Report for:

Carlisle City Council

Strategic Housing Market Assessment Update

September 2014

jg **Consulting**
Quality Specialist Research

Contents

Summary

Introduction

1. This document provides a review of housing requirements in Carlisle District for the period 2013 to 2030 and develops an objective assessment of the need for additional housing provision. The start date of the assessment (2013) fits in with the latest date for which good baseline data exists whilst the end date (2030) has been designed to fit in with the Council's emerging Local Plan which covers a period from 2015 to 2030.

2. The study considers up-to-date information; including that from ONS mid-year population estimates, the 2011 Census, 2012-based ONS subnational population projections (SNPP), an Experian economic forecast and CLG household projections (2008- and 2011-based versions). The report is also written to ensure compliance with the NPPF and recent advice about housing requirements (within Planning Practice Guidance) from CLG (in March 2014).

3. As well as providing information about overall housing requirements the opportunity has been taken to review and update information from previous research (including the 2011 Housing Needs and Demand Study and the 2009 Strategic Housing Market Assessment (SHMA) with regard to affordable housing need and the mix (by size) of market and affordable housing.

Housing Market Dynamics and Market Signals

4. The Planning Practice Guidance sets out that the housing numbers suggested by household projections should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between demand for and supply of dwellings. It indicates that prices or rents rising faster than the national/local average may indicate particular market undersupply relative to demand. It identifies a number of relevant market signals.

    - Land Prices – where price premiums indicate a shortage of land in a locality;
    - House Prices and Rents – where longer-term changes in prices may indicate a supply-demand imbalance;
    - Affordability – using the ratio of lower quartile house prices to lower quartile incomes to assess relative affordability of market housing;
    - Rates of Development – through comparison of rates of permissions and completions relative to planned numbers over a meaningful period;
    - Overcrowding – whereby long-term increases in overcrowded, concealed and sharing households, homelessness and numbers in temporary accommodation should be considered.

5. The focus is on considering indicators relating to price and quantity. The Guidance sets out how these issues should be assessed by comparing long-term trends in the housing market area, similar demographic/economic areas, and nationally. The purpose of this is to consider whether a proportionate upward adjustment should be made to housing numbers to improve affordability.

6.   The analysis of market signals provides some evidence that growth in demand for housing exceeded supply between 2001 and 2005. This contributed to a reduction in affordability. Evidence also suggests that the structural change in house prices/affordability which we have seen over the last decade (at both national and regional levels) are likely to have had some impact on household formation. Since 2007 demand for market housing has fallen. We have seen a market correction (in 2008-9). Since this point the evidence suggests a broad supply-demand balance.

7.   The overall conclusion from the market signals analysis is that some allowance should be made in the household projections for higher household formation relative to the 2001-11 decade. This has been done as part of the demographic analysis (above) where it is assumed that household formation rates in the future will return towards the rates contained in the 2008-based CLG household projections.

Assessing Overall Housing Need

8.   To inform the analysis of housing requirements a demographic model has been developed which allows for the testing of different assumptions. The model provides outputs for population (including age structure), household growth and the number of residents in employment. Key assumptions include:

- Fertility and mortality rates based on 2012-based SNPP (the most up-to-date at the time of writing)
- Migration profiles by age and sex informed by the 2012-based SNPP
- Overall levels of migration informed by ONS mid-year population estimates (including an understanding of longer and shorter terms trends)
- Employment rates set at a baseline from the 2011 Census and projected to improve over time in-line with past trends and changes to the state pension age
- Headship rates which take account of both 2008- and 2011-based household projections. The projections are assumed to move back towards 2008-based figures to reflect some evidence of constraint in household formation in the recent past and moving forward (in the 2011-based projections)
- Consideration of market signals and the extent to which these suggest that an uplift to planned housing numbers should be applied to help improve affordability
- A vacancy rate of 4.3% to reflect turnover in the housing market and to include an allowance for second homes – this figure is consistent with data from the 2011 Census

9.   Using the demographic model, two core scenarios were developed to assist in establishing what the objective requirement for housing is moving forward. These scenarios can be summarised as:

a)   PROJ 1 – demographic trends

10.   This projection looks at the average level of net migration over the 10-year period up to 2013 (the start of the projection). Initial consideration was given to the 2012-based SNPP which tends to project data over the past five years. In Carlisle there was some evidence that levels of migration in the 2007-12 period (feeding into the 2012-based SNPP) were on the low side compared with longer-term trends and so looking at the 10-year period from 2003 was considered to make for a more realistic demographic projection.

b) PROJ 2 – Job growth

11. This projection uses information from a February 2014 Experian economic forecast[1]. In the Experian analysis it is suggested that there will be an increase in jobs in the District of Carlisle of 6,350 from 2013 to 2030 – the projection modelling therefore considers what level of housing provision might be required to house a growing workforce to take up these jobs. The link between homes and jobs is complex and it has been assumed that there will be some increase in employment rates (in-line with past trends) although no additional assumptions have been made about commuting patterns or 'double-jobbing' (which would tend to reduce the level of housing need shown in the analysis slightly).

12. The tables below show the outputs from each of the main projections for the period 2013 to 2030. The findings can be summarised as follows:

PROJ 1 - this projection suggests a requirement for around 8,200 additional homes in the period from 2013 to 2030 (481 per annum). This level of housing growth would see an increase in working residents of around 8% over 17-years.

PROJ 2 – to meet the Experian job growth forecast a higher housing requirement is derived (around 9,600 homes) equating to 564 per annum.

Figure 1: Summary of projections 2013 to 2030 – annual					
Projection	Population growth		Housing numbers		Employment growth	
	Per annum	% change	Per annum	% change	Per annum	% change
PROJ 1 – demographic-based	622	0.6%	481	0.9%	264	0.5%
PROJ 2 – job growth	815	0.8%	564	1.1%	373	0.7%

Figure 2: Summary of projections 2013 to 2030 – total					
Projection	Population growth		Housing numbers		Employment growth	
	Total	% change	Total	% change	Total	% change
PROJ 1 – demographic-based	10,566	9.8%	8,183	16.1%	4,482	8.3%
PROJ 2 – job growth	13,847	12.8%	9,589	18.9%	6,348	11.7%

13. Overall, the analysis suggests that the housing requirement in Carlisle is in the range of about 480 to 565 dwellings per annum – the lower figure being based on a demographic projection which takes account of longer-term trends and the higher figure being appropriate to meet the job growth forecasts by Experian.

[1] The Experian model produces forecasts of key economic variables (including job growth) for each local authority in the UK, using a top-down approach to ensure consistent forecasts. The initial output from this is then refined to take into account local knowledge about trends and future impacts. There were no specific uplifts for Carlisle but Experian did amend the projections compared to national trends to take account of the biomass sector in Cumbria, the strength of the food & drink manufacturing sector, future construction demand (mainly due to GSK) and to take account of the latest BAE and Sellafield workforce trends.

Affordable Housing Need

14.   Affordable housing need describes the quantity of households who cannot meet their needs in the housing market without support. An assessment of housing need has been undertaken using information from a range of data sources which is compliant with Government guidance. The assessment identifies whether there is a shortfall or surplus of affordable housing in the District of Carlisle.

15.   The assessment has estimated current housing need in 2013 of 543 households, excluding existing social housing tenants where they would release a home for another household in need. The housing needs model then looked at the balance between needs arising and the supply of affordable housing. Each year an estimated 659 households are expected to fall into housing need and 396 properties are expected to come up for relet.

16.   Overall, in the period from 2013 to 2030 a net deficit of 5,011 affordable homes is identified (295 per annum). There is thus a requirement for new affordable housing and the Council is justified in seeking to secure additional affordable homes. Affordable housing can be expected to be delivered through a number of mechanisms including Registered Providers investments as well as through the planning system (i.e. Section 106 provision).

Figure 3: Estimated level of Housing Need (2013-30)		
	Per annum	17-years
Backlog need	32	543
Newly forming households	443	7,526
Existing households falling into need	216	3,670
Total Gross Need	691	11,739
Supply	396	6,728
Net Need	295	5,011

Source: Census (2011)/CoRe/Projection Modelling and affordability analysis

17.   When looking at the Council's emerging affordable housing policies the affordable housing needs analysis strongly supports a target of between 25% and 30% (depending on location and site size). The analysis also supports a tenure split of 30% intermediate housing and 70% social/affordable rented.

Mix of housing (by size and tenure)

18.   There are a range of factors which influence housing demand. These factors play out at different spatial scales and influence both the level of housing demand (in terms of aggregate household growth) and the nature of demand for different types, tenures and sizes of homes.

19.   Macro-economic factors are expected to influence effective market demand for housing in the short-term. These include mortgage finance, market confidence, short-term employment growth, and pressures on household incomes. Market demand is expected to be subdued and can be expected to impact on housing completions. While this can be expected to support need and demand within the rented tenures, supply is unlikely to respond to the demand drivers in the short-term given the investment-led model for the Private Rented Sector and the funding model and constraints in the Affordable Housing Sector. These are macro-level dynamics, and not unique to Carlisle.

20.   However it is still appropriate to plan on meeting expected household growth over the longer-term. This is expected to be driven by demographic trends and over the medium- and long-term in particular, by economic performance and employment growth.

21.   Using our housing market model, which takes into account how households of different ages occupy dwellings and the potential delivery of housing in different tenures, we consider that market demand will be focused towards two- and three-bedroom properties. For affordable housing, taking account of identified need, existing supply and turnover of properties and issues related to the management of the housing stock (as well as outputs from the market modelling), the modelling again focuses strongly on two- and three-bedroom homes (along with a relatively high requirement for one-bedroom accommodation). Whilst the table below gives a suggested mix by size and broad tenure group this may vary depending on specific Council priorities (e.g. to house families in need rather than single people or to take account of local stock/household characteristics such as a high proportion of one bedroom homes in an area or a need for housing for older people (which may require bungalows rather than flatted accommodation)).

Figure 4: Housing Mix by Unit Size across Tenures (2013-2030)					
	1-bed	2-bed	3-bed	4+ bed	Total
Market Housing	5%	40%	45%	10%	5%
Affordable Housing	30-35%	35-40%	20-25%	5-10%	30-35%
All dwellings	10-15%	40%	40%	5-10%	10-15%

22.   Based on the evidence, we would expect the focus of new market housing provision to be on two and three-bed properties. Continued demand for family housing can be expected from newly forming households. There may also be some demand for medium-sized properties (2 and 3 beds) from older households downsizing and looking to release equity in existing homes, but still retain flexibility for friends and family to come and stay.

Overall Conclusions

23.   The analysis overall supports a housing target in the region of 480 to 565 homes per annum moving forward from 2013. This range is based on past demographic trends and also likely housing requirements to meet an Experian job growth forecast.

24.   The analysis of affordable housing need confirms the findings of past research in showing a need to provide additional affordable homes. The updated analysis suggests a requirement for 295 additional units of affordable housing per annum to meet needs up until 2030. Given the role played by the private rented sector in meeting the needs of some households, the affordable need should be achievable within an overall housing delivery figure of 480-565 per annum.

1.   Introduction

Introduction

1.1   This document provides an up-to-date evidence base about housing requirements and fulfils the key requirements of a Strategic Housing Market Assessment (SHMA) as set out in the NPPF and CLG advice of March 2014 (*Housing and Economic Development Needs Assessment*). The methodology employed follows that set out in the March 2014 advice with additional direction being taken from 2007 guidance (where more detail about the methodological approach is provided). This document does not constitute a full SHMA although key requirements of an SHMA are fully reviewed and updated. This includes:

- An analysis of housing requirements using up-to-date demographic and economic data to assist in determining the objective level of housing need for Carlisle
- An updated affordable housing needs assessment, again drawing on up-to-date information. This includes analysis of the types (tenures) of homes required to meet needs
- An analysis of the mix of housing likely to be required by size and tenure

1.2   Where relevant the report also makes comparisons with past research; this includes a Strategic Housing Market Assessment prepared in-house by the City Council in 2009 and a Housing Needs and Demand Study by GL Hearn in 2011.

National Planning Policy Framework

1.3   The Government published its National Planning Policy Framework (NPPF) in March 2012. The NPPF sets out that the purpose of planning is to help achieve sustainable development. It establishes a presumption in favour of sustainable development (para 14) which should be seen as a golden thread running through both plan-making and decision making. It sets out that for plan making this means:

- *Local planning authorities should positively seek opportunities to meet the development needs of their area;*
- *Local Plans should meet objectively assessed needs, with sufficient flexibility to respond to rapid change, unless:*
  - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework as a whole; or*
  - *specific policies in the Framework indicate development should be restricted.*

1.4   Core planning principles which should underpin both plan-making and decision-making are set out in Paragraph 17. The third of these is relevant to determining housing provision, and provides that planning should:

Proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs. Every effort should be made objectively to identify and then meet the housing, business and other development needs of an area, and respond positively to wider opportunities for growth. Plans should take account of market signals, such as land prices and housing affordability, and set out a clear strategy for allocating sufficient land which is suitable for development in their area, taking account of the needs of residential and business communities.

1.5   Paragraph 47 explains that the Government's ambition is to significantly boost the supply of housing. To do so LPAs should:

Use their evidence base to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area, as far as is consistent with policies in the Framework, including identifying key sites which are critical to the delivery of the housing strategy over the plan period.

1.6   This is reaffirmed in Paragraph 50 which provides that local planning authorities should plan for a mix of housing based on current and future demographic trends, market trends and the needs of different groups in the community.

1.7   A Local Plan is required to set out the strategic priorities for the area, including the homes and jobs needed. In paragraph 158 the Framework provides that:

Local Plans should be based on adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area. Local planning authorities should ensure that their assessment of and strategies for housing, employment and other uses are integrated and take full account of relevant market and economic signals.

1.8   Paragraph 159 explains that a Strategic Housing Market Assessment (SHMA) should form the key part of the evidence base for policies for housing provision. The Strategic Housing Market Assessment should assess full housing needs, working with neighbouring authorities where housing market areas cross administrative boundaries. The scope of the SHMA is defined as follows:

The Strategic Housing Market Assessment should identify the scale and mix of housing and the range of tenures that the local population is likely to need over the plan period which:

- *meets household and population projections, taking account of migration and demographic change;*
- *addresses the need for all types of housing, including affordable housing and the needs of different groups in the community;*
- *caters for housing demand and the scale of housing supply necessary to meet this demand.*

1.9   All three of the bullet points above are dealt with in this report with a particular focus on the first of the three. Likely housing requirements arising from analysis of a range of up-to-date information sources have been studied. These include the 2011 Census, 2012-based ONS subnational population projections (SNPP), 2011-based CLG household projections and new mid-year population estimates (the latest being published in June 2014).

