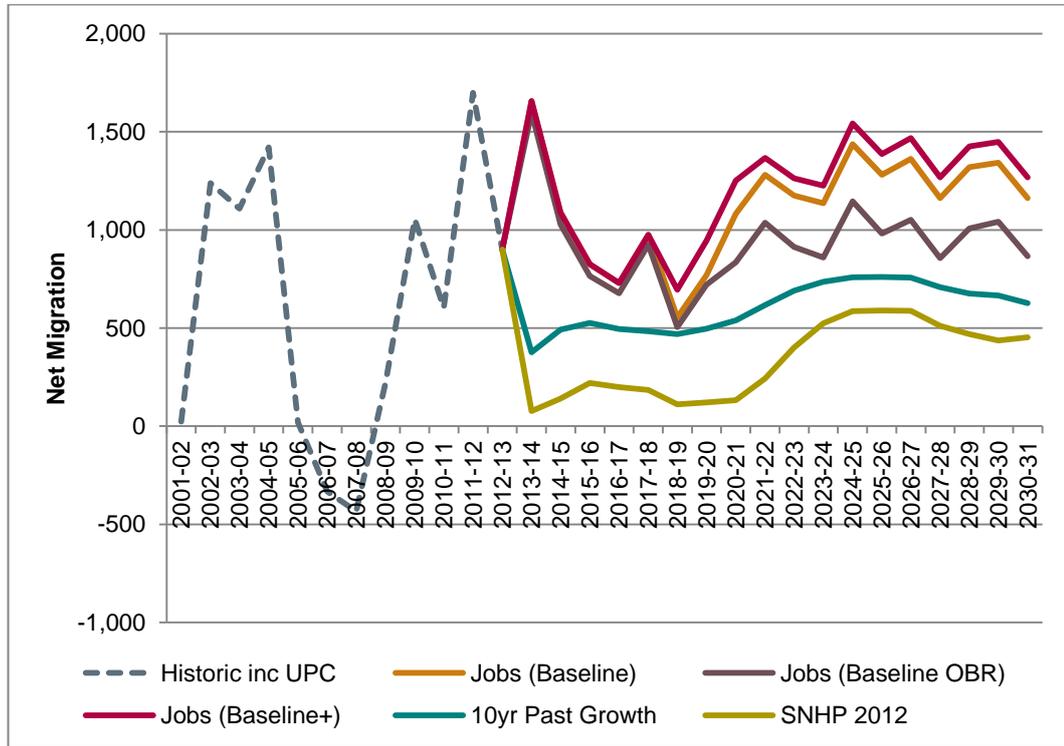
Source: Edge Analytics, 2015

7.33 The graph illustrates that the employment-led scenarios would represent a continuation of the short-term population growth trend seen in Lancaster since 2008, with the scale of growth projected under these scenarios expected to be sustained throughout the plan period. Set against the longer term population change context, this is a relatively strong rate of growth, equivalent to around 0.9% per annum compared to the 0.4% seen historically over the past thirty years. This growth is, however, more moderate under the OBR adjusted Baseline scenario, due to an assumed greater utilisation of the existing latent labour force in Lancaster. The 10 year Past Growth scenario, however, would maintain a similar level of growth at around 0.5% per annum. The 2012 SNPP would represent a slower rate of growth – at approximately 0.3% per annum – than the long-term historical rate.

7.34 A key component of this growth is the extent to which migration is assumed to drive growth in Lancaster. The following graph illustrates the scale of assumed net immigration, benchmarked against historic migration levels⁶⁷.

⁶⁷ UPC included in historic migration levels

Figure 7.4: Modelled Change in Net Migration



Source: Edge Analytics, 2015

- 7.35 The employment led scenarios – Baseline and Baseline+ – evidently require a higher level of net migration to Lancaster than the demographic scenarios, representing a broad continuation of the higher migration levels seen over the past four years throughout the plan period. Beyond the initial years of the modelling period, however, the OBR adjustment requires a lower level of net in-migration, due to the effect of existing older residents playing a greater role in supporting employment growth in Lancaster, through increased economic participation.
- 7.36 The creation of jobs as forecast is likely to be critical to achieving these higher levels of net in-migration. The availability of employment opportunities will be a key determinant in ensuring a greater retention of prospective out-migrants likely to be required to ensure that this can be sustained noting the self-contained nature of the district’s historic migration patterns. The nature of jobs and indeed the skills required to support them will also have an implication as to the extent to which improved economic activity rates and increased re-use of the existing labour force (those unemployed) reduce the net in-flow of migrants required to support forecast job growth.
- 7.37 It is important to recognise that net migration has fluctuated in the district over the period shown, with significant variance over the past decade and considerable uncertainty generated by UPC. The 10 year Past Growth scenario (which excludes UPC) would lead to annual net migration of around 604 persons per annum. This reflects the change

in population between the two Census years which has included periods of population growth and decline with migration levels likely to be a key contributor⁶⁸.

- 7.38 On the basis of the above, the 10 Year Past Growth Scenario represents a reasonable demographic based projection of population growth which reflects recent historical population growth whilst recognising the potential implications of comparatively low levels of development more recently in the authority. This is therefore preferred in place of the 2012 SNPP for Lancaster, which does not reflect recent trends in demographic growth irrespective of the consideration of UPC.
- 7.39 On this basis, it is considered that the 10 year Past Growth scenario forms a robust and demographically driven benchmark of housing need. Based on adjusted household formation rates, which result in a 6% uplift from scenarios using the 2012 SNHP formation rates, there is a suggested need for **553 dwellings per annum** in Lancaster over the plan period from 2013 to 2031.
- 7.40 It is, however, clear that provision of this scale would not support likely job growth in the district, and would only generate limited growth in Lancaster's labour force – supporting approximately 140 jobs per annum – based on prudent assumptions around commuting, economic activity and unemployment. This evidently falls below the 380 – 425 jobs that the RELP suggests could be created each year, which represents a level of job growth which is notably stronger than seen over recent years. Application of the same assumptions suggests that the population of Lancaster would need to grow by up to 18% in order to grow the labour force to the extent required to support these jobs. This would result in the formation of around 13,000 – 14,000 new households, under the adjusted household formation rates, generating an annual need for between 763 and 802 dwellings.
- 7.41 The analysis within the RELP and referenced in this report has highlighted, however, that there are some sensitivities to key informing factors in balancing labour force growth and job growth. It has been identified that the Experian model assumes that this level of job creation can be supported by population growth of only 16,500 persons over the plan period. Whilst evidently higher, this is more closely aligned to the population growth of 14,700 modelled under the 10 year Past Growth scenario, suggesting that the Experian forecasts are underpinned by an assumed greater utilisation of the existing labour force in Lancaster. This would therefore imply a requirement for lower levels of net in-migration and a smaller overall population growth to accommodate this level of job growth.
- 7.42 Given the well-documented uncertainty around how economic participation rates may change in future – and the sensitivity of scenarios to different assumptions – there is inherently some uncertainty about the top end of the range of objectively assessed needs. Adopting the implied **763 dwellings needed annually** under the Baseline scenario as the top end of the range can be considered appropriate, although it should be recognised that delivery of important strategic projects identified in the Baseline+ scenario would potentially generate an additional need for housing.

⁶⁸ The updated MYE datasets published by the ONS suggest an average of growth of 627 persons per annum once natural change factors are removed (noting this therefore considers migration and 'other change').

- 7.43 This therefore suggests that there is an evidence based need for between **553 and 763 dwellings per annum** in Lancaster between 2013 and 2031. The lower end of this range would accommodate the identified demographic needs of the authority taking into account recognition of potential constraints in relation to the trend-based nature of the ONS/ DCLG population and household projections and would enable a growth in the labour force which will support a modest level of growth in employment. The upper end of the range recognises the potential role of employment growth in elevating housing needs in the authority taking into account the evidence within the RELP.
- 7.44 This evidently represents a wide range against which to consider and plan for future need. Within this range, a narrower recommended range of between **650 and 700 dwellings per annum** is viewed as reasonable. This would meet demographic needs in full, and also allows for an uplift to this implied level of need to respond positively to employment growth opportunities. This level of need also sits either side of the Baseline employment scenario with OBR adjustments to economic activity rates. Whilst the extent to which older people can support employment growth in Lancaster remains uncertain – amongst other labour force factors – it is considered important to acknowledge that the significant forecast job creation in Lancaster would have wider impacts on the labour force. In addition, it is noted from the RELP that forecast job growth comes from a range of sectors, of which a number could be considered as likely to attract older parts of the workforce to remain in work.
- 7.45 This range therefore acknowledges the uncertainty associated with the employment-led scenarios modelled within this report, due to input economic assumptions which are challenging to predict. Delivery of between 650 and 700 dwellings per annum would enable growth in the labour force and support new job creation in Lancaster, beyond that suggested under the demographic scenarios. This would therefore represent a positive adjustment to take account of employment trends, as required in the PPG.
- 7.46 An assessed need for housing in this range would also recognise that higher levels of migration growth have been seen over the past few years in the district – and earlier in the previous decade – and were these to be sustained, higher levels of demographic growth could be reasonably expected to occur in Lancaster.
- 7.47 Providing for housing within this range would also represent an uplift from the latest household projections – the ‘starting point’ – which, as shown throughout this report, represent a projected continuation of a constrained position in Lancaster.
- 7.48 Recognising that the National Planning Policy Framework (NPPF) also expects local authorities to ‘*boost significantly the supply of housing*’⁶⁹, delivery of between 650 and 700 dwellings per annum would also represent a notable increase compared to the recent rate of development. This would evidently take account of the implications of any backlog that has accumulated against previous planned targets, with this reflected in the adjustments to household formation rates and assumed higher future population growth and net migration rates. In this context it is important to note that the recommended OAN range represents a substantial uplift from the recommended demographic projection of need and is therefore considered to accommodate the implications of the

⁶⁹ DCLG (2012) National Planning Policy Framework (para 47)

market signals evidence, including for example a recognised sustained under-provision against planned targets in the overall projection of housing need over the plan period.

- 7.49 This level of housing provision would also respond positively to delivering affordable housing. The annual future need for 146 affordable homes identified within the IHRS would represent around 20% of needs based on the provision of 650 – 700 dwellings per annum. Evidently, pressures would be more acute in the short-term, with this not including the full backlog of affordable housing need identified. In comparing these figures, it is, however, important to note that the methodological approach taken in deriving the affordable housing need and the overall OAN are very different and not directly compatible. The calculation of affordable housing need includes steps in the calculation where the provision of affordable housing would directly free up existing housing for other households, which would accommodate households within the overall OAN. It is also important to recognise that the affordable housing needs assessment was produced four years ago and only partially updated in 2013, and will require review as the Council continues to develop policy to ensure that the full OAN for affordable housing is up-to-date⁷⁰.

Taking forward the OAN within the emerging Local Plan

- 7.50 On the basis of the analysis within this housing evidence update, it is recommended that there is an objectively assessed need for between **650 and 700 dwellings per annum** in Lancaster.
- 7.51 Whilst the underpinning modelling presented within the SHMA has presented outputs of the period between 2013 and 2031, as recognised in the introduction to this section, at the time of writing the emerging Local Plan period covers the twenty year period 2011 – 2031. The POPGROUP modelling undertaken by Edge Analytics has included a re-basing of the population to 2013 to take account of the ONS published mid-year estimate of population. Appendix 2 presents the modelling outputs for the period 2011 – 2031. This modelling suggests that the projected growth in households between the additional historic two year period 2011 – 2013 is higher than completions over this period. The overall projected need for housing over the period 2011 – 2031 shows a relatively strong alignment with the outputs over the period 2013 – 2031. On this basis, the identified OAN range of 650 – 700 should be considered as appropriate for the whole plan period 2011 to 2031 as reflecting the assessed total need for housing against which the emerging Plan should respond in its policy approach. .
- 7.52 In translating the OAN into policy, it is also important to note that an additional need for housing arises from the communal population, who require bedspaces in communal establishments, such as care homes. This is set out in Appendix 3, and suggests that a minimum of 570 additional bedspaces will be needed in Lancaster over the plan period, which represents an additional need for accommodation to the OAN. The analysis in the SHMA has confirmed that the future need resulting from students is included within the

⁷⁰ The PPG suggests that authorities should not need to undertake comprehensive assessment exercises more frequently than every five years although they should be updated regularly, looking at the short-term changes in housing and economic market conditions (http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/core-outputs-and-monitoring/#paragraph_036).

projection of need within the OAN⁷¹ on the basis that changes in student numbers follow trends seen recently. It is noted that future monitoring will be important to assess the extent to which student numbers increase / decrease compared to that seen in the last ten years with significant changes unlikely to be captured in the trend-based projections of need modelled in this report. Students are included in the private household population which is converted into households and dwellings, with no increase in the number living in communal establishments assumed in the modelling.

⁷¹ Students are included in the private household population which is converted into households and dwellings, with no increase in the number living in communal establishments assumed in the POPGROUP modelling

Appendix 1: Edge Analytics – Data inputs, assumptions and methodology

Lancaster

Demographic Forecasts

Data inputs, assumptions & methodology

May 2015

Amended 27th May 2015 (Version 3)

Student Information Added 15th June 2015 (Version 4)

edgeanalytics

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Acknowledgements

Demographic statistics used in this report have been derived from data from the Office for National Statistics licensed under the Open Government Licence v.1.0.

The authors of this report do not accept liability for any costs or consequential loss involved following the use of the data and analysis referred to here; this is entirely the responsibility of the users of the information presented in this report.

POPGROUP Methodology

Forecasting Methodology

- 1.1 Evidence is often challenged on the basis of the appropriateness of the methodology that has been employed to develop growth forecasts. The use of a recognised forecasting product, which incorporates an industry-standard methodology (a cohort component model) removes this obstacle and enables a focus on assumptions and output, rather than methods.
- 1.2 Demographic forecasts have been developed using the POPGROUP suite of products. POPGROUP is a family of demographic models that enables forecasts to be derived for population, households and the labour force, for areas and social groups. The main POPGROUP model (Figure 1) is a cohort component model, which enables the development of population forecasts based on births, deaths and migration inputs and assumptions.
- 1.3 The Derived Forecast (DF) model (Figure 2) sits alongside the population model, providing a headship rate model for household projections and an economic activity rate model for labour-force projections.
- 1.4 The latest development in the POPGROUP suite of demographic models is POPGROUP v.4, which was released in January 2014. A number of changes have been made to the POPGROUP model to improve its operation and to ensure greater consistency with ONS forecasting methods. The most significant methodological change relates to the handling of internal migration in the POPGROUP forecasting model. The level of internal in-migration to an area is now calculated as a rate of migration relative to a defined 'reference population' (by default the UK population), rather than as a rate of migration relative to the population of the area itself (as in POPGROUP v3.1). This approach ensures a closer alignment with the 'multi-regional' approach to modelling migration that is used by ONS.

1.5 For further information on POPGROUP, please refer to the Edge Analytics website: <http://edgeanalytics.co.uk/popgroup>.