National Planning Practice Guidance

1.10   New Planning Practice Guidance for England was issued by Government in March 2014. This includes Guidance on '*Housing and Economic Development Needs Assessment*s'. This specifically sets out guidance on how assessments such as this are expected to be undertaken.

1.11   The Guidance is clear that planning authorities are expected to consider the need for market and affordable housing, defining need as follows:

"the scale and mix of housing and the range of tenures that is likely to be needed in the housing market area 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 need."

1.12   It sets out that the assessment of need should be realistic in taking account of the particular nature of that area, and should be based on future scenarios that could be reasonably expected to occur. It should not take account of supply-side factors or development constraints, with the guidance specifically stating that:

"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, infrastructure or environmental constraints."

1.13   The Guidance outlines that whilst estimating future need is not an exact science and that there is no one methodological approach or dataset which will provide a definitive assessment of need, the starting point for establishing the need for housing should be the latest household projections published by the Department for Communities and Local Government (CLG). At the time of preparation of this report these are 2011-based 'Interim' Household Projections.

1.14   It identifies that these projections only cover a ten year period to 2021, so plan makers would need to assess likely trends after 2021 to align with their development plan periods. It sets out that plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to underlying demographic projections and household formation rates. It sets out that account should also be taken of the most recent demographic evidence, including the latest Office for National Statistics (ONS) population estimates.

1.15   It suggests that proportional adjustments should be made where market signals point to supply being constrained relative to long-term trends or other areas in order to improve affordability. It identifies a range of market signals, specifically:

- Land Prices;
- House Prices;
- Rents;
- Affordability;
- Rates of Development; and
- Overcrowding.

1.16   It indicates that the housing need number suggested by household projections should be adjusted to reflect appropriate market signals. Through a process of comparing trends in these indicators with long-term trends (in terms of absolute levels and rates of change) in the housing market area, similar demographic and economic areas and nationally; consideration should be given to adjust upwards planned housing numbers based solely on household projections. The adjustment should be proportionate to the degree of affordability constraints and evidence of high demand.

1.17   Evidence of affordable housing needs is also relevant, with the Guidance suggesting that the total affordable housing need should be considered in the context of its likely delivery as a proportion of mixed market and affordable housing. It sets out that:

"An increase in the total housing figures included in the local plan should be considered where it could help to deliver the required number of affordable homes."

1.18   Reinforcing the emphasis in Paragraph 159 in the NPPF on ensuring alignment of the evidence and strategies for housing and economic growth across relevant functional areas, the Planning Practice Guidance set out that:

"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 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."

1.19   It cautions against reducing migration assumptions based on economic evidence unless this approach is agreed with other local planning authorities under the duty to cooperate.

Carlisle District Local Plan

1.20   Carlisle City Council published a Local Plan for Consultation (Carlisle District Local Plan 2015-2030 Preferred Options Consultation – Stage Two) in Spring 2014. This document sets out a long-term strategic vision for the future of Carlisle District. Whilst the plan considers a number of policies our work particularly focuses on Policy S2 - Spatial Strategy, which provides for the delivery of 665 additional homes per annum over the 15-year plan period to 2030 – 70% located in the urban area of Carlisle, and 30% in the rural area and Policy 19 – Affordable Housing which sets targets of between 25% and 30% depending on location.

Defining the Housing Market Area

1.21   The SHMA update does not seek to provide a detailed assessment of Housing Market Areas (HMA) although there is merit in briefly analysing data and past research to test whether Carlisle can be considered to be a self-contained HMA for the purposes of analysis. The NPPG says that:

'A housing market area is 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'.

1.22   Housing market areas can be broadly defined by using three different sources of information as follows:

- House prices and rates of change in house prices
- Household migration and search patterns
- Data about travel to work area boundaries, retail and school catchment areas

1.23   The majority of studies looking at HMA boundaries focus on migration and travel to work data and it is generally considered that a self-containment rate of around 70% provides evidence for defining a HMA. Self-containment in the context of this means that 70% of people both live and work in an area (i.e. less than 30% commute out or less than 30% of local workers commute in) or in the case of migration an area where 70% of movers remain (excluding long distance moves such as due to a change of lifestyle or retirement), reflecting the fact that most people move relatively short distances due to connections to families, friends, jobs, and schools.

1.24   The most recent national analysis of HMAs is contained in 2010 CLG research (The Geography of Housing Market Areas in England). This research places Carlisle on its own as a 'strategic' HMA as well as being alone as part of a 'single tier' HMA. The research also identifies 'local' HMAs which for Carlisle shows a HMA centred on Carlisle and including the whole of the district – this local HMA does however cross the District boundary and includes a number of wards in Allerdale, the former district of Tynedale and across the border into Scotland. Overall however the evidence from the CLG research is that Carlisle is a fairly self-contained Housing Market Area.

1.25   Our own analysis of 2011 Census data confirms that Carlisle has relatively high levels of self-containment when looking at either migration or travel to work.

1.26   Figure 1.1 below shows that around 65%-66% of people with a different address at the time of the Census compared to one year earlier had previously lived in Carlisle. These figures rise to 83%-86% if we exclude long-distance moves (taken in this analysis to exclude moves originating or finishing outside of the North West region). This analysis is slightly imperfect due to the lack of specific data for Scottish local authorities but does clearly identify that migration excluding long-distance moves will be well in excess of 70%.

Figure 1.1: Carlisle – Migration self-containment (2011)	
Moves within Carlisle	7,145
Moves from North West	1,430
Moves to North West	1,165
Moves from elsewhere (UK & abroad)	2,437
Moves to elsewhere (England & Wales)	2,597
Inward migration self-containment (including long distance moves)	64.9%
Inward migration self-containment (excluding long distance moves)	83.3%
Outward migration self-containment (including long distance moves)	65.5%
Outward migration self-containment (excluding long distance moves)	86.0%

Source: 2011 Census

1.27   Figure 1.2 below shows analysis of commuting patterns. The data shows that there is a net in-commuting to work of about 5,200 people. In terms of self-containment the commuting data suggests something in the region of 79%-87% depending on whether or not we look at inward or outward commuting. As with the migration data this suggests a high level of self-containment.

Figure 1.2: Travel to work patterns in Carlisle (2011)	
Live and work in District	38,368
Home workers	5,605
No fixed workplace	3,112
Out-commute	6,964
In-commute	12,348
Work offshore or abroad	149
Inward commuting self-containment	79.2%
Outward commuting self-containment	86.9%

Source: 2011 Census

1.28   On the basis of the high levels of migratory self-containment and commuting patterns identified, supported by the Practice Guidance's definition, it is considered that Carlisle can be seen as a self-contained HMA.

1.29   The NPPG also suggests that *'the assessment area may identify smaller sub-markets with specific features, and it may be appropriate to investigate these specifically in order to create a detailed picture of local need'*. In Carlisle previous work has additionally identified three broad areas within Carlisle District (Rural East, Rural West and Carlisle Urban). These areas were analysed in past SHMA research by the Council and also in the 2011 Housing Needs and Demand Study. Whilst this study mainly concentrates on the District as a whole, key analysis has been carried out for these smaller sub-areas.

Rounding

1.30   Figures presented in the analytical text and tables of this report have been rounded and discrepancies may occur between the sums of the component items and totals. Percentages are calculated prior to rounding and therefore discrepancies may also exist between these percentages and those calculated from the rounded figures.

Structure of this report

1.31   This report is structured around the key requirements of the NPPG and is split into a number of sections which build up an understanding and analysis of the housing market and housing need in Carlisle District. The sections that follow are:

- Housing Market Dynamics and Market Signals
- Assessing Overall Housing Need
- Affordable Housing Need
- Requirements for Different Sizes/Types of Homes

Summary

1.32   This document provides a series of population and household projections developed for Carlisle City Council to assist in establishing an objective housing requirement. The opportunity has also been taken to update analysis about the need for affordable housing and the mix of housing (by size) in both the market and affordable sectors.

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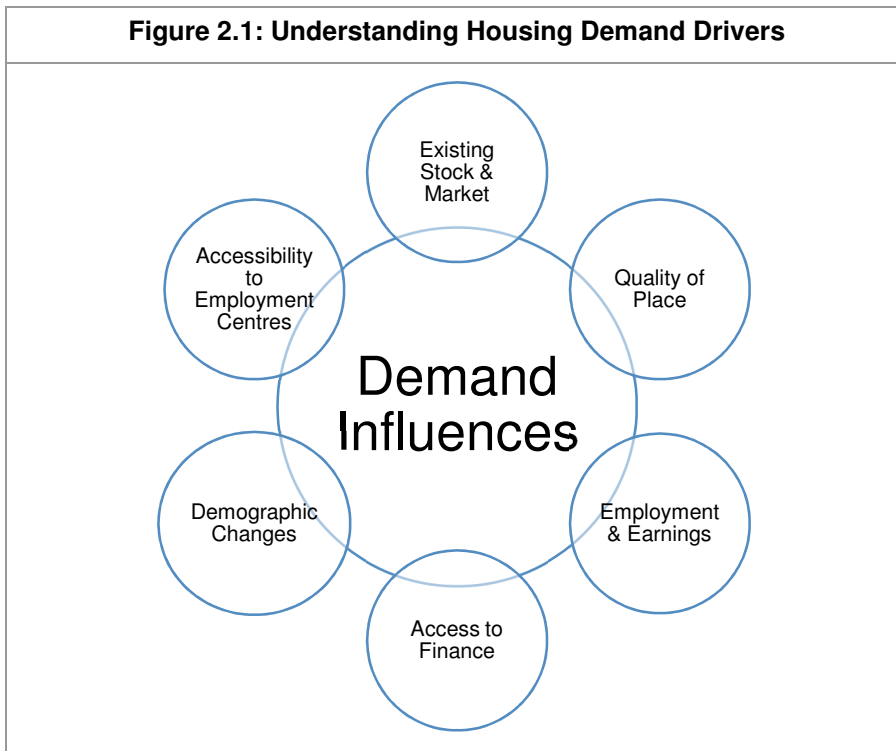# 2. Housing Market Dynamics and Market Signals

Introduction

2.1 The Planning Practice Guidance sets out that housing numbers suggested by household projections should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between demand for and supply of dwellings. It indicates that prices or rents rising faster than the national/local average may indicate particular market undersupply relative to demand. It identifies a number of relevant market signals.

- Land Prices – where price premiums indicate a shortage of land in a locality;
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- Overcrowding – whereby long-term increases in overcrowded, concealed and sharing households, homelessness and numbers in temporary accommodation should be considered.

2.2 The focus is on considering indicators relating to price and quantity. Guidance sets out these issues should be assessed by comparing long-term trends in the housing market area, similar demographic/economic areas, and nationally. The purpose of this is to consider whether a proportionate upward adjustment should be made to housing numbers to improve affordability.

Overview of the Housing Market and Economy

2.3 It is important to understand that the housing market is influenced by macro-economic factors, as well as the housing market conditions at a regional and local level. There are a number of key influences on housing demand, which are set out in the diagram at Figure 2.1:

Figure 2.1: Understanding Housing Demand Drivers

Existing Stock & Market

Quality of Place

Accessibility to Employment Centres

Demand Influences

Employment & Earnings

Demographic Changes

Access to Finance

2.4   At the macro-level, the market is particularly influenced by interest rates and mortgage availability, as well as market sentiment (which is influenced by economic performance and prospects at the macro-level). In the recent recessionary period, these macro conditions have been particularly prominent in driving the housing market.

2.5   The market is also influenced by the economy at both regional and local levels, recognising that economic employment trends will influence migration patterns (as people move to and from areas to access jobs) and that the nature of employment growth and labour demand will influence changes in earnings and wealth (which influences affordability).

2.6   Housing demand over the longer-term is particularly influenced by population and economic trends: changes in the size and structure of the population directly influence housing need and demand, and the nature of demand for different housing products.

2.7   There are then a number of factors which play out at a more local level, within a functional housing market and influence demand in different locations. The importance of these local factors is perhaps more pronounced in stable or healthy economic times, when mortgage availability and market liquidity are far less of a constraint on activity. These include:

- quality of place and neighbourhood character;
- school performance and the catchments of good schools;
- the accessibility of areas including to employment centres (with transport links being an important component of this); and
- the existing housing market and local market conditions.

2.8   These factors influence the demand profile and pricing within the market. At a local level, this often means that the housing market (in terms of the profile of buyers) tends to be influenced and consequently reinforced to some degree by the existing stock profile. However, regenerative investment or delivery of new transport infrastructure can influence the profile of housing demand in a location, by affecting its attractiveness to different households.

2.9   Local housing markets or sub-markets are also influenced by dynamics in surrounding areas, in regard to the relative balance between supply and demand in different markets; and the relative pricing of housing within them. Understanding relative pricing and price trends is thus important.

Understanding the Macro-Level Dynamics

2.10   Macro conditions have been a particular driver of housing markets nationally over recent years. Since the initiation of the credit crunch in 2007/8, the economy has gone through a long and deep economic recession, but has started to recover. The momentum of economic recovery is now improving with the UK economy out-performing many of its international peers.