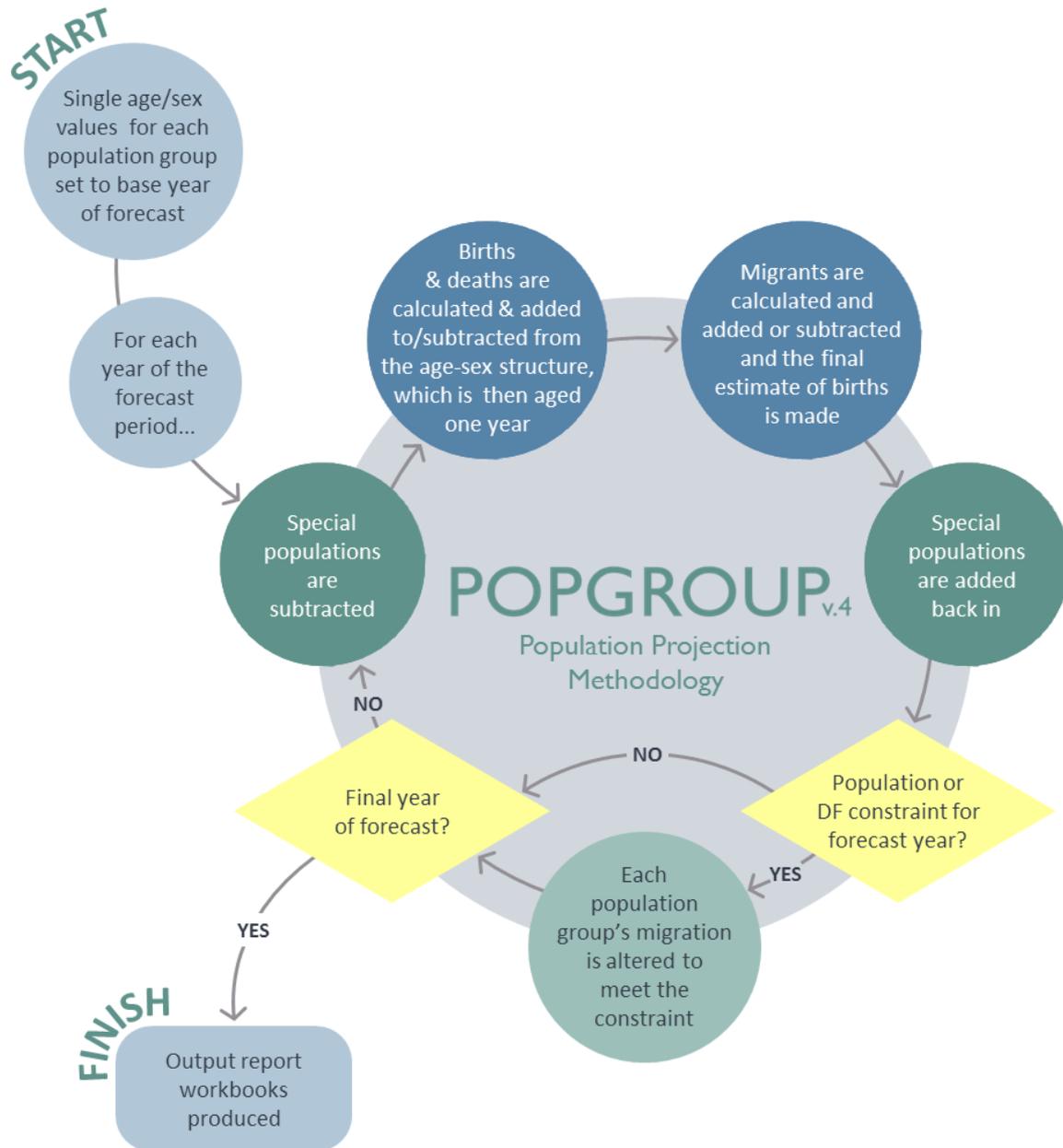
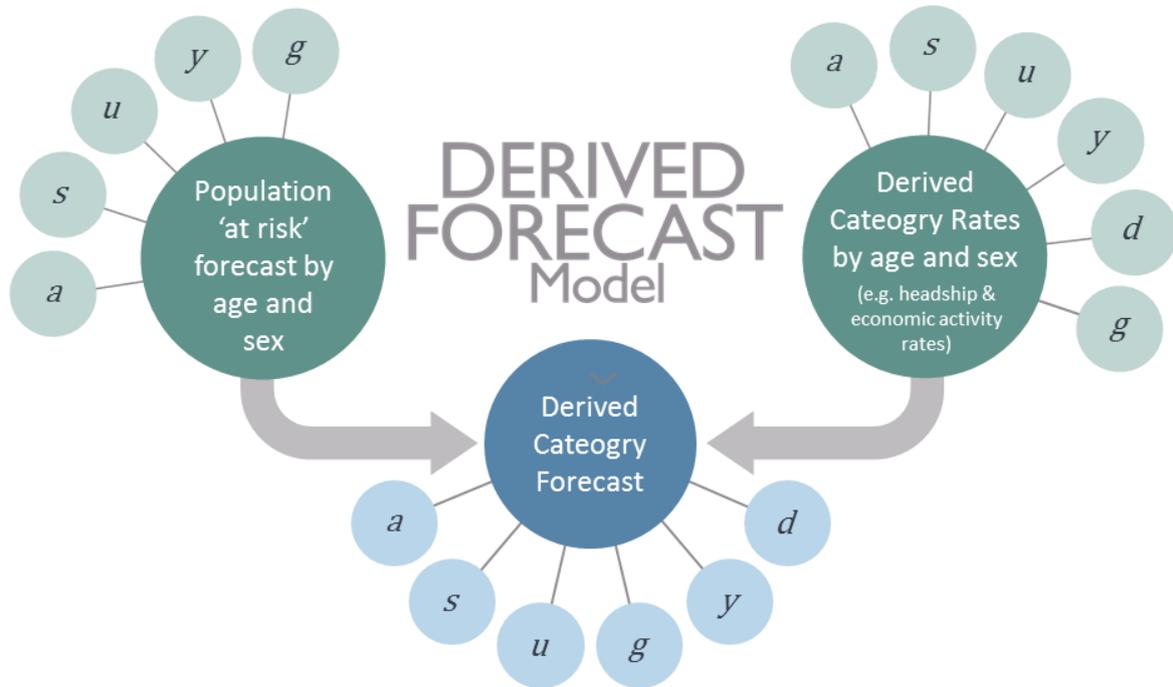


Figure 1: POPGROUP population projection methodology



$$D_{a,s,u,y,d,g} = \frac{P_{a,s,u,y,g} R_{a,s,u,y,d,g}}{100}$$

- | | |
|--|--|
| <i>D</i> Derived Category Forecast | <i>y</i> Year |
| <i>P</i> Population 'at risk' Forecast | <i>d</i> Derived category |
| <i>R</i> Derived Category Rates | <i>g</i> Group (usually an area, but can be an ethnic group or social group) |
| <i>a</i> Age-group | |
| <i>s</i> Sex | |
| <i>u</i> Sub-population | |

Figure 2: Derived Forecast (DF) methodology

2 Data Inputs & Assumptions

Introduction

- 2.1 Edge Analytics has developed a suite of demographic scenarios for Lancaster using POPGROUP v.4 and the Derived Forecast model. The POPGROUP suite of demographic models draws data from a number of sources, building an historical picture of population, households, fertility, mortality and migration on which to base its scenario forecasts.
- 2.2 Using historical data evidence for 2001–2013, in conjunction with information from ONS sub-national population projections (SNPPs) and DCLG household projections, a series of assumptions have been derived which drive the scenario forecasts.
- 2.3 The following scenarios have been produced:
- SNPP-2012
 - PG-5yr
 - PG-10yr
 - PG-10yr – X (excluding UPC)
 - Jobs-led Baseline (Experian’s 2014 Local Market Forecast)
 - Jobs-led Baseline + (as above, but policy–on adjusted).
- 2.4 In all scenarios, household growth has been assessed using assumptions from the 2012-based household projection model from the Department for Communities and Local Government (DCLG). These scenarios are identified by the ‘**HH-12**’ suffix.
- 2.5 An additional sensitivity scenario has also been produced, in which the 2008-based household growth assumptions from the 2008-based DCLG household projection model have been applied to the SNPP-2012 scenario. This scenario is identified by the ‘**HH-08**’ suffix.