Figure 2.2: UK Economic Growth, 1997-2013
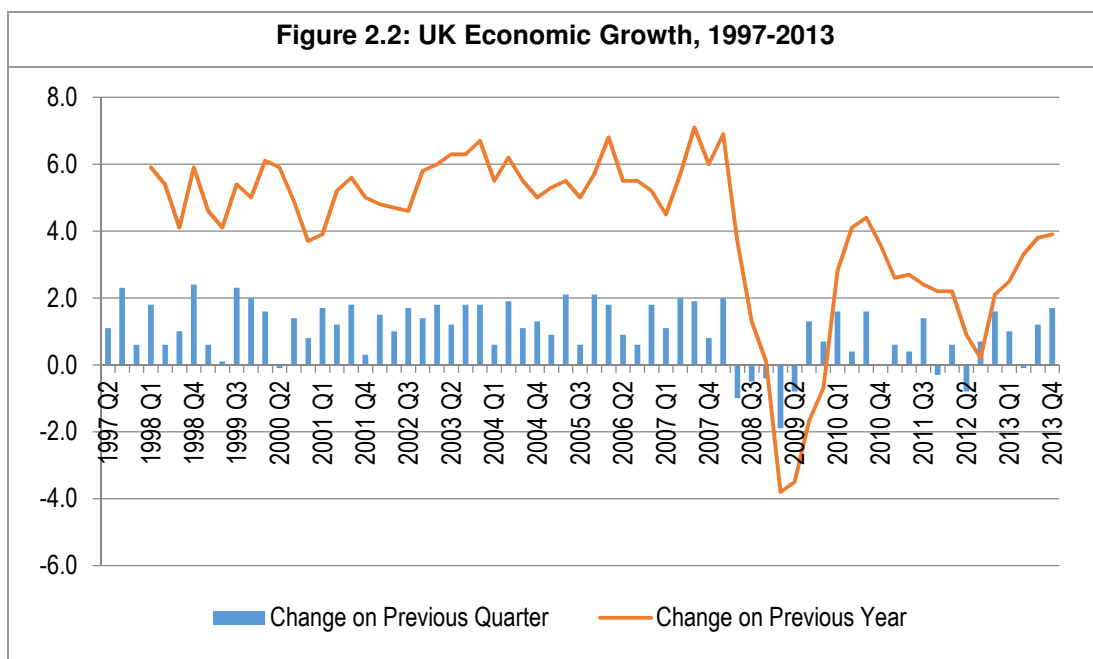
Source: ONS

2.11   One of the key triggers to the recent economic difficulties on an international level was the 'credit crunch.' The downturn in the world economy was led to a large extent by the sub-prime lending crisis in the United States: this crisis has generated a fundamental shift in not only interbank lending but more significantly, attitudes towards customer lending (including home purchasers, landlords and developers). Banks sought to increase the inter-bank lending rate (LIBOR) and sought to adjust their exposure to risk by adopting much more cautious lending practices. This sharply reduced liquidity in the financial markets and credit available and in tightening lending criteria for current and prospective homeowners. This tightening of lending criteria increased 'barriers' to entry for marginal mortgage applicants by reducing loan to value ratios (LTVs), increasing costs associated with obtaining mortgages and reducing the income multiples accepted.

2.12 The tight lending criteria initiated by the credit crunch have continued to have an impact on mortgage lending over the last four years, with households' ability to obtain mortgage finance functioning as a notable constraint on effective demand for market homes. However as the economy has begun to pick up, confidence has returned to the housing market. Housing market recovery has also been buoyed by the Government-backed Help-to-Buy Scheme.

2.13 As Figure 2.3 demonstrates, there is virtually no evident recovery in lending since 2010; with trends flat during the past few years. There are however signs that mortgage lending is picking up in 2013/14, particularly owing to Government-backed schemes.

Figure 2.3: Trends in Gross Mortgage Lending

Source: Council for Mortgage Lenders

2.14 Lending in the first half of 2014 according to the CML was 28% up on the same period in 2013, highlighting the recovery in the market. The impact of the credit crunch on first-time buyers (FTB) has been particularly notable. Average loan-to-value ratios fell sharply post-2008 and currently stand at 84% (May 2014). Key issues affecting the ability of households and investors to secure mortgage finance are:

• Savings and Capital: the ability to raise a deposit;
• Earnings and Interest Rates: affecting the ability to afford repayments;
• Lending Criteria: key criteria which have to be met to secure finance.

2.15 The typical first-time buyer income multiple in May 2014 was 3.43 times their gross income. Low mortgage interest rates have kept borrowers' payment burden low. First-time buyers spent 19.5% of gross income on capital and interest payments. Over the past year or so first-time buyer numbers have been increasing but remain well below levels pre-2007.
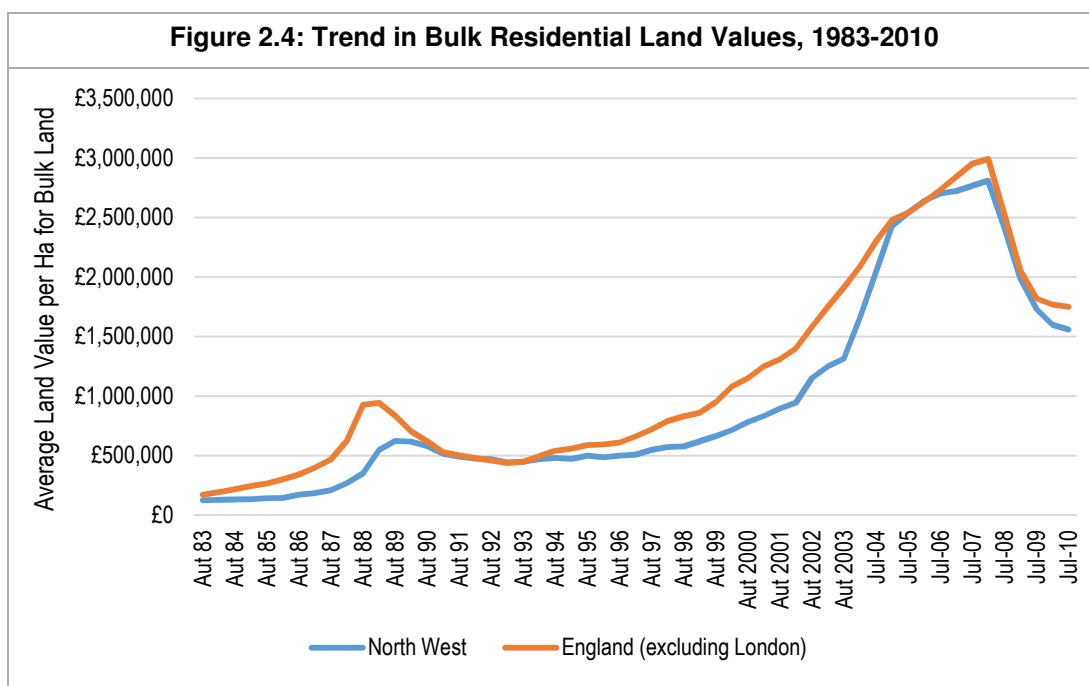
2.16   Market sales are also influenced by investment activity - that is properties bought to be rented privately. The buy-to-let sector continues to grow, with the Council for Mortgage Lenders indicating that the number of new buy-to-let loans in the first quarter of 2014 was slightly up on the fourth quarter of 2013 to 47,000, up 1% on the previous quarter and 46% on the first quarter of 2013.

Land Prices

2.17   Consistent published information on land prices is not available. We have thus drawn on a range of data sources. The figure below indicates that values for bulk land rose substantially across England from £360,000 in 1992 to a peak of £3.0 million per hectare in January 2008. The credit crunch however resulted in a notable fall in land values, with values declining by 38% nationally from January 2008 to July 2010; and by a more substantial 44% across the North West.

2.18   The average value for bulk land in the North West did not increase as substantially as was the case across England between 2004-2007; suggesting a greater volume of land supply relative to demand. There has however still been a notable price correction, with land values in 2010 falling back to levels similar to those in 2003/4. Land values within the region in 2010 were 11% below the national average in July 2010 –Figure 2.5 below shows the same data expressed as annual averages.

2.19   Overall the analysis does not point towards a particular shortage of development land within the region in 2010; although it does suggest that land supply over the 1999-2005 period in the region fell short of demand.

Figure 2.4: Trend in Bulk Residential Land Values, 1983-2010

Source: VOA/HCA 2010

Figure 2.5: Growth Rates in Residential Land Values, 1990-2010
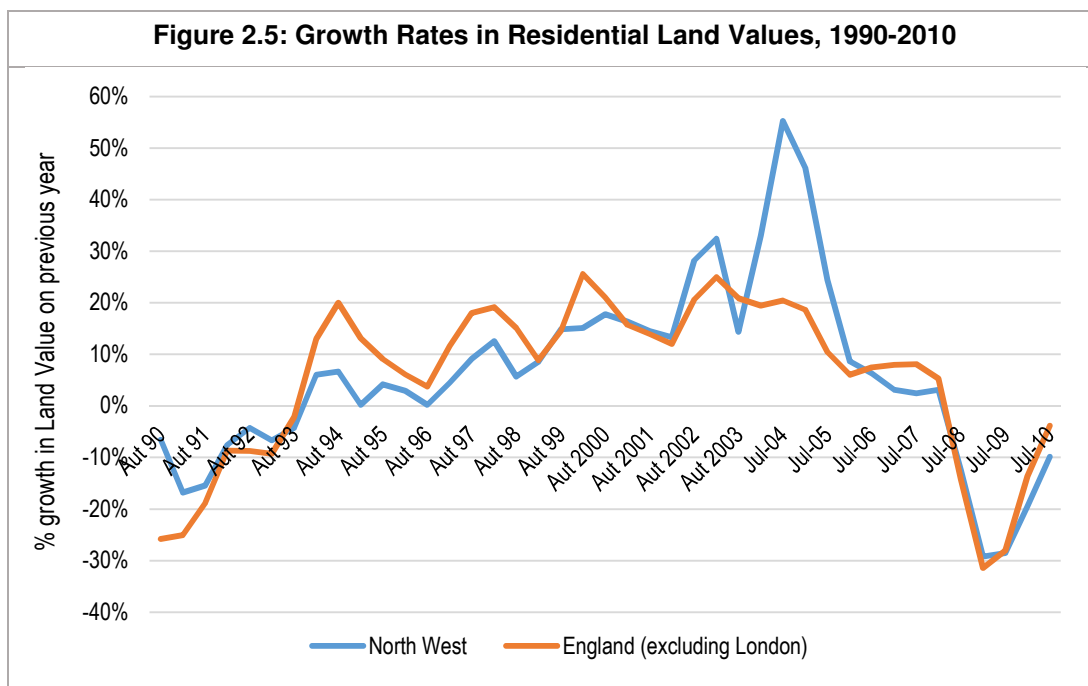
Source: VOA/HCA 2010

2.20   We can also use the VOA 2010 data to benchmark residential land values at a more local level. Across the three different types of sites shown, land values in Carlisle were below the North West average and also below national averages (by 18%-23%).

| Figure 2.6: Residential Land Values, 2010				
		Small sites	Bulk Land	Sites for flats or maisonettes
		£/Ha	£/Ha	£/Ha
Sefton	Bootle suburbs	565,000	560,000	NA
Liverpool	Suburbs	1,200,000	1,150,000	1,150,000
Knowsley	Prescot Huyton	950,000	950,000	950,000
Warrington	South Warrington	2,100,000	1,900,000	1,900,000
Blackburn	Blackburn	1,300,000	1,100,000	1,100,000
Bolton	Bolton	1,420,000	1,285,000	1,285,000
Carlisle	**Carlisle**	**1,450,000**	**1,450,000**	**NA**
Chester	Chester	2,100,000	1,900,000	NA
Lancaster	Lancaster	1,700,000	1,550,000	NA
Manchester	S.suburbs/City fringe	2,450,000	2,210,000	2,210,000
Preston	Preston	1,500,000	1,400,000	1,400,000
Rochdale	Rochdale	1,235,000	1,150,000	1,150,000
South Lakeland	Ambleside	1,650,000	1,650,000	NA
Stockport	Bramhall	2,450,000	2,270,000	2,270,000
Trafford	Altrincham	1,765,000	1,620,000	1,620,000
Wigan	Wigan	1,350,000	1,260,000	1,260,000
North West		1,720,000	1,600,000	1,590,000
England (excluding London)		1,880,000	1,770,000	1,970,000

Source: VOA/HCA 2010

2.21   Overall at the current time there is no evidence from land values of a supply-demand imbalance and thus a need to increase housing land supply.

House Prices and Rents

2.22   Next we consider longer-term changes in house prices and what these tell us about supply-demand balance for housing.

2.23   Over the decade to 2007 median house prices grew strongly, increasing by about 180% across Cumbria. This was slightly more than the growth achieved across the North West Region but below the average for England & Wales. The pattern of house price change in Cumbria was broadly in line with other areas. Prices grew over the decade by £90,000 in the County relative to growth of £85,000 across the region and about £115,000 nationally.

2.24   House price dynamics since 2007 have been quite different and Cumbria looks to have performed below average – the County seeing a decline in prices in-line with regional and national trends but no subsequent recovery (which has been observed nationally). Since the 1st quarter of 2010 average prices in Cumbria have decreased by 7%; this contrasts with a 6% decline regionally and a 5% increase for England & Wales. No adjustment has been made to the figures to take account of inflation – were we to factor in inflation then the data would show an even greater fall in house prices in real terms over the past few years.

Figure 2.7: Median House Prices, 1995-2013
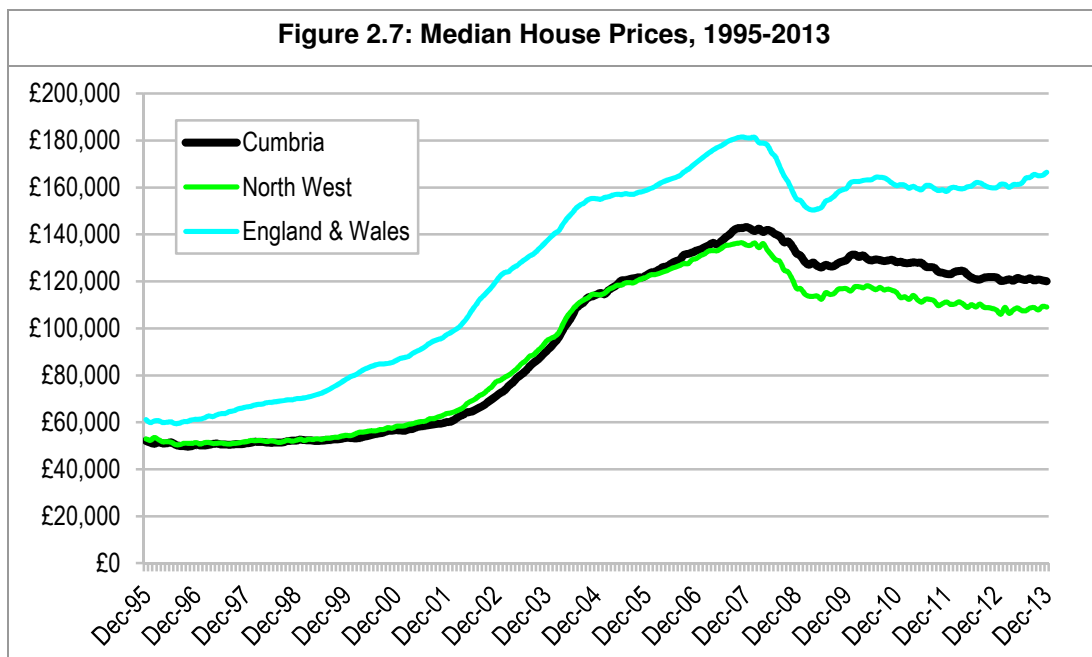
Source: HM Land Registry

2.25   Next we turn to consider sales. We regard sales trends as indicative of effective demand for market housing. The figure below provides an index of annual sales where 100 is the average sales over the decade to 2007/8. The analysis indicates a market 'dip' in 2005 (linked to a rise in interest rates). However it shows a substantial drop in sales in 2008 to a level 50%-60% below the long-term trend. There was some recovery in 2013/14 but sales were still 30%-40% down on the long-term trend.

2.26   Access to mortgage finance is the key constraint to market performance here, impacting on levels of both first-time buyers and investment purchases towards the bottom of the market in particular. This has a cascading impact on overall market vitality and confidence (and impacts on chains of sales).

Figure 2.8: Annual Sales Index, 1995-2014
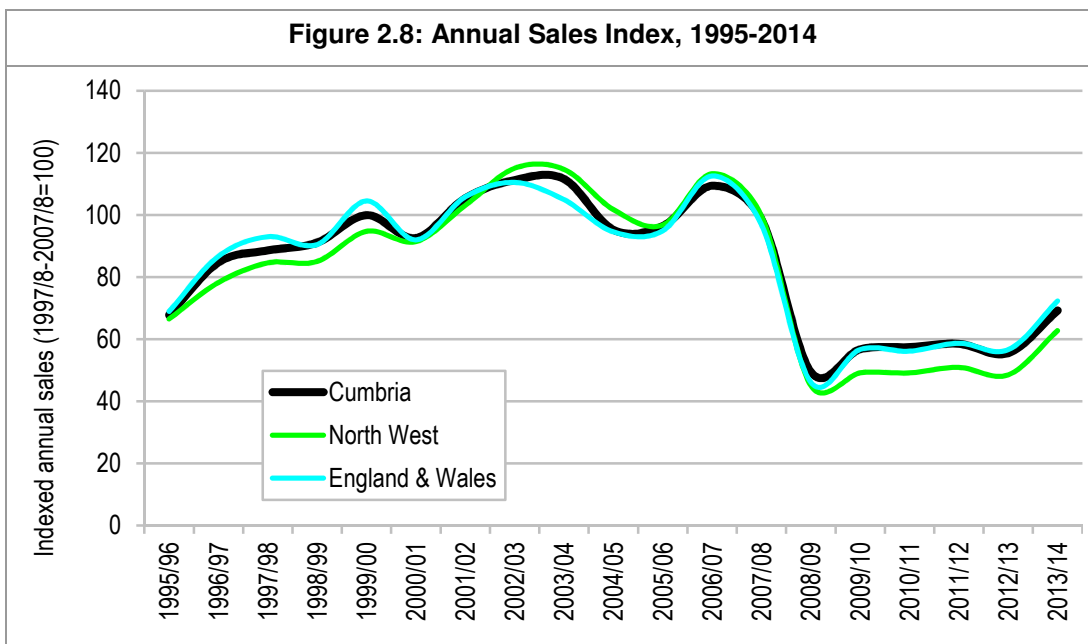
Source: Land Registry

2.27   Turning to look at house prices more locally, Figure 2.9 indicates house prices for different types of homes in Carlisle and other authorities in the County. Prices in Carlisle sit somewhere in the middle of the range of local authorities – prices being generally higher than in Barrow-in-Furness and Copeland but significantly lower than in Eden and South Lakeland.

Figure 2.9: Median House Prices by Type (2013)
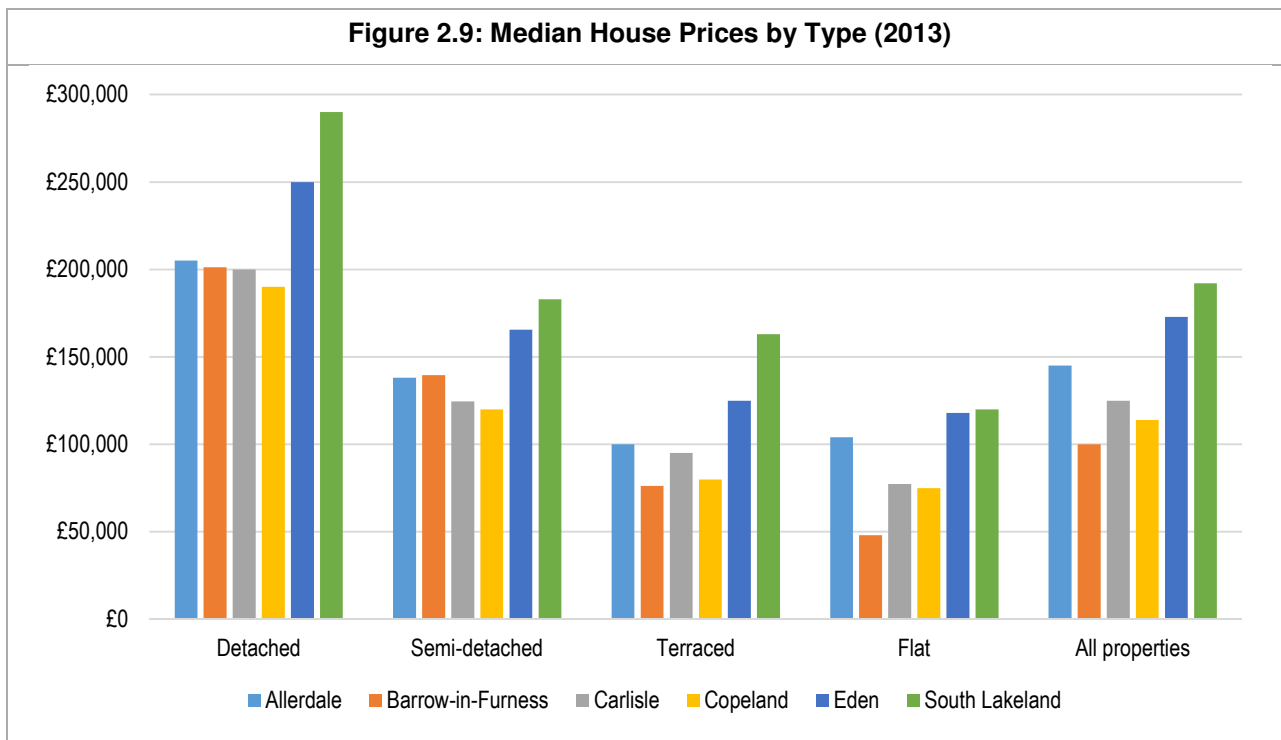
Source: HM Land Registry

2.28 Figure 2.10 compares house prices to those in Cumbria, and to the England & Wales average. All property sizes show lower average values than in other areas with the most notable difference being in the case of flats when compared with the England & Wales average.

Figure 2.10: Median House Prices by Type – 2013			
	Carlisle	Cumbria	England and Wales
Detached	£200,000	£230,000	£259,995
Semi-Detached	£124,500	£140,000	£166,500
Terraced	£95,000	£100,750	£151,500
Flat/Maisonette	£77,250	£100,000	£174,950
All	£124,900	£141,000	£185,000

Source: HM Land Registry Price Paid Data

2.29 Overall the house price analysis at a local level does not point to a particular supply-demand imbalance for homes within Carlisle relative to other parts of the County or the wider region.

2.30 Figure 2.11 shows rental trends. The ONS Monthly Private Rental Index indicates that across the region, rental values have grown fairly modestly when compared with the national average. Since 2011 they have increased by just over 1% compared with 3% across England. This is a low level of growth (particularly when inflation over this period is considered); and does not point to a substantial supply-demand imbalance in the rental sector.

Figure 2.11: Index of Rental Trends
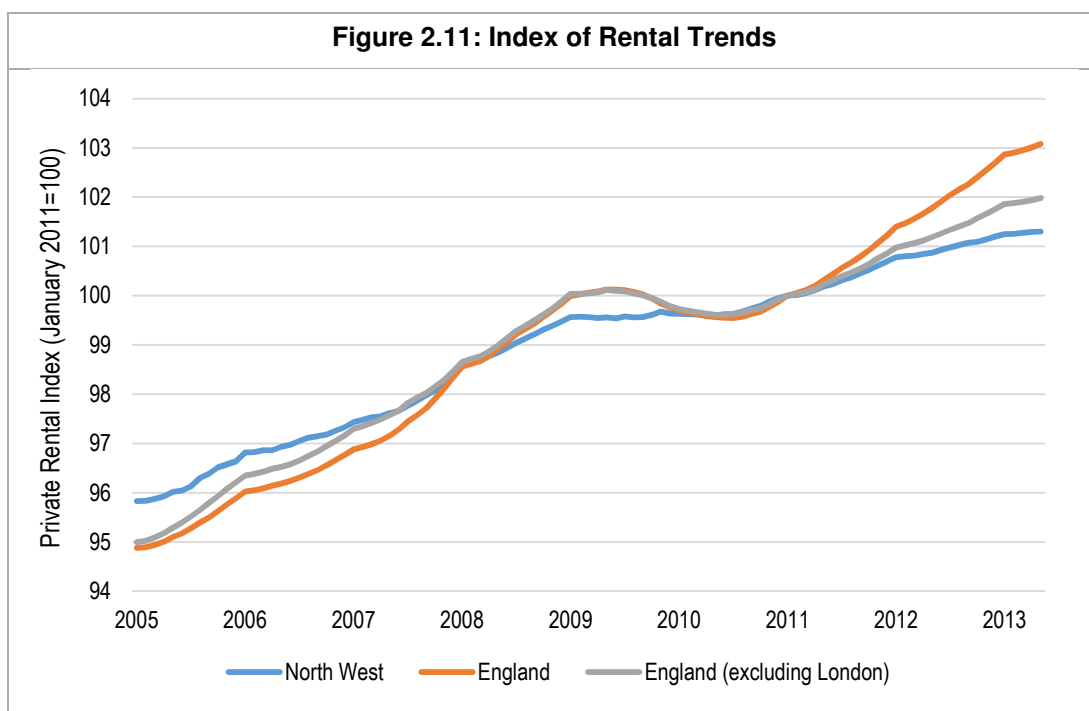
Source: ONS Monthly Private Rental Index

2.31 Turning to consider rental values at a more local level, Figure 2.12 draws on published data from the Valuation Office Agency (VOA). This shows that Carlisle has a more strongly developed rental market than other parts of Cumbria. However the average rental cost at £458 pcm in the twelve months to March 2014 was notably below that in any of the other areas studied.

Figure 2.12: Rental Values (Per Calendar Month) – All Properties – year to March 2014

£PCM	No. Rentals	Average	Lower quartile	Median	Upper quartile
Cumbria	7,760	£504	£400	£475	£575
Allerdale	1,308	£488	£395	£450	£550
Barrow-in-Furness	835	£475	£375	£433	£525
Carlisle	2,594	£458	£385	£450	£500
Copeland	822	£498	£400	£450	£550
Eden	837	£548	£450	£525	£600
South Lakeland	1,364	£602	£495	£578	£683
North West	63,896	£532	£410	£495	£600
England	477,656	£720	£465	£595	£795

Source: VOA

2.32   Rental values are influenced by property size. Figure 2.13 provides a comparison of rental levels for 2-bed properties across Cumbria. Median values are consistent with the Cumbria average but notably below regional and national figures.

Figure 2.13: Rental Values (Per Calendar Month) – two bedroom properties – year to March 2014

£PCM	No. Rentals	Average	Lower quartile	Median	Upper quartile
Cumbria	3,602	£469	£400	£450	£525
Allerdale	614	£449	£395	£430	£495
Barrow-in-Furness	460	£429	£375	£415	£450
Carlisle	1,242	£442	£400	£430	£475
Copeland	364	£454	£400	£428	£500
Eden	329	£497	£450	£495	£540
South Lakeland	593	£574	£525	£575	£625
North West	28,761	£510	£425	£495	£550
England	189,991	£677	£475	£575	£735

Source: VOA

2.33   Figure 2.14 further demonstrates that rental values for properties in Carlisle are generally slightly below average across all property sizes relative to other parts of the County.

Figure 2.14: Median Rents by Size – year to March 2014
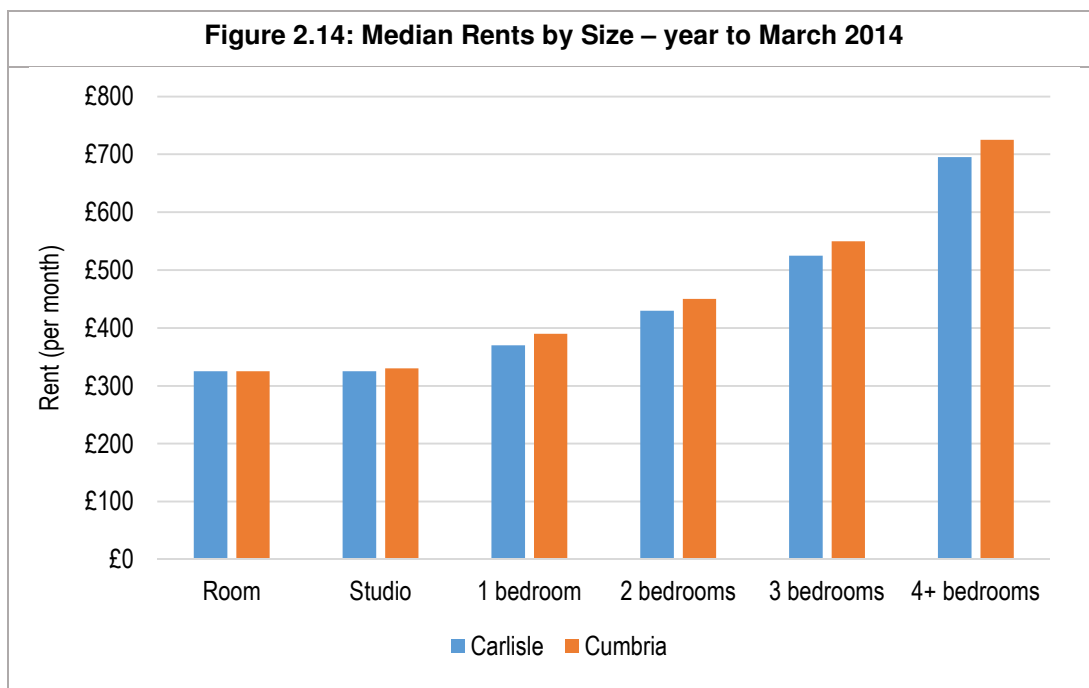
Source: VOA

2.34   Overall the rental evidence does not point towards a particular imbalance between supply and demand for property taking account of both rental trends and comparative benchmarking of rental costs.