- 2.6 In addition, each scenario listed above in paragraph 2.2 has been run using an adjusted set of 2012-based headship rates. In this set of rates, the aggregate headship rates for the following age groups are returned to their respective 2001 values by 2022:
- 20–24
 - 25–29
 - 35–39
- 2.7 These scenarios are identified using the ‘**HH-12 Return**’ suffix.
- 2.8 In the following sections, a narrative on the data inputs and assumptions underpinning the scenarios is presented.

Population, Births & Deaths

Population

- 2.9 In each scenario, historical population statistics are provided by the mid-year population estimates (MYEs) for 2001–2013, with all data recorded by single-year of age and sex. These data include the revised MYEs for 2002–2010, which were released by the ONS in May 2013. The revised MYEs provide consistency in the measurement of the components of change (i.e. births, deaths, internal migration and international migration) between the 2001 and 2011 Censuses.
- 2.10 In the **SNPP-2012** scenario, future population counts are provided by single-year of age and sex to ensure consistency with the trajectory of the ONS 2012-based SNPP.

Births & Fertility

- 2.11 In each scenario, historical mid-year to mid-year counts of births by sex from 2001/02 to 2012/13 have been sourced from ONS Vital Statistics.
- 2.12 In the **SNPP-2012** scenario, future counts of births are specified to ensure consistency with the official projections.

- 2.13 In the other scenarios, a 'local' (i.e. area-specific) age-specific fertility rate (ASFR) schedule, which measures the expected fertility rates by age in 2013/14, is included in the POPGROUP model assumptions. This is derived from the ONS 2012-based SNPP.
- 2.14 Long-term assumptions on changes in age-specific fertility rates are taken from the ONS 2012-based SNPP.
- 2.15 In combination with the 'population-at-risk' (i.e. all women between the ages of 15–49), the area-specific ASFR and future fertility rate assumptions provide the basis for the calculation of births in each year of the forecast period.

Deaths & Mortality

- 2.16 In each scenario, historical mid-year to mid-year counts of deaths by age and sex from 2001/02 to 2012/13 have been sourced from ONS Vital Statistics.
- 2.17 In the **SNPP-2012** scenario, future counts of deaths are specified to ensure consistency with the official projections.
- 2.18 In the other scenarios, a 'local' (i.e. area-specific) age-specific mortality rate (ASMR) schedule, which measures the expected mortality rates by age and sex in 2013/14 is included in the POPGROUP model assumptions. This is derived from the ONS 2012-based SNPP.
- 2.19 Long-term assumptions on changes in age-specific mortality rates are taken from the ONS 2012-based SNPP.
- 2.20 In combination with the 'population-at-risk' (i.e. the total population), the area-specific ASMR and future mortality rate assumptions provide the basis for the calculation of deaths in each year of the forecast period.

Migration

Internal Migration

- 2.21 In all scenarios, historical mid-year to mid-year estimates of in- and out-migration by five year age group and sex from 2001/02 to 2012/13 have been sourced from the 'components of population change' files that underpin the ONS MYEs. These internal migration flows are estimated using data from the Patient Register (PR), the National Health Service Central Register (NHSCR) and Higher Education Statistics Agency (HESA).
- 2.22 In the **SNPP-2012** scenario, future counts of internal migrants are specified, to ensure consistency with the official projections.
- 2.23 In the alternative trend scenarios, future internal migration flows are based on the area-specific historical migration data. In the **PG-5yr scenario**, a five year internal migration history is used (2008/09 to 2012/13). In the **PG10yr** scenario, a ten year history is used (2003/04 to 2012/13).
- 2.24 In the alternative trend scenarios (i.e. **PG-5yr**, **PG-10yr** and **PG-10yr-X**), the relevant historical time period is used to derive the age-specific migration rate (ASMigR) schedules, which are then used to determine the future number of in- and out-migrants. In the case of internal in-migration, the ASMigR schedules are applied to an external 'reference' population (i.e. the population 'at-risk' of migrating into the area). This is different to the other components (i.e. births, deaths, internal out-migration), where the schedule of rates is applied to the area-specific population (i.e. the population 'at-risk' of migrating out of the area). The reference population is defined by considering the areas which have historically contributed the majority of migrants into the area. In the case of Lancaster, the reference population is defined as the total population of the districts where 70% of the in-migrants to the Lancashire Local Economic Partnership (LEP) come from over the 2008/09–2012/13 period.
- 2.25 The **Jobs-led** scenarios calculate their own internal migration assumptions to ensure an appropriate balance between the population and the targeted increase in the number of jobs that is defined in each year of the forecast period. A higher level of net internal migration will occur if there is insufficient population and resident labour force to meet the forecast number of jobs, or if there is insufficient population to meet the forecast number of dwellings. In the **Jobs-**

led scenarios, the profile of internal migrants is defined by an ASMigR schedule, derived from the ONS 2012-based SNPP.

International Migration

- 2.26 Historical mid-year to mid-year counts of immigration and emigration by 5-year age group and sex from 2001/02 to 2012/13 have been sourced from the 'components of population change' files that underpin the ONS MYEs. Any 'adjustments' made to the MYEs to account for asylum cases are included in the international migration balance.
- 2.27 Implied within the international migration component of change in all scenarios (apart from the **PG-10Yr-X** scenario) is an 'unattributable population change' (UPC) figure, which ONS identified within its latest MYE revisions. The POPGROUP model has assigned the UPC to international migration as it is the component with the greatest uncertainty associated with its estimation. In the **PG-10Yr-X** scenario, the UPC is not considered when calculating the migration assumptions.
- 2.28 In all scenarios, future international migration assumptions are defined as 'counts' of migration. In the **SNPP-2012** scenario, the international in- and out-migration counts are drawn directly from the official projection.
- 2.29 In the alternative trend scenarios **PG-5yr** and **PG-10yr**, the international in- and out-migration counts are derived from the area-specific historical migration data. In the **PG-5yr** scenario, a five year international migration history is used (2008/09 to 2012/13). In the **PG-10yr** scenario, a ten year history is used (2003/04 to 2012/13).
- 2.30 In the **PG-10yr-X** scenario, UPC is *excluded* from the international migration assumptions. The international in- and out-migration counts are derived from the area-specific historical migration data and a ten year history is used (2003/04 to 2012/13).
- 2.31 In all scenarios, an ASMigR schedule of rates is derived from either a five year or ten year migration history and is used to distribute future counts by single year of age.
- 2.32 In the **Jobs-led** scenarios, international migration counts are taken from the ONS 2012-based SNPP (i.e. counts are consistent with the **SNPP-2012** scenario). An ASMigR schedule of rates from the ONS 2012-based SNPP is used to distribute future counts by single year of age.

Households & Dwellings

2.33 The 2011 Census defines a household as:

“one person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area.”