Affordability of Market Housing

2.35   Lower quartile price to income ratios are identified by Government as a measure of the affordability of housing. They consider the affordability of entry-level market housing to younger prospective buyers. The figure below compares performance on this measure within Carlisle with the County and England more widely. Affordability trends using this measure have tracked the England average, with the ratio in Carlisle currently being slightly below average for Cumbria.

Figure 2.15: Lower Quartile Price to Income Ratio
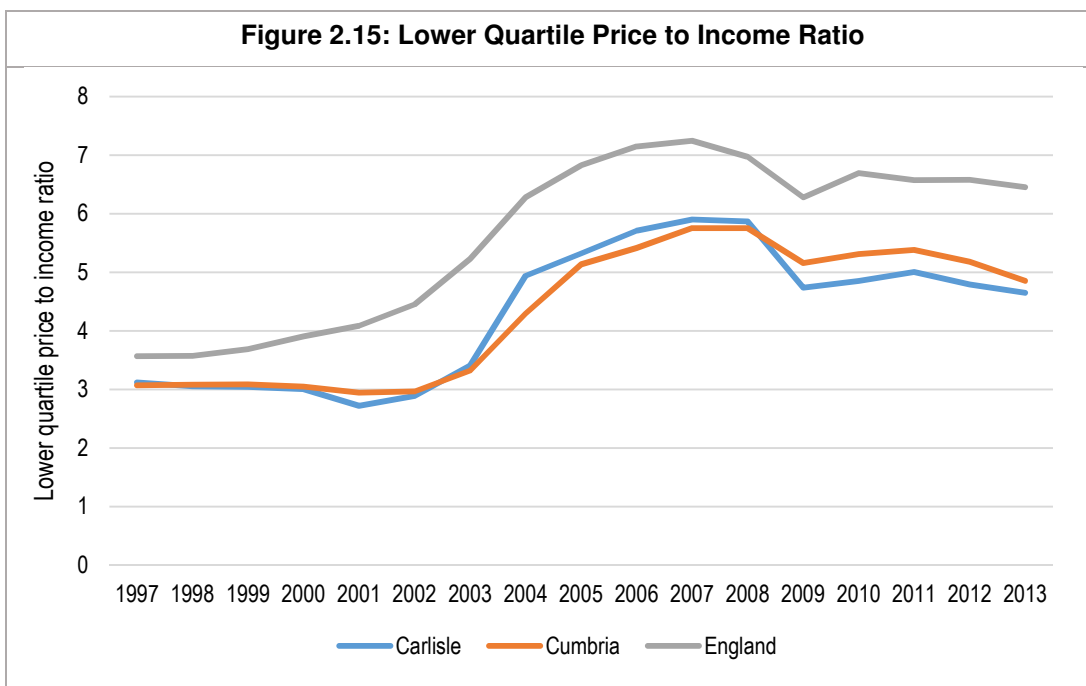
Source: CLG Table 576

2.36   What the analysis does indicate is that over the 2003-8 period the affordability of market housing using this measure reduced substantially. However affordability improved from 2008 (as LQ house prices fell relative to earnings). Figure 2.16 benchmarks the ratio levels in 2013 and trends over the previous 15 years.

Figure 2.16: Ratio of Lower Quartile Prices to Lower Quartile Earnings				
	1998-03	2003-8	2008-13	Ratio, 2013
Carlisle	12%	72%	-21%	4.65
Cumbria	8%	73%	-16%	4.85
England	46%	33%	-7%	6.45

Source: CLG Table 576

2.37   This measure (coupled with the wider evidence) does not point to a supply-demand imbalance in the market at the current time. It suggests that the affordability of market housing has improved since 2008. The LQ ratio is a relatively simplistic measure, given that households ability to afford market housing is also affected by the costs of (and access to) mortgage finance. Figure 2.17 draws on Halifax House Price Index data to benchmark mortgage payments as a proportion of incomes. This shows that the affordability of maintaining a mortgage today is similar to that in the late 1990s in the North West (and that the region is more affordable than average relative to other parts of the UK).

Figure 2.17: Trends in Mortgage Payments as a Proportion of Income
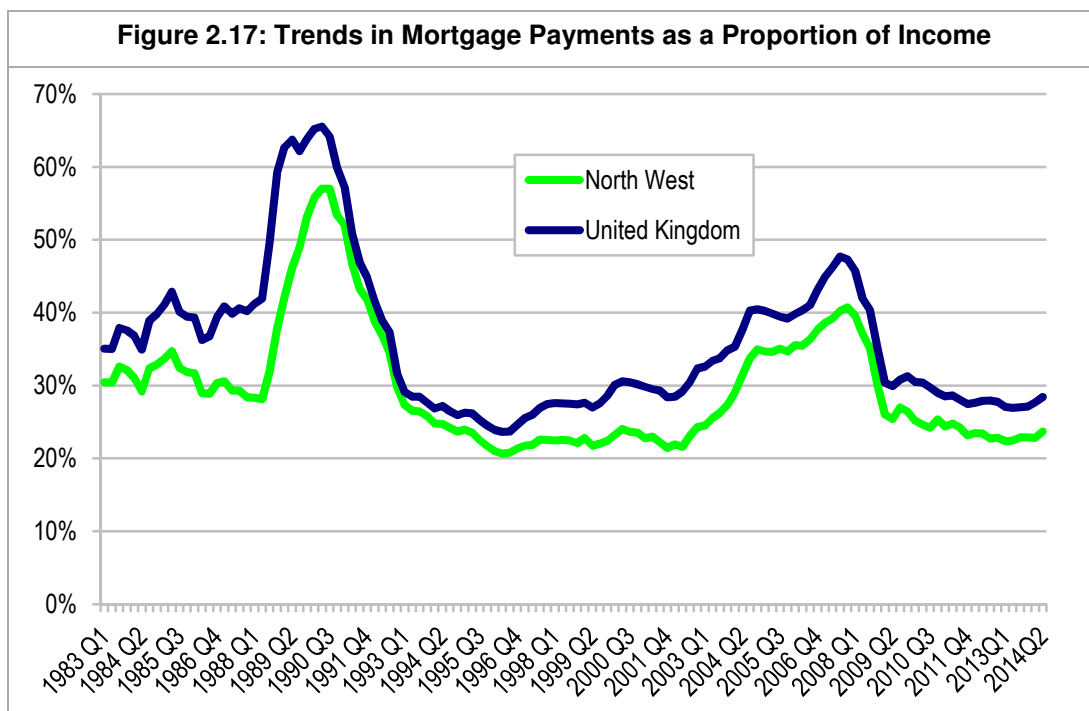
Source: Halifax House Price Index

Rates of Development

2.38   We can benchmark rates of completions over time using the Council's monitoring data. Until its revocation in 2013 housing delivery was assessed against targets in the North West Regional Spatial Strategy. This set a requirement for provision of 450 dwellings per annum in Carlisle. Figure 2.18 shows the number of completions back to 1999/2000 split by those in urban and rural areas.

Figure 2.18: Completions (1999/2000 to 2012/13)
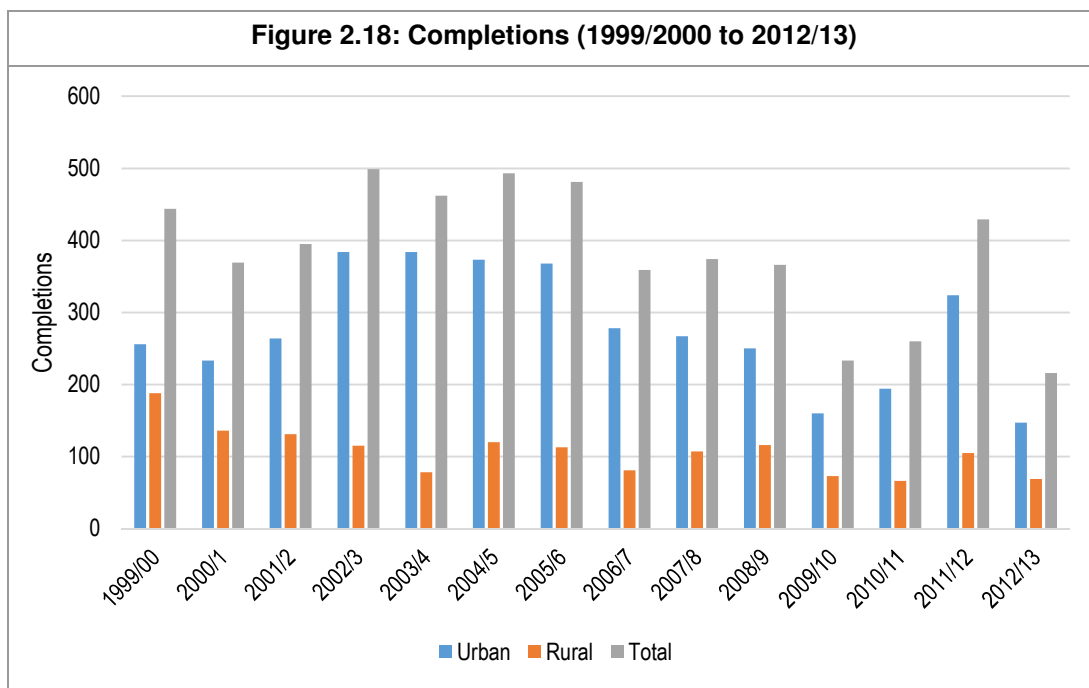
Source: Carlisle Annual Monitoring Report

2.39 This information is provided in Figure 2.19; also showing cumulative completions since 2003 and how this compares with the RSS target. The data shows that completions were at their lowest level in the past year and that as of 2013 an average of 367 dwellings per annum had been delivered (since 2003) making for a shortfall against the RSS target of some 827 homes.

Figure 2.19: Completions compared with RSS target				
Year	Completions	Cumulative completions (from 2003)	Cumulative target (from 2003)	Cumulative shortfall (from 2003)
1999/00	444	-	-	-
2000/1	369	-	-	-
2001/2	395	-	-	-
2002/3	499	-	-	-
2003/4	462	462	450	-12
2004/5	493	955	900	-55
2005/6	481	1,436	1,350	-86
2006/7	359	1,795	1,800	5
2007/8	374	2,169	2,250	81
2008/9	366	2,535	2,700	165
2009/10	233	2,768	3,150	382
2010/11	260	3,028	3,600	572
2011/12	429	3,457	4,050	593
2012/13	216	3,673	4,500	827

Source: Carlisle Annual Monitoring Report

2.40 This analysis clearly highlights a shortfall in provision against previous targets. The NPPG states that *'if the historic rate of development shows that actual supply falls below planned supply, future supply should be increased to reflect the likelihood of under-delivery of a* plan'. The NPPG also urges that the *assessment will need to reflect the consequences of past under-delivery of* housing'. It is considered that under-delivery is likely to have had two impacts which need to be studied moving forward. Firstly, a lower level of housing delivery may have restricted migratory movements to the area (given a relative lack of homes for people to move to) and secondly, household formation may have been constrained. These two points are picked up in the following section which uses a demographic projection based analysis to establish the level of housing need moving forward.

2.41 The finding of a past under-delivery of housing may suggest that there is a 'backlog' of need which requires adding on to an assessment of need moving forward. However, it is considered that this past under-delivery is not a discrete part of the analysis but is one of the various market signals which indicate a need to increase provision from that determined in a baseline demographic projection. As noted in the paragraph above it is recognised that this market signal will require upward adjustment through consideration of migration and household formation rates rather than just a blanket increase based on the level of 'shortfall'.

2.42   Such an approach can be supported by a recent High Court ruling; Zurich Assurance Ltd vs Winchester City Council and South Downs National Park Authority of 18th March 2014. In this the claimant (Zurich) considered that the Inspector at the Local Plan EiP had made a 'methodological error' in his assessment of the proposed housing requirement. In this regard, the Honourable Mr Justice Sales stated that:

"According to Mr Cahill's suggestion, the modellers in 2011 should have begun by saying that there was a shortfall of 854 homes against a previous estimate and then should have added that on to their own modelled estimates for new homes for 2011-2031 to produce the relevant total figure. In fact, none of them proceeded in that way, and rightly so. In my view, they would clearly have been wrong if they had tried to do so. Their own modelling for 2011-2031 is self-contained, with its own evidence base, and would have been badly distorted by trying to add in a figure derived from a different estimate using a different evidence base. That would have involved mixing apples and oranges in an unjustifiable way." [§95, Case Number: CO/5057/2013]

Overcrowding

2.43   The final market signal highlighted in guidance is overcrowding where it is noted that an *'increase in the number of such households may be a signal to consider increasing planned housing* numbers'. The analysis below firstly looks at levels of overcrowding in Carlisle compared with other areas (based on the bedroom standard) before moving on to consider how overcrowding has change over time (in this case using the room standard as historical bedroom standard data is not available from the Census source used).

2.44   Figure 2.20 shows that in 2011 some 2.2% of households in Carlisle were overcrowded. This is slightly above the average for Cumbria but notably below both the regional and national average. Indeed, the figure for Carlisle is less than half the figure seen for the whole of England.

Figure 2.20: Overcrowding (2011) – bedroom standard		
	Overcrowded (no.)	Overcrowded (%)
Carlisle	1,047	2.2%
Cumbria	4,053	1.8%
North West	107,256	3.6%
England	1,024,473	4.6%

Source: Census (2011)

2.45   Figure 2.21 shows overcrowding (as measured through the room standard) in 2001 and 2011. The data confirms that levels of overcrowding in Carlisle are generally low and have not increased significantly over the past decade.

Figure 2.21: Changes in overcrowding (2001-2011) – room standard			
	2001	2011	Change
Carlisle	4.1%	4.4%	0.3%
Cumbria	3.8%	3.7%	0.0%
North West	5.4%	6.2%	0.8%
England	7.1%	8.7%	1.6%

2.46 Overall, the analysis of overcrowding and how this has changed does not suggest any significant imbalance in the housing market that requires adjustment to housing numbers.