2.34 A dwelling is defined as a unit of accommodation which may comprise one or more household spaces (a household space is the accommodation used or available for use by an individual household).

2.35 The household and dwelling implications of the population growth trajectory have been evaluated through the application of headship rate statistics, communal population statistics and a dwelling vacancy rate. These data assumptions have been sourced from the 2001 and 2011 Censuses and the 2008-based and 2012-based household projection models from the DCLG.

Household Headship Rates

2.36 A household headship rate (also known as household representative rate) is the *“probability of anyone in a particular demographic group being classified as being a household representative”*¹.

2.37 The household headship rates used in the POPGROUP modelling have been taken from the DCLG 2008-based and 2012-based household projections. The DCLG household projections are derived through the application of projected household representative rates (also referred to as headship rates) to a projection of the private household population.

2.38 In the scenarios presented here, the following headship rate assumptions have been applied:

- In the **HH-12** outcome, the 2012-based DCLG headship rates are applied.
- In the **HH-08** outcome (SNPP-2012 sensitivity scenario only), the 2008-based DCLG headship rates are applied, scaled to be consistent with the 2011 DCLG household total, but following the original trend thereafter.

¹ Household Projections 2012-based: Methodological Report. Department for Communities and Local Government (February 2015). <https://www.gov.uk/government/statistics/2012-based-household-projections-methodology>

- In the **HH-12 Return** outcome, the headship rates for ages 20–24, 25–29 and 35–39 are incrementally adjusted from 2012, returning to their respective 2001 values by 2022. After 2022, the rate of change from the original 2012-based headship rates is followed. The headship rates for all other age groups remain unchanged and are consistent with the rates used in the HH-12 scenario alternatives.

2012-based Headship Rates

- 2.39 The household headship rates used in the POPGROUP modelling have been taken from the DCLG 2012-based household projections. The 2012-based household projections were released for local authority districts in England in February/March 2015, superseding the 2011-based model.
- 2.40 In POPGROUP, the 2012-based headship rates are defined by age, sex and relationship status. These rates therefore determine the likelihood of person of a particular age-group, sex and relationship status being head of a household in a particular year, given the age-sex structure of the population. The methodological basis of the 2012-based household projections is consistent with that employed in the previous 2008-based and 2011-based interim household projections.
- 2.41 The 2012-based headship rates have been sourced from the new 2012-based household projection model from DCLG. The methodology used by DCLG in its household projection models consists of two distinct stages:
- **Stage One** produces the national and local authority projections for the total number of households by sex, age-group and relationship-status group over the projection period. All Stage One output and assumptions for the 2012-based household projection model has been released by DCLG.
 - **Stage Two** provides the detailed ‘household-type’ projection by age-group, controlled to the previous Stage One totals. Stage Two assumptions and output for the 2012-based model have yet to be released by DCLG.
- 2.42 Whilst methodologically similar to previous releases, the 2012-based household projections provide an important update on the 2011-based interim household projections with the inclusion of the following new information:
- 2012-based SNPP by sex and age that extend to 2037 (rather than to 2021 as was the case in the 2011-based interim projections).

- Household population by sex, age and relationship-status consistent with the 2011 Census (rather than estimates for 2011, which were derived from 2001 Census data, projections and national trends, as used in the 2011-interim projections).
- Communal population statistics by age and sex consistent with the 2011 Census (rather than the previous estimate, which were calibrated to the total communal population from the 2011 Census).
- Further information on household representatives from the 2011 Census relating to aggregate household representative rates by relationship status and age.
- Aggregate household representative rates at local authority level, controlled to the national rate, based on the total number of households divided by the total adult household population (rather than the total number of households divided to the total household population).
- Adjustments to the projections of the household representative rates in 2012 based on the Labour Force Survey (LFS).

(Source: DCLG Methodology², page 5)

2008-based Headship Rates

- 2.43 The 2008-based headship rates are provided by age-group and household type and therefore define the likelihood of a particular household type being formed in a particular year, given the age-sex profile of the population. Household-types are modelled with a 17-fold classification (Table 1).
- 2.44 The 2008-based headship rates are scaled to the 2011 DCLG household total from the 2012-based household projection model, following the original trend thereafter.

² Household Projections 2012-based: Methodological Report. Department for Communities and Local Government (February 2015). <https://www.gov.uk/government/statistics/2012-based-household-projections-methodology>

Table 1: Household type classification

ONS Code	DF Label	Household Type
OPM	OPMAL	One person households: Male
OPF	OPFEM	One person households: Female
OCZZP	FAMC0	One family and no others: Couple: No dependent children
OC1P	FAMC1	One family and no others: Couple: 1 dependent child
OC2P	FAMC2	One family and no others: Couple: 2 dependent children
OC3P	FAMC3	One family and no others: Couple: 3+ dependent children
OL1P	FAML1	One family and no others: Lone parent: 1 dependent child
OL2P	FAML2	One family and no others: Lone parent: 2 dependent children
OL3P	FAML3	One family and no others: Lone parent: 3+ dependent children
MCZDP	MIX C0	A couple and one or more other adults: No dependent children
MC1P	MIX C1	A couple and one or more other adults: 1 dependent child
MC2P	MIX C2	A couple and one or more other adults: 2 dependent children
MC3P	MIX C3	A couple and one or more other adults: 3+ dependent children
ML1P	MIX L1	A lone parent and one or more other adults: 1 dependent child
ML2P	MIX L2	A lone parent and one or more other adults: 2 dependent children
ML3P	MIX L3	A lone parent and one or more other adults: 3+ dependent children
OTAP	OTHHH	Other households
TOT	TOTHH	Total

Communal Population Statistics

- 2.45 Household projections in POPGROUP exclude the population ‘not-in-households’ (i.e. the communal/institutional population). These data are drawn from the DCLG 2012-based household projections, which use statistics from the 2011 Census. Examples of communal establishments include prisons, residential care homes and student halls of residence.
- 2.46 For ages 0–74, the number of people in each age group ‘not-in-households’ is kept fixed throughout the forecast period. For ages 75–85+, the proportion of the population ‘not-in-households’ is recorded. Therefore, the population not-in-households for ages 75–85+ varies across the forecast period depending on the size of the population.

Vacancy Rate

- 2.47 The relationship between households and dwellings is modelled using a 'vacancy rate', sourced from the 2011 Census. The vacancy rate is calculated using statistics on households (occupied, second homes and vacant) and dwellings (shared and unshared).
- 2.48 A vacancy rate of 4.8% for Lancaster has been applied, fixed throughout the forecast period. Using this vacancy rate, the 'dwelling requirement' of each household growth trajectory has been evaluated.

Labour Force & Jobs

- 2.49 Apart from in the **Jobs-led** scenarios, the labour force and jobs implications of the population growth trajectory are evaluated through the application of three key data items: economic activity rates, an unemployment rate and a commuting ratio.

Economic Activity Rates

- 2.50 The level of labour force participation is recorded in the economic activity rates. Economic activity rates by five year age group (ages 16-74) and sex have been derived from 2001 and 2011 Census statistics. The 2011 Census statistics include an open-ended 65+ age categorisation, so economic activity rates for the 65-69 and 70-74 age groups have been estimated using a combination of Census 2011 tables, disaggregated using evidence from the 2001 Census.
- 2.51 Rates of economic activity increased for both men and women in all age groups except the 16-19 age group between the 2001 and 2011 (Figure 3). Increases were more marked for women than men, though both groups had double digit percentage point increases in the 60-64 age group.