Conclusions on Market Signals

2.47 There is evidence that growth in demand for housing in Carlisle District exceeded supply between about 2001 and 2005. This contributed to a reduction in affordability.

2.48 The structural change in house prices/affordability which we have seen over the last decade (at both national and regional levels) is likely to have had some impact on household formation.

2.49 Since 2007 demand for market housing has fallen. We have seen a market correction (in 2008-9). Since this point the evidence suggests a broad supply-demand balance.

2.50 It would be appropriate based on the market signals to consider future assumptions about migration and household formation rates, and make some allowance for higher household formation relative to the 2001-11 decade. This has been done as part of the demographic analysis (below) where it is assumed that household formation rates in the future will start to return to the levels seen in the 2008-based CLG household projections.

3. Assessing Overall Housing Need

Introduction

3.1 The analysis carried out follows the requirements of the National Planning Policy Framework and the more recent (March 2014) CLG advice about assessing housing and economic development needs. The National Planning Practice Guidance (NPPG) effectively describes a process whereby the latest population and household projections are a starting point; and a number of "tests" then need to be considered to examine whether it is appropriate to consider an upward adjustment to housing provision. These are:

- Is there evidence that household formation rates in the projections have been constrained? Do market signals point to a need to increase housing supply?
- How do the demographic projections 'sit' with the affordable housing needs evidence, and should housing supply be increased to meet affordable needs?
- What do economic forecasts say about job growth? Is there evidence that an increase in housing numbers would be needed to support this?

3.2 The core projections in this section look at housing needs in the period from 2013 to 2030. This recognises the Council's emerging plan dates of 2015-30 but has started in 2013 due to this being the latest date for which a good baseline of demographic data is available (from the ONS 2013 midyear population estimates).

What is the Starting Point to Establish the Need for Housing?

3.3 The NPPG states that *'household projections published by the Department for Communities and Local Government should provide the starting point estimate of overall housing need. The household projections are produced by applying projected household representative rates to the population projections published by the Office for National Statistics. Projected household representative rates are based on trends observed in Census and Labour Force Survey data'.*

3.4 At the time of writing these were the 2011-based 'interim' subnational population projections (SNPP) and the 2011-based 'interim' household projections from CLG (which are directly based on the SNPP). These projections are important as they provide a consistent approach where key inputs (such as levels of internal migration) sum at a national level. The SNPP is also a good source of data as it uses a 'multi-regional' model that studies migratory movements by age and sex between all local authorities in the Country. The SNPP is however limited by the accuracy of data underpinning it such as migration which is notoriously difficult to accurately measure – particularly at smaller area level.

3.5 Figure 3.1 shows household growth from the 2011-based CLG projections. The projections cover the 10-year period to 2021 which is the full period covered by CLG. For the whole period studied this projection suggests a 2,336 increase in households (234 per annum). The percentage increase in households is 4.8% which is significantly below the figure for England (10%) and also below the North West region (5.8%). It is however slightly above the figure for Cumbria 4.3%.

Figure 3.1: Projected household growth 2011-21 – CLG 2011-based household projections	
	Carlisle
Households 2011	48,298
Households 2021	50,634
Change in households	2,336
Per annum	234
% change from 2011	4.8%

Source: CLG 2011-based household projections

3.6 We can also look back to older series of demographic projections such as the 2008-based CLG household projections. This projection has the advantage of being extended beyond 2021 (which is the end date of the 2011-based version). The outputs from the 2008-based CLG projections are shown below (covering the period from 2013 to 2030 – the full range of these projections was 2008-33). This shows a projected household growth of 479 per annum – significantly higher than the 2011-based projections.

Figure 3.2: Projected household growth 2013-30 – CLG 2008-based household projections	
	Carlisle
Households 2013	49,390
Households 2030	57,534
Change in households	8,144
Per annum	479
% change from 2013	16.5%

Source: CLG 2008-based Household Projections

2012-based subnational population projections

3.7 On the 29th May 2014 ONS published a new set of subnational population projections (SNPP). They replace the 2010- and 2011-based projections and will in due course be used to inform the next round of CLG household projections (due in Autumn 2014). It is therefore worthwhile to consider the likely implications of this new data on the need for housing.

3.8 An initial analysis of the 2012-based SNPP reveals a much lower expected level of population growth than was seen in the 2008-based SNPP and also below that in previous ONS population projections. Over the period from 2013 to 2030 the new SNPP shows population growth of 1,086 people (64 per annum), this compares with 630 per annum in the 2008-based projections and 348 in the 2010-based projections. The 2011-based ONS projections suggest a figure of 243 per annum.

3.9 Figure 3.3 shows how the projected population growth in Carlisle compares with past trends (over the past 5- and 10-years). The analysis shows that the future projection sit some way below the 5-year trend and significantly lower than the trend if the longer (10-year) period is studied.

Figure 3.3: Past and projected population growth – Carlisle
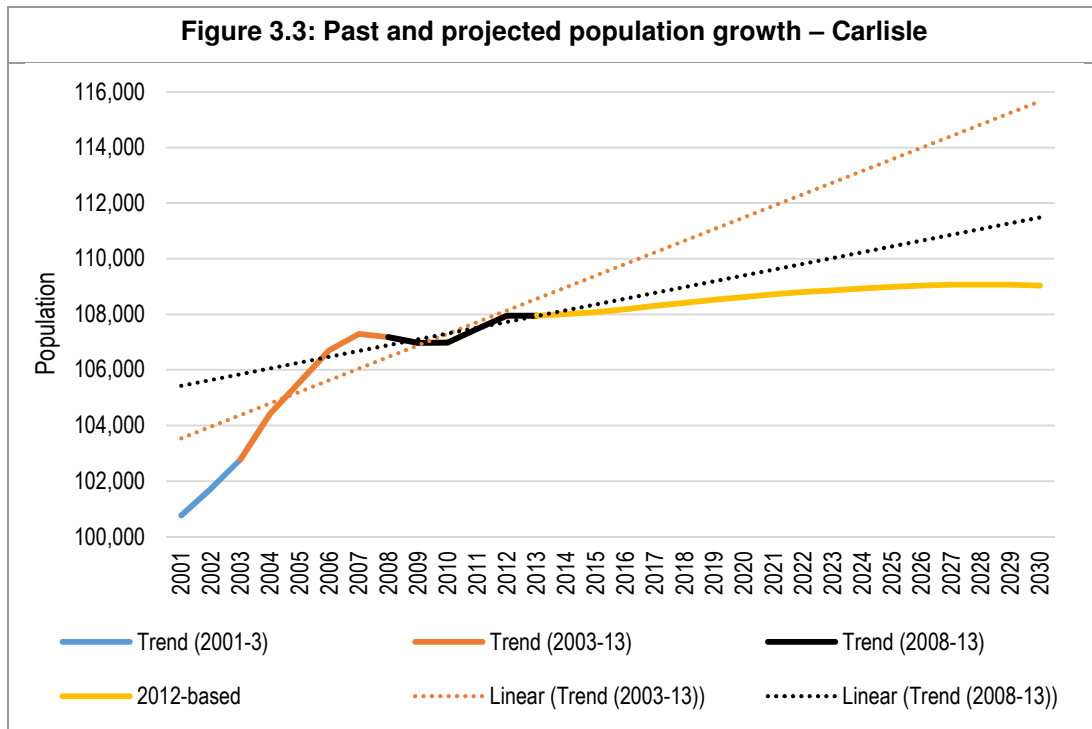
Source: ONS

3.10   The reasons for the significant difference between projections needs to be understood. It is important to consider whether the latest ONS projections are realistic or if they should be adjusted in some way. In particular we are mindful of the NPPG which says:

'The household projection-based estimate of housing need may require adjustment to reflect factors affecting local demography… The assessment will therefore need to reflect the consequences of past under-delivery of housing'.

3.11   The core question is whether migration and population growth has been affected by past housing provision; noting that where provision has been low there will have been a more limited opportunity for households to move to an area. We have studied this with reference to the relationship between net migration and completions. This is shown in Figure 3.4.

Figure 3.4: Relationship between completions and net migration – Carlisle
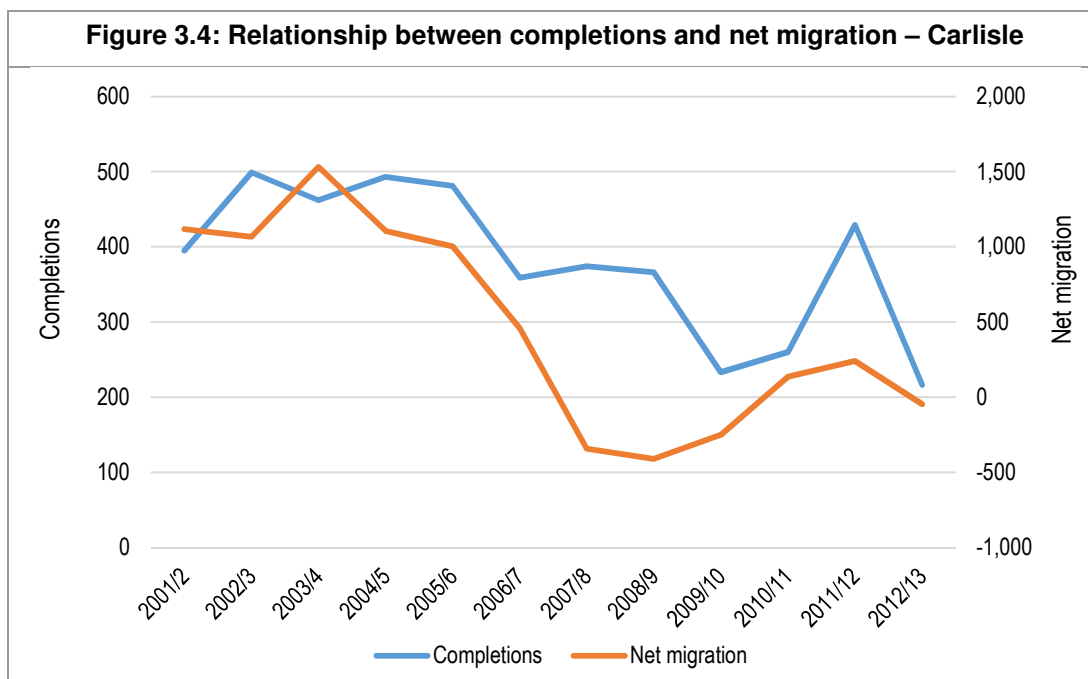
Source: CLG and ONS

3.12   Figure 3.4 suggests that there is some relationship between completions and net migration. This would suggest that underlying levels of net migration are to some extent influenced by the delivery of housing (i.e. if homes are not built then people are not able to migrate). Given the very low level of completions since 2007/8 it is therefore it is hard to have any great confidence in a demographic projection linked to recent trends as a measure of housing requirements.

3.13   An additional consequence of the relatively low recent levels of migration and how these have been translated into a projection by ONS is the impact on overall population growth and more specifically expected changes to the local labour supply. The link between housing and economic growth is considered in more detail later in this section although it is worth noting at this stage that the analysis linked to the 2012-based SNPP suggests that between 2013 and 2030 the number of people in employment would be expected to drop by about 830. Hence planning on the basis of the 2012-based SNPP could not be described as particularly positive within the context of the NPPF and its core principle to positively embrace growth.

3.14   An alternative demographic projection has therefore been developed to provide a start point for analysis. The table below shows migration data over the past ten years with averages also provided for different periods. Over the past ten years the data shows an average net in migration of 342 people per annum. This compares with a net out migration of 125 people per annum over the 2007-12 period (which would have fed into the SNPP).

3.15   Hence to provide a demographic projection we have considered what level of uplift should be modelled to migration to take account of longer-term trends in the housing market. Projecting forward under this alternative projection net migration is uplifted by 468 people per annum compared with figures contained within the 2012-based SNPP. The adjustment has been applied to levels of internal in-migration (i.e. moves from other parts of the Country) with international migration being held at the levels suggested in the SNPP.

Figure 3.5: Past levels of net migration (2003/4-2012/13)	
Period	Carlisle
2003/4	1,531
2004/5	1,105
2005/6	1,002
2006/7	457
2007/8	-342
2008/9	-411
2009/10	-251
2010/11	136
2011/12	241
2012/13	-47
Average (2003-13)	342
Average (2007-12)	-125
Uplift (per annum)	468

Source: ONS

3.16 The amended demographic projection now shows a population growth of about 10,600 people over the 2013-30 period (around 620 per annum). As Figure 3.6 shows these revised assumptions now show quite a positive level of population growth when compared with past trends – the figures actually run above the long-term trend from 2003-13 although the level of growth is not as rapid as was seen in the earlier part of the decade (e.g. from 2001).

Figure 3.6: Past and projected population growth (amended demographic projection)
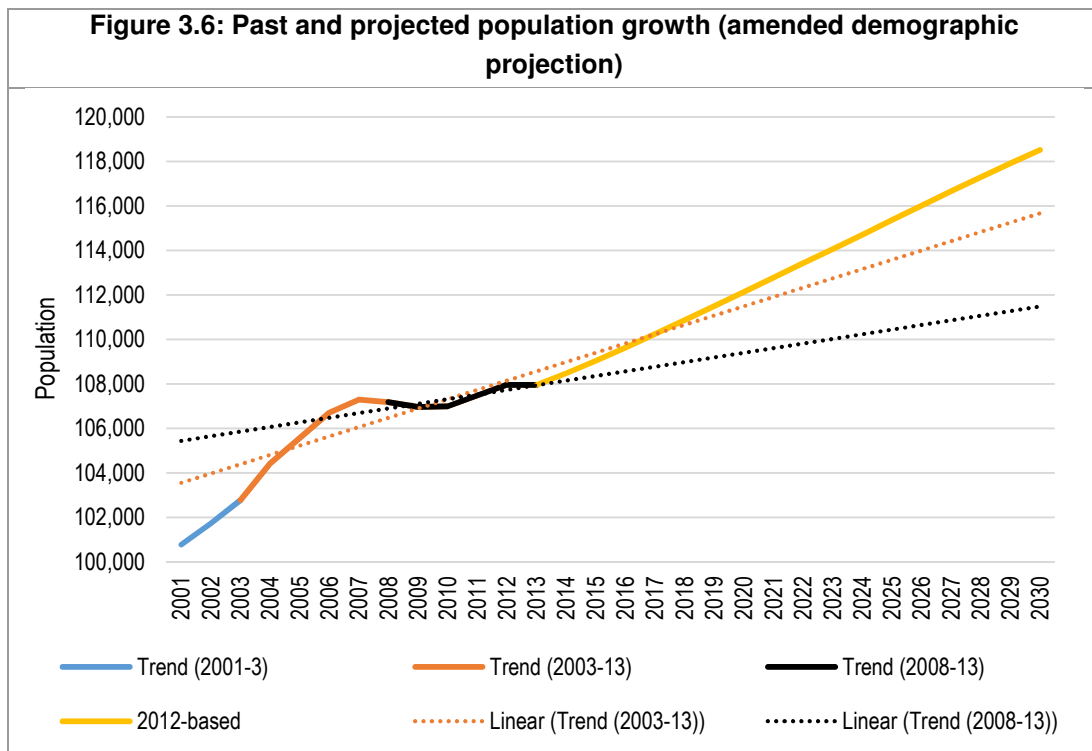
3.17   Figure 3.7 shows the housing requirement arrived at by updating demographic projections to take account of migration in the 2003-13 period. As with earlier analysis the conversion from population to households (and through to dwellings) has been based on using the 2011-based CLG projections household formation (headship) rates.