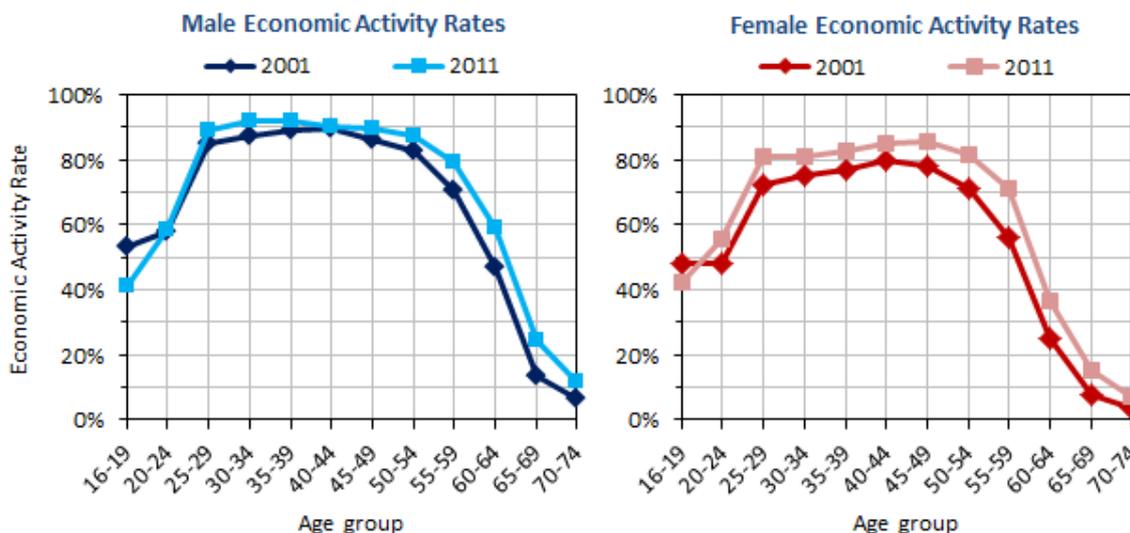


Figure 3:Lancaster Economic activity rates: 2001 and 2011 Census comparison (source: ONS)

2.52 In all scenarios, Edge Analytics has made changes to the age-sex specific economic activity rates to take account of changes to the State Pension Age (SPA) and to accommodate potential changes in economic participation which might result from an ageing but healthier population in the older labour-force age-groups.

2.53 The SPA for women is increasing from 60 to 65 by 2018, bringing it in line with that for men. Between December 2018 and April 2020, the SPA for both men and women will then rise to 66. Under current legislation, the SPA will be increased to 67 between 2034 and 2036 and 68 between 2044 and 2046. It has been proposed that the rise in the SPA to 67 is brought forward to 2026–2028³.

2.54 ONS published its last set of economic activity rate forecasts from a 2006 base. These incorporated an increase in SPA for women to 65 by 2020 but this has since been altered to an accelerated transition by 2018 plus a further extension to 66 by 2020. Over the 2011–2020 period, the ONS forecasts suggested that male economic activity rates would rise by 5.6% and 11.9% in the 60-64 and 65-69 age groups respectively. Corresponding female rates would rise by 33.4% and 16.3%.

2.55 To take account of planned changes to the SPA, the following modifications have been made to the Edge Analytics economic activity rates:

³<https://www.gov.uk/changes-state-pension>

- Women aged 60–64: 40% increase from 2011 to 2020.
- Women aged 65–69: 20% increase from 2011 to 2020.
- Men aged 60–64: 5% increase from 2011 to 2020.
- Men aged 65–69: 10% increase from 2011 to 2020

2.56 Note that the rates for women in the 60–64 age and 65–69 age-groups are higher than the original ONS figures (Figure 4:ONS Labour Force Projection 2006 – UK Economic Activity Rates 2011–2020.Figure 4), accounting for the accelerated pace of change in the SPA. No changes have been applied to other age-groups. In addition, no changes have been applied to economic activity rates beyond 2020. This is an appropriately prudent approach given the uncertainty associated with forecasting future rates of economic participation.

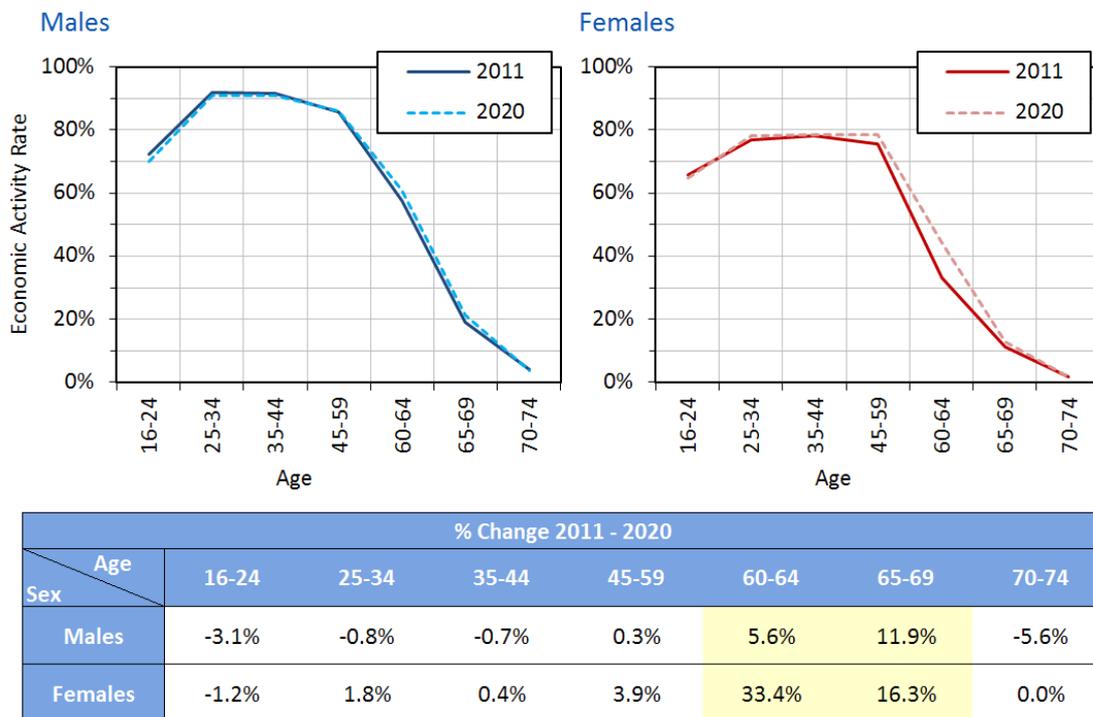


Figure 4:ONS Labour Force Projection 2006 – UK Economic Activity Rates 2011–2020.

2.57 Given the accelerated pace of change in the female SPA and the clear trends for increased female labour force participation across all age-groups in the last decade, these 2011–2020 rate increases (Figure 5) would appear to be relatively conservative assumptions.