3.18   This projection suggests an annual housing requirement for 370 additional homes per annum over the 17-years 2013-30 (this includes a vacancy allowance informed by the 2011 Census of 4.3%). The vacancy figures reflect what is expected to be achievable in new housing stock and include an allowance for second homes.

3.19   The household growth figure of 354 per annum is notably higher than derived from the 2011-based projections (234 per annum) but still some way below figures in the earlier (2008-based) projections which showed a figure of 479 each year on average. The uplift provided by this projection from 2011-based figures (of 120 per annum) is in excess of the shortfall against past targets identified in the analysis of market signals – this was 827 homes which annualised would be about 49 per annum looking over the 17-year period of 2013-30.

Figure 3.7: Projected household growth 2013-30 – amended demographic projection	
	Carlisle
Households 2013	48,684
Households 2030	54,708
Change in households	6,023
Per annum	354
Dwellings (per annum)	370

Considering Constrained Household Formation

3.20   Whilst the revised migration assumptions point to the updated demographic projection as being broadly reasonable we also need to consider the extent to which household formation in Carlisle may have been constrained by housing market factors such as the difficulty in obtaining mortgage finance (and more importantly how any constraint is being projected forward). This is a key part of the NPPG which says:

'… formation rates may have been suppressed historically by under-supply and worsening affordability of housing [and] … local planning authorities should take a view based on available evidence of the extent to which household formation rates are or have been constrained by supply'.

3.21   There is some evidence in Carlisle of suppression with the average household size in 2011 being slightly above the level projected in earlier (2008-based) CLG household projections (which were developed from trends in a comparatively buoyant period in the housing market). Projecting forward the 2011-based projections show a far less rapid reduction in average household sizes than was expected in the 2008-based projections; the reduction is also below the trend seen since 2001.

3.22   Despite there being some evidence through analysis of average household sizes of suppression it is not entirely clear to what extent this is due to households being unable to form and how much might be due to other factors. A September 2013 study produced by the Cambridge Centre for Housing & Planning Research (CCHPR) on behalf of the Town & Country Planning Association (TCPA) does shed some light on this issue, stating:

"The central question for the household projection is whether what happened in 2001 – 11 was a structural break from a 40-year trend; or whether household formation was forced downwards by economic and housing market pressures that are likely to ease with time. At the time of the 2011 Census, the British economy was still in recession and the housing market was depressed. The working assumption in this study is that a considerable part but not all of the 375,000 shortfall of households relative to trend was due to the state of the economy and the housing market. 200,000 is attributed to over-projection of households due to the much larger proportion of recent immigrants in the population, whose household formation rates are lower than for the population as a whole. This effect will not be reversed. The other 175,000 is attributed to the economy and the state of the housing market and is assumed to gradually reverse."

3.23   On the basis of this analysis it can broadly be suggested that half of the lack of expected households is due to market factors with roughly half attributable to other issues (notably international migration). To look at how this is relevant to Carlisle analysis has been carried out to look at the growth in the BME population relative to the growth seen nationally to see what the likely relative impact of housing market factors is. The table below shows the key analysis for this.

3.24   The data shows that growth in the BME community (taken to be the non-White (British/Irish) population) in England was 115% of all population growth. In Carlisle this figure is somewhat lower (at 48% of population growth). If it is assumed that nationally 0.53 of movement away from long-term trends is due to international migration (taken here to be BME growth) then the analysis suggests that 22% of movement away from long-term trends is due to BME growth. Put another way, around 78% is expected to be due to housing market factors.

Figure 3.8: Growth in BME population (2001-11)		
	Carlisle	England
BME population (2001)	1,669	5,767,580
BME population (2011)	4,930	10,216,219
Change (2001-11)	3,261	4,448,639
Total population growth	6,785	3,873,625
BME growth as % of total growth	48%	115%
Variance from national position	0.42	1.00
Part return adjustment factor	0.22	0.53

Source: Census 2001 and 2011

3.25   The method therefore assumes that after 2013 household formation rates recover towards the 2008-based rates, reaching 78% of the 2008-based rates by the end of the projection period (in 2030). This core assumption is chosen on the basis that it is unlikely that there will no move back towards the previous trend and improbable that there will be a full return to that trend in the foreseeable future.

3.26   A key part of this third scenario is that all modelling is done on an age specific basis and to get a simple comparison Figure 3.9 shows how these will pan out in terms of average household size estimates. The figures also show the trend that would have been observed if the 2008-based projections had been followed back to 2001 and moving forward. The data clearly shows some degree of suppression in 2011 and that the part-return to trend method still see suppression in 2030 when compared with 2008-based data (albeit as explained above this will in part be due to changes in household structures linked to international migration and growth in BME communities).

Figure 3.9: Past and projected trends in Average Household Size – Carlisle
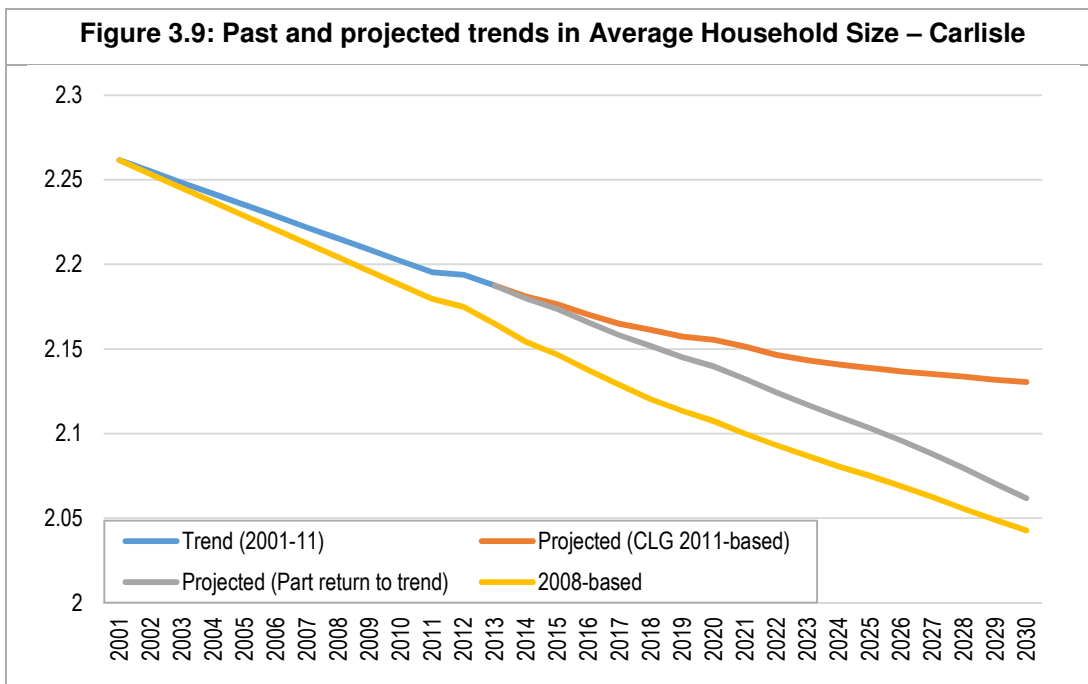
Source: Derived from ONS and CLG data

3.27   Using the 2011- and 2008-based CLG household projections we have therefore developed a series of headship rates to apply to our amended demographic data. This suggests a housing requirement of 481 dwellings per annum from 2013 to 2030.

Figure 3.10: Projected household growth 2013-30 – amended migration profile and reduced household formation constraint	
	Carlisle
Households 2013	48,684
Households 2030	56,530
Change in households	7,846
Per annum	462
Dwellings (per annum)	481

Economic-led Housing Requirements

3.28   As well as looking at demographic trends when considering what the housing requirement should be CLG advice suggests considering economic (job growth) forecasts. As noted above, the 2012-based SNPP would be expected to see a notable decline in the resident workforce whilst the amended demographic projection shows growth of about 4,500 people in the workforce. In particular the guidance states that:

'Plan makers should make an assessment of the likely growth 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'

3.29   To look at the economic future of Carlisle we have drawn on a February 2014 Experian Forecast provided by Cumbria County Council. This source provides an indication of the expected job growth at a local authority level and the table below shows the increase in the number of jobs expected in 2030 from 2013 levels. Over the 17-year period studied the Experian forecast expects an increase of around 6,350 jobs – this is an increase of about 10.9% from 2013 levels.

Figure 3.11: Employment increase (2013-30)			
Area	Jobs (2013)	Jobs (2030)	Change (2013-30)
Carlisle	58,500	64,848	6,348

Source: Experian

3.30   Figure 3.12 shows past trends and the expected future change in the number of jobs in Carlisle (back to 2001). The data shows a rapid increase from 2001 to about 2007/8 before the number of jobs declined through to 2011 (as a result of the recession). Moving forward from 2011 there is expected to be a notable level of job growth although the expected increase is at a lower rate than seen in the 2001-7 period.

Figure 3.12: Past and projected number of jobs - Carlisle
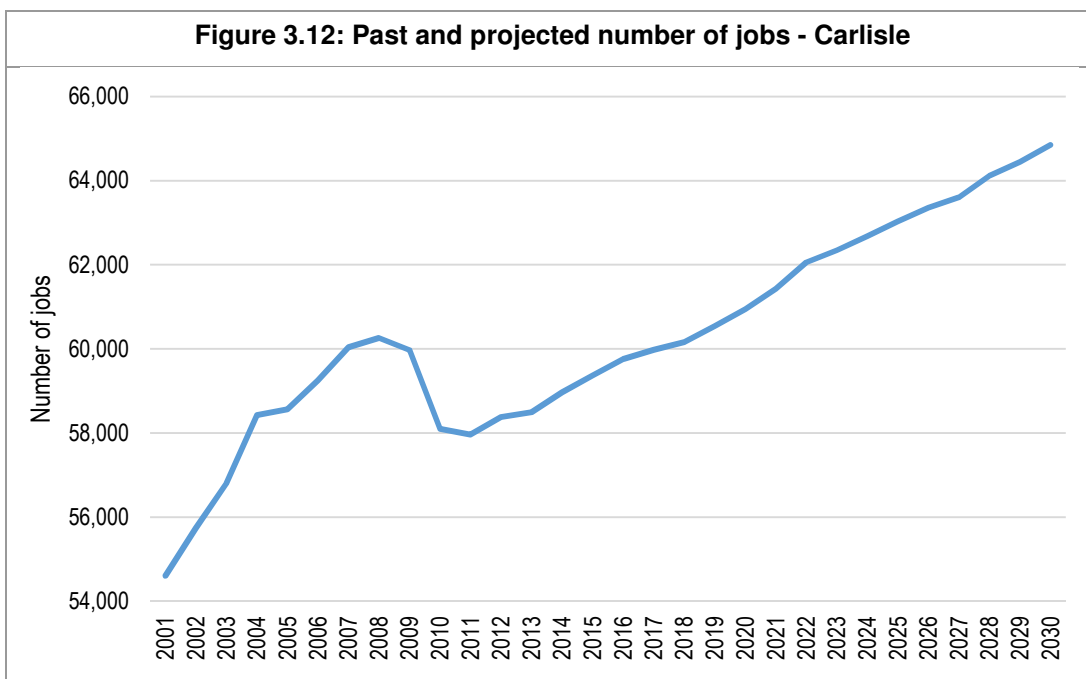
Source: Experian

3.31   As well as studying job growth we can also consider commuting patterns to understand whether or not the growth in the working population might be expected to be higher (or lower) than the job growth figures. To study this we have looked at the relationship between the number of residents in employment and the number of people who work in each area. Information about this is shown in Figure 3.13 and has been taken from the 2001 Census and also the 2011 Census. Attempts have been made to make the data as comparable as possible although some of the categories used (e.g. about people with no fixed place of work) do vary between the data sources.

3.32   The data shows that there are around 10% more people who work in the area than currently live in the area (and are working). Carlisle therefore sees a level of net in-commuting – the data does not suggest any significant change in this over the past decade.

3.33   In projecting forward it would be possible to adjust the job growth figures to reflect these trends; however, for the purposes of the modelling in this report the job growth and growth in working residents has been assumed to be on a 1:1 basis. This means we are assuming that net commuting will remain at a constant level in numeric terms but will reduce slightly in proportionate terms. Given that across the District there is a level of in-commuting this assumption will show a slightly higher level of apparent housing need through the data modelling.