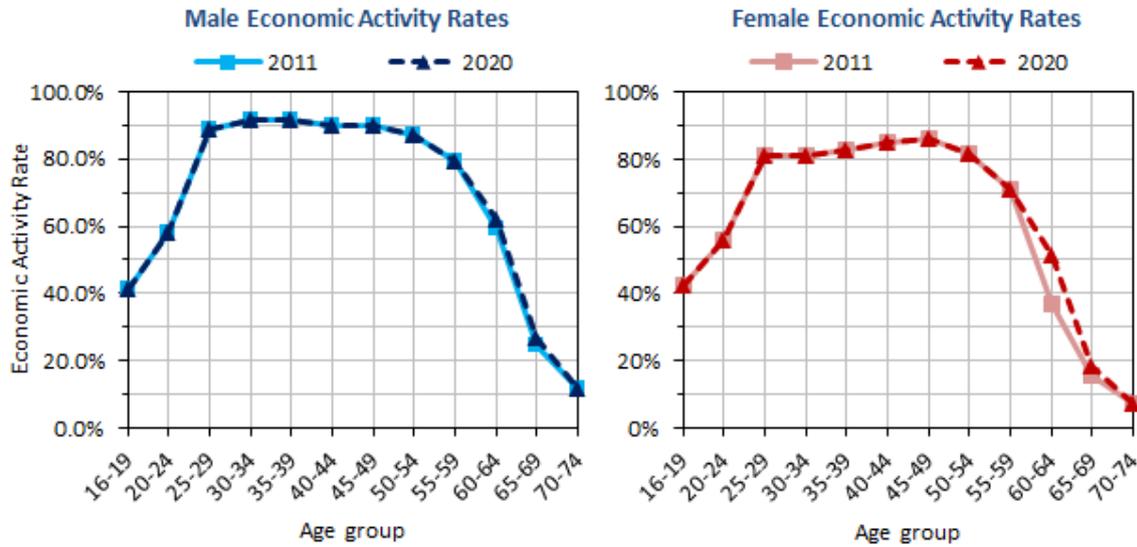


Figure 5: Edge Analytics economic activity rate profiles for Lancaster, 2011 and 2020 comparison.

Commuting Ratio

- 2.58 The commuting ratio, together with the unemployment rate, controls the balance between the number of workers living in a district (i.e. the resident labour force) and the number of jobs available in the district.
- 2.59 A commuting ratio greater than 1.00 indicates that the size of the resident workforce exceeds the number of jobs available in the district, resulting in a net out-commute. A commuting ratio less than 1.00 indicates that the number of jobs in the district exceeds the size of the labour force, resulting in a net in-commute.
- 2.60 From the 2011 Census ‘Travel to Work’ statistics, published by ONS in July 2014, commuting ratios have been derived for Lancaster. This is compared to the 2001 Census value in Table 2 and shows an *increase* in commuting to outside the Lancaster area.

Table 2: Commuting Ratio Comparison

Lancaster		2001 Census	2011 Census
Workers	<i>a</i>	55,859	62,832
Jobs	<i>b</i>	53,042	58,961
Commuting Ratio	<i>a/b</i>	1.05	1.07

Note: 2001 data from Census Table T101 – UK Travel Flows; 2011 data from Census Table WU02UK - Location of usual residence and place of work by age.

Unemployment Rate

- 2.61 The unemployment rate, together with the commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area.
- 2.62 In all scenarios, the unemployment rate has been incrementally reduced over the 2013–2020 period from a ‘recession’ average (2009–2013) to a ‘pre-recession’ average (2004–2007). From 2020 onwards, the unemployment rate has been fixed at the 2020 rate (Table 3).

Table 3: Historical unemployment rates 2004–2013 (source: ONS model-based estimates)

Lancaster	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average (2008–13)	Average Pre-Recession (2004–07)
Unemployment Rate (%)	5.8	5.3	5.2	5.1	6.0	6.5	5.6	6.3	7.5	6.1	6.3	5.4

Note: Unemployment rates are for January to December (source: Annual Population Survey, NOMIS).

Migration and Student numbers

Components of change

- 2.63 Demographic statistics include four 'components' of population change: births, deaths, internal migration and international migration. In setting future assumptions for migration, historical evidence is typically used, taking a five-year or ten-year period.
- 2.64 Students are not identified explicitly in the ONS annual population estimates or in the underpinning migration components of change. However, if student numbers increase or decrease year on year, this change will be included in the annual population statistics as students are recorded at their term-time address.
- 2.65 The changing number of students would be included within the annual estimates of both internal and international migration and so would be reflected in the calculation of future migration assumptions from historical evidence.

Lancaster's Student Numbers

- 2.66 Lancaster has a large student population with approximately 14,400 full-time students (both UK and international) attending its two Universities; Lancaster University and the University of Cumbria. Total student numbers have fluctuated since 2007/08 but average annual growth has been **229** per year to 2013/14 (Table 4).

Table 4: Lancaster – Student Numbers (full-time)

Lancaster	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Lancaster University	9,775	9,905	10,120	10,635	11,205	11,170	11,480
University of Cumbria	3,241	3,101	3,363	3,455	3,568	3,227	2,912
All Full Time Students	13,016	13,006	13,483	14,090	14,773	14,397	14,392
Average annual growth 2007/08 - 2013/14							229

Source: Data provided by Lancaster City Council

- 2.67 Part time students have been excluded from the analysis as they are unlikely to be associated with migration to and from Lancaster and / or a requirement for associated student accommodation.

- 2.68 International students are an important component of Lancaster’s student population. International Students account for 28% of undergraduate and 45% of postgraduates at Lancaster University, with 8% of overseas students studying part-time (Source: HESA data, 2013/14). At the University of Cumbria there are just 2% of students from overseas (Source: Lancaster City Council, 2013/14).
- 2.69 There has been a consistent increase in the number of international students attending the Universities in Lancaster since 2007/08. Average annual growth has been **275** per year to 2013/14 (Table 5).

Table 5: Lancaster – International Student Numbers

Lancaster	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
EU Students	885	935	885	960	1,130	1,165	1,225
Non-EU Students	1,755	1,770	1,765	1,960	2,535	2,780	3,065
All Overseas Students	2,640	2,705	2,650	2,920	3,665	3,945	4,290
Average annual growth 2007/08 - 2013/14							275

Source: HESA

Note: Includes part-time overseas students who account for 6% of overseas students.

Note: Excludes University of Cumbria, though currently only 2% of their students are from overseas.

Migration evidence

- 2.70 Students are typically associated with a large inflow when they begin their course and a corresponding large outflow, when they complete. The size of the inflow / outflow balance will depend on the mix of undergraduate and post-graduate courses and the extent to which students ‘remain’ in the labour market, post-graduation.
- 2.71 These student migration inflows and outflows will be captured within both the internal and international migration statistics which underpin the ONS mid-year population estimates. Internal migration is measured most robustly using changes to GP registration status between local authority areas and student address data from HESA. International migration (immigration and emigration) remains the most difficult component for ONS to estimate accurately. Whilst immigration estimates use administrative datasets (GP registrations, NiNO registrations and HESA data) to guide local area estimation from the International Passenger Survey, emigration has little equivalent supporting evidence.

2.72 The historical components of population change illustrate the effect of migration upon the key student age-groups: 15-19 and 20-24 (Figure 6). These are not exclusively student migration as the data may include those moving to/from Lancaster for other reasons. This is particularly important for the international migrants, where work-related moves will be a component of the age-group moves.

2.73 The net internal migration profile is characterised by a large net inflow within the 15-19 age-group that correlates to undergraduate students arriving in Lancaster; with a correspondingly large net outflow within the 20-24 age-group, as studies are completed.

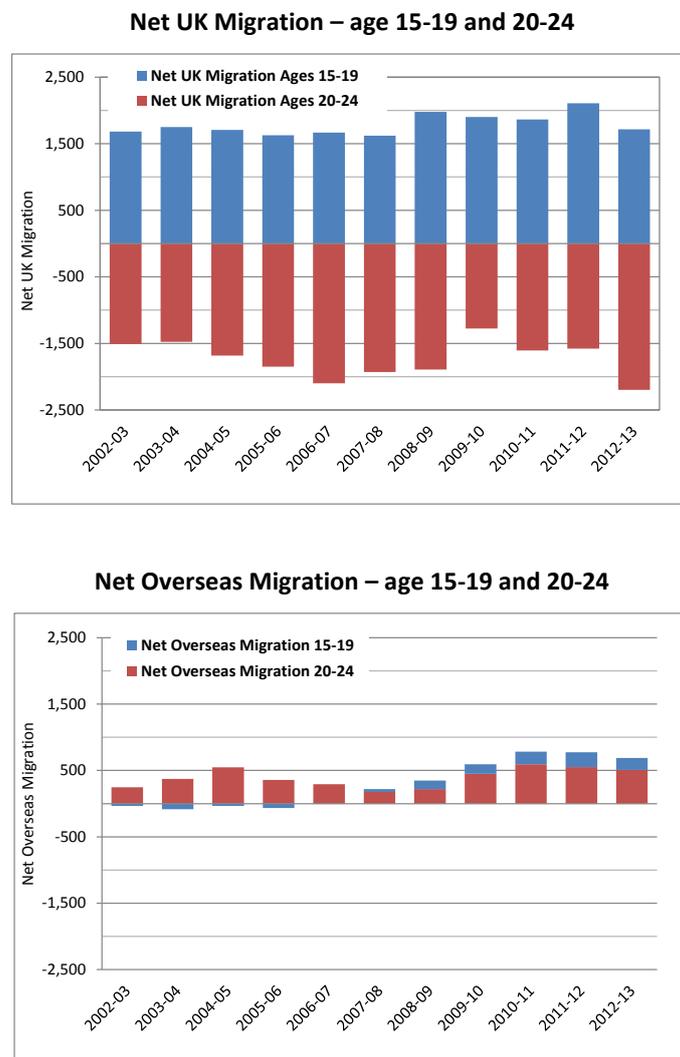


Figure 6: Net migration, ages 15-19 and 20-24. Source: ONS

2.74 For the net international migration profile, the annual net flow totals are lower than corresponding internal flows, but each has a consistently small but positive effect upon population growth.

- 2.75 These historical patterns of migration will be reflected in the assumptions that have been set within the ONS SNPP-2012 scenario and in the PG-5yr and PG-10yr scenarios. The internal migration assumptions will be driven by age-specific migration rates, with a large net inflow at age 15-19, matched to a large net outflow at age 20-24.
- 2.76 For international migration, future assumptions are based on a continuation of recent 'counts' of both immigration and emigration. These will continue to show net increases in the 15-19 and 20-24 age-groups but a larger proportion of *internal* out-migration will result from the consistent growth in these population age-groups.
- 2.77 Overall, the migration data used in the modelling is consistent with the recent growth in overall student numbers, for both students resident in the UK and overseas, with growth particularly apparent in the international migration for the 20-24s.
- 2.78 The scenario assumptions assume that the current trends will continue. If the Universities change their admissions policy to either increase or decrease the numbers of students then the migration data would need to be revisited to reflect those changes.

Student Assumptions

The recent change in student numbers in Lancaster will be reflected in the population estimates, in both the internal and international migration components and therefore in the assumptions that are made for future migration change.

With international migration projected to remain an important component of population change in Lancaster, internal migration has a balancing effect, with higher population growth implying a higher level of internal out-migration.

The conversion of population totals to household totals is based upon age-specific headship rates but will also take into account a proportion of the population that lives in institutional accommodation; removing this from the household calculation.

Appendix 2: Alignment with Plan Period

This report considers the need for housing in Lancaster based on a modelling period from 2013 to 2031, with the population in mid-2013 known at the time of the modelling undertaken by Edge Analytics and therefore included as a base date.

The plan period does, however, run from 2011, and it is therefore important to consider the level of housing needed over this period. This therefore requires an exercise of back-dating of the projections and therefore need.

One potential option for doing this is to look at the levels of development over the historic two year period. The analysis of completions presented in section 6 confirms that there were **313 net additional dwellings delivered** in the district over this period⁷².

A second approach is to consider the projected change in household growth over this period aligned with the population growth estimated over this period by the ONS. This can be understood by converting the population growth into households and then applying a vacancy rate.

ONS suggest that the population of Lancaster increased by 1,931 between 2011 and 2013. The application of household formation rates used in the scenario modelling suggests that this could have translated into the formation of **779 additional households** over this period⁷³. With the application of a vacancy rate, household formation of this scale would generate a need for **839 additional dwellings**. This notably exceeds the historic level of recorded completions noted above.. This suggests that the rate of development has not met needs generated by new household formation, and implies that backdating the objective assessment of need based on past completions would serve to underestimate the level of housing needed over the plan period. On this basis it is recommended that modelled estimates of need generated over the period 2011 to 2031 are used when presenting need figures over the plan period.

The following table shows the indicative annual housing need implied in the key scenarios modelled by Edge Analytics – with the headship rate sensitivity applied to younger age groups, as introduced in section 6 – over the period from 2011 to 2031⁷⁴.

Figure 2.1 Annual Housing Need 2011 – 2031

	Average annual housing need (rounded)
SNHP 2012	375
10 year Past Growth	560
10 year Past Growth with UPC	440
RELP Baseline	750

⁷² Figure 6.6

⁷³ Number of households in 2013 is modelled in POPGROUP by applying headship rates to 2013 mid-year population estimates. This assumes a return to 2001 household formation rates by 2022 amongst younger age groups, where this has not already been projected, as detailed in section 6

⁷⁴ In the RELP jobs-led scenarios, forecasts are only applied from 2013, as explained in section 5, given that population growth up to 2013 is already known and therefore not tied to employment forecasts

RELP Baseline (OBR)	630
RELP Baseline+	780

Source: Edge Analytics, 2015

The above modelling outputs for the plan period 2011 – 2031 show a comparatively strong alignment with the projections for the period 2013 – 2031 and therefore support the rationale behind the recommended OAN range arrived at within the SHMA of between 650 and 700 per annum. This range should therefore be used as the OAN for the full plan period.

Appendix 3: Institutional Housing Need

It is important to recognise that the communal establishment population is not included within the population converted to households by DCLG. This population is therefore not included within the private household population modelled by Edge Analytics to assess housing need, and therefore not included in the OAN range identified above.

When treating the communal population, Edge Analytics adopt an approach which is consistent with DCLG, specifically:

- For all ages up to 74, the number of people in each age group that are not in households is recorded at the start of the projection period⁷⁵; and
- For ages 75 and over, the *proportion* of the population that are not in households is recorded as a percentage. Therefore, the population that are not in households in these age groups varies across the forecast period, depending on the size of the population.

Consequently, modelled growth in the communal population will be made up entirely of older age groups aged 75 and over, with the younger age component fixed. The following table shows the projected change in the communal population under each of the scenarios modelled by Edge Analytics and referenced in the evaluation of the OAN above between 2013 and 2031.

Figure 3.1 Modelled Change in Communal Population 2013 – 2031

	Total Change 2013 – 2031
SNHP 2012	552
10 year Past Growth	573
10 year Past Growth with UPC	549
RELP Baseline	628
RELP Baseline (OBR)	613
RELP Baseline+	634

Source: Edge Analytics, 2014

Evidently, there is a comparatively consistent level of growth in the communal population across all scenarios, with an increase of between approximately 550 and 640 identified within the modelling.

This increase in need relates to individual persons, and this indicates that there will be an increased need for bedspaces in communal establishments over the plan period. The earlier review of definitions notes that the approach to classify supply may require a translation into dwellings or establishments. There is no specific methodology for doing this, however, and this will therefore need to be considered in the context of individual care home proposals.

⁷⁵ Sourced directly from DCLG household projections, referred to as the 'institutional population' and taken from the 2011 Census

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