Figure 3.13: Commuting Patterns in Carlisle			
	Residents in employment	People working in area	Commuting Ratio
2001	46,703	52,153	0.90
2011	54,049	59,433	0.91

Source: Census (2001 and 2011)

3.34   Projecting the linkage between job growth and housing requirements is also quite difficult as a number of additional assumptions need to be built into the modelling. Key ones to impact on the figures locally include:

a)   How economic participation rates will change in the future. Although the past few years have seen an increase in unemployment there have generally been increases in the proportion of people who are economically active (particularly for females and people aged over 50). In the future we may see a continuation of these trends – particularly in relation to people working longer (partly linked to pensionable ages) and have modelled for there to be some increase in employment rates as we move through to 2030.

b)   Double jobbing – the analysis assumes an increase in the resident workforce of one for every additional job. In reality some people may hold down more than one job (double jobbing) and so the actual increase in working residents could be below the increase in the number of jobs. We do not have any local evidence about the number of people with more than one job. The assumptions in this report essentially assume that this number remains constant. Making an additional assumption about double jobbing would potentially reduce the outputs in terms of estimates of the number of homes required.

c)   Understanding occupancy patterns. Whilst additional housing growth might be required to meet job growth projections it is the case that no control can be exercised as to who occupies a home. An additional home could for example be taken up by a retired household who would not aid the increase in the workforce. The modelling therefore assumes that current migration patterns (in terms of age and sex) are maintained with a different level of migration being input into the modelling to meet job targets. This means that the extent to which economically inactive people move to or from the area will be maintained (in proportionate terms) and so inherently the modelling assumes that some additional housing would be lived in by those who are not working. Generally, people/households of working age are more migrant than other households so a higher level of migration will tend to increase the working population proportionately at a higher rate than for lower assumed levels of migration.

3.35   The outputs from the economic based projection is as follows and shows that for the resident workforce to increase in line with the forecast number of jobs would require around 564 homes per annum to be delivered. The outputs are again based on household formation rates linked to the part-return to trend methodology described above.

Figure 3.14: Meeting job growth forecasts	
	Carlisle
Households 2013	48,684
Households 2030	57,878
Change in households	9,194
Per annum	541
Dwellings (per annum)	564

Sub-area projections

3.36   The projections presented in the preceding section looked at housing requirements for the whole of the district of Carlisle. It is also of interest to develop these at a smaller-area level. Providing estimates for sub-areas is also consistent with the approach currently being taken by the Council through its Local Plan which states that *'70% of housing development to be directed to the urban area of Carlisle, and 30% to the rest of the district'*. Smaller-area projections have therefore been developed for three areas, these are defined in Figure 3.15 and for the purposes of analysis have been built up from groups of wards.

Figure 3.15: Wards in each Housing Market Area	
Area	Wards
Rural West	Burgh, Dalston
Rural East	Brampton, Great Corby and Geltsdale, Hayton, Irthing, Longtown & Rockcliffe, Lyne, Stanwix Rural, Wetheral
Carlisle Urban	Belah, Belle Vue, Botcherby, Castle, Currock, Denton Holme, Harraby, Morton, St. Aidans, Stanwix Urban, Upperby, Yewdale

Smaller Area Population Projection Methodology

3.37   To develop projections for smaller areas the start point has again been the most recent SNPP (as updated for the purposes of this report). From this data a series of birth, death and migration schedules has been developed on the basis of the different population structure in each area. Following this, a model has been set-up for each of the three areas with the ability to interrogate different assumptions to see the output housing requirements. The model structure is the same as for district-wide projections as already described in this report.

3.38   There are a number of issues with this approach which make the outputs less robust than at the district level. Key ones include the fact that birth and death rates are assumed to be the same in different parts of the District (in the absence of any robust up-to-date local information) whilst the migration patterns are developed from an understanding of the current population profile in each area rather than any specific local data about the profile of the population moving into and out of each area in the past (again this is due to a lack of up-to-date information).

3.39   The development of a dynamic population projection model is the key part of the local projections with specific local data about employment and headship rates being taken from 2011 Census data to ensure that the outputs about the number of people working and the number of households properly reflect any local differences.

Baseline population, households and working population

3.40   Figure 3.16 shows the baseline population size, the number of households and the number of working people used for the analysis. The data shows the largest area in both population and household terms is the Carlisle urban areas. Generally, the proportion of the population is broadly similar to the proportion of households although lower numbers of households in the two rural areas shows higher average household sizes. The proportion of the population who are working is also relatively high (when compared to total population) in the two rural areas – this is linked to higher employment rates and lower unemployment outside of the main urban area.

Figure 3.16: Population, households and working population by sub-area (2013)					
	Population		Households		Working	
	Number	% of total	Number	% of total	Number	% of total
Rural West	8,127	7.5%	3,517	7.2%	4,314	8.0%
Rural East	26,149	24.2%	11,441	23.5%	13,647	25.2%
Carlisle Urban	73,673	68.2%	33,726	69.3%	36,289	66.9%
TOTAL	107,949	100.0%	48,684	100.0%	54,249	100.0%

Source: Derived from 2011 Census

3.41   Figure 3.17 shows the current estimated age structure in each of the above sub-areas split into six broad age bands. The data suggests that the population profile in different parts of the District varies quite notably. In particular Carlisle Urban has a relatively young population whilst the profile in the two rural sub-areas is much older. These profiles will affect housing requirements moving forward.

Figure 3.17: Population age profile (2011)

	Under 15	15-29	30-44	45-59	60-74	75 and over
Rural West	14.8%	14.1%	16.9%	23.8%	20.6%	9.8%
Rural East	14.9%	13.6%	16.0%	24.8%	20.5%	10.3%
Carlisle Urban	16.6%	20.2%	19.6%	19.8%	15.1%	8.6%
All areas	16.1%	18.2%	18.5%	21.3%	16.8%	9.1%
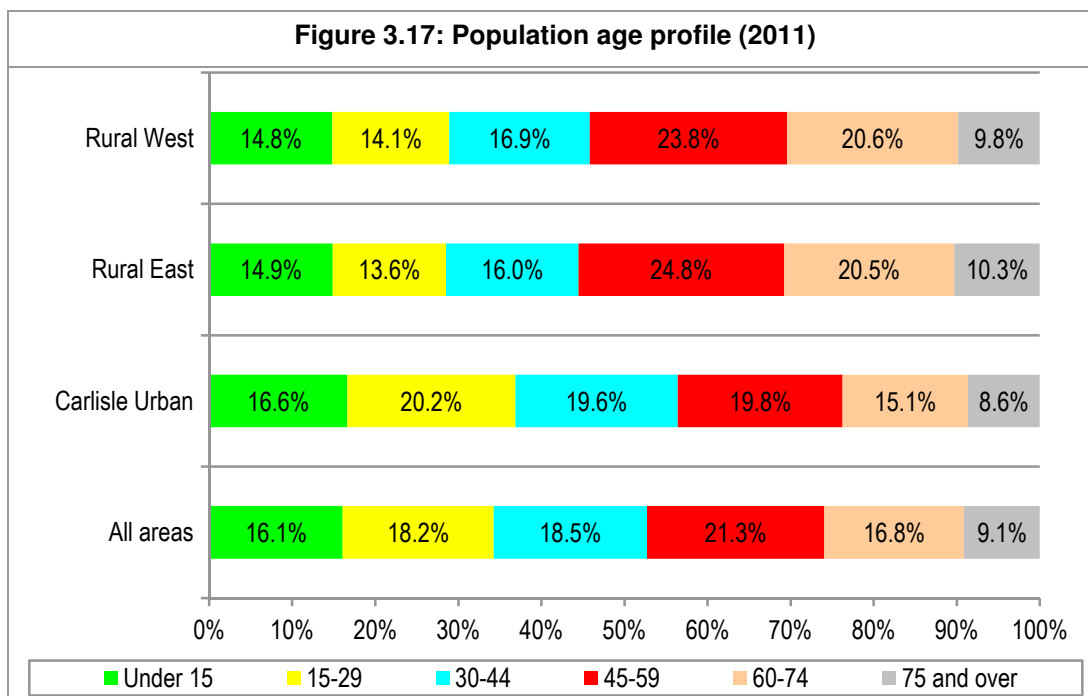
Source: Derived from Census (2011) and mid-year population estimates

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Projections Run

3.42 At the smaller area level two different projections have been run. These link to the district-wide projections and can be summarised as:

PROJ 1A – Demographic-based

3.43 This projection follows the same assumptions as the core Council-area wide projection linked to updating demographic trends (to look at a longer trend migration period). To enable consistency across areas this projection has been modelled to assume the same proportionate increase in population in each area (a 9.8% increase in the 2013-30 period). This does mean that estimates of the growth in households and the working population do not exactly match the figures when looking at the whole district.

PROJ 2A – Experian-based

3.44 This projection links to the Carlisle District-wide growth shown in the Experian economic forecast. Similar to the demographic based projection the growth in the working population is modelled to be the same (in proportionate terms) in each area (growth of 11.7% over the 2013-30 period). In this instance this means that population and household growth do not exactly match the figures from the main Council-wide projection.

Projection Outputs

3.45 Figure 3.18 shows key outputs from the modelling for these projections. The outputs only show overall housing requirements (on an annual basis) with more detailed outputs being provided in Appendix 1. The data shows a need for about 7% of homes to be in Rural West and 20%-22% in Rural East. This leaves a range of 71%-73% for the Carlisle urban area – figures which are consistent with the emerging Local Plan.

3.46 When looking at the overall housing need suggested by these projections it can be noted that the demographic projection shows a need for 478 dwellings per annum (slightly below the district-wide figure of 481). For the Experian-based projection the difference is slightly larger; with the sub-area based projections summing to 552 compared to a figure of 564 when modelling across the whole Carlisle District.

Figure 3.18: Annual housing requirements by area (2013-2030) – per annum				
	PROJ 1A (Demographic-based)		PROJ 2A (Experian forecast)	
	Housing need	% in area	Housing need	% in area
Rural West	32	6.7%	40	7.2%
Rural East	97	20.3%	122	22.1%
Carlisle Urban	349	73.0%	390	70.7%
TOTAL	478	100.0%	552	100.0%

Summary and Conclusions

3.47   The conclusions are drawn on the basis of an assessment process which interrogates demographic information under a range of different scenarios and thus provides recommendations about what might be a reasonable level of future housing provision. The methodology follows the series of steps set out in CLG advice of March 2014. The projections cover the period from 2013 to 2030.

3.48   The analysis begins by looking at the most recent nationally published household projections – these are the 2011-based 'interim' projections from CLG which cover the period from 2011 to 2021. This projection suggests household growth of 234 per annum across the District. This figure is significantly below that contained in the previous (2008-based) CLG projections which put annual household growth (in the 2013-30 period) at 479.

3.49   The next stage of the process was to consider the validity of the 2011-based projections, more recent 2012-based subnational population projections and the 2013 midyear population estimates. Recent information about migration suggests that this has fallen; however, further evidence suggests that the decline may at least be in part due to a decrease in housebuilding. An updated demographic projection was therefore developed which considered migration linked to a longer-term period (2003-13) rather than the 2007-12 period underpinning ONS projections. This suggested a housing need for 370 homes per annum.

3.50   The next step was to consider the extent to which household formation rates have been supressed in the recent past (e.g. households not forming due to housing market conditions such as difficulties obtaining mortgage finance). Across the District the evidence would suggest that there has not been a significant suppression in the past; however moving forward it is clear that the 2011-based projections are projecting a far less rapid decline in average household sizes than is shown by trend data (or indeed what was previously expected in the 2008-based projections).

3.51   An adjustment has therefore been made to the 2011-based household projections to reduce any constraints moving forward. The methodology starts with 2011-based data and projects forward by returning household formation rates back towards those in the 2008-based projections. Carrying out the adjustment to household formation rates suggests household growth of 462 per annum and a housing requirement for 481 additional homes per annum (once a vacancy allowance has been included). This figure is still below the figure in the 2008-based CLG projections.

3.52   Whilst the demographic projection can be considered as a start position it is also important to consider age structure changes; in particular whether the population growth will support the required increase in the workforce to meet employment growth trends/forecasts. In looking at an Experian economic forecast it was established that an increase in the number of residents in employment of around 6,350 could be expected in the 2013-30 period. Running this figure through the demographic model shows that annual housing requirement for 564 would be appropriate to ensure labour-force growth.

3.53   Overall, the analysis suggests that the housing requirement in Carlisle is in the range of about 480 to 565 dwellings per annum – the lower figure being based on a demographic projection which takes account of longer-term trends and the higher figure being appropriate to meet the job growth forecasts by Experian.

3.54   As well as providing projection outputs for the whole Council-area the analysis has looked at likely requirements for smaller areas on the basis of a number of different projection scenarios. It should be stressed that data availability means that the local level projections are less robust than those developed District-wide. However, the outputs largely support the Council's proposed housing distribution between the main urban area (70% of provision) and rural areas (30%).

4. Affordable Housing Need

Introduction

4.1   In this section we discuss levels of affordable housing need in Carlisle and each of the three sub-areas. Housing need is defined in SHMA guidance as the quantity of housing required for households who are unable to access suitable housing without financial assistance. These households will be eligible for affordable housing. Affordable housing is defined in the National Planning Policy Framework as social rented, affordable rented and intermediate housing provided to eligible households whose needs are not met by the market.

4.2   The analysis in this section is a fresh look at the issue of affordable housing need although comparisons have been made with the outputs of the Housing Needs and Demand Study (2011) and the 2009 SHMA prepared in-house by the City Council.

4.3   Government guidance on Strategic Housing Market Assessments sets out a model for assessing housing need (known as the Basic Needs Assessment Model). This model has been retained in the CLG advice of March 2014 and is used herein. The analysis is based on secondary data sources. It draws on a number of sources of information including 2011 Census data, demographic projections, house prices/rents and income information.

4.4   It should be recognised that in establishing housing requirements, evidence of both housing need and demand should both be considered. This section, addressing housing need specifically, should be considered alongside the evidence of demand presented; and the demographic-led projections of housing requirements. Land availability, infrastructure requirements, viability (as well as funding available for affordable housing), Sustainability Appraisal and the views of the local community and wider stakeholders also need to be considered in the development of planning policy. It is not a simple predict and provide issue.

4.5   The housing needs model is based largely on housing market conditions (and particularly the relationship of housing costs and incomes) at a particular point in time – the time of the assessment – as well as the existing supply of affordable housing (through relets of current stock) which can be used to meet housing need. On this basis, estimates of housing need are provided in this section for the seventeen year period between 2013 and 2030 – this latter date designed to tie in with the proposed end date of the Local Plan.

Key Definitions

4.6   We begin by setting out key definitions relating to housing need, affordability and affordable housing.

Housing Need

4.7   Housing need is defined as the number of households who lack their own housing or who live in unsuitable housing and who cannot afford to meet their housing needs in the market.

Newly-Arising Need

4.8   Newly-arising (or future) need is a measure of the number of households who are expected to have an affordable housing need at some point in the future. In this assessment we have used trend data from CORE along with demographic projections about the number of new households forming (along with affordability) to estimate future needs.

Supply of Affordable Housing

4.9   An estimate of the likely future supply of affordable housing is also made (drawing on secondary data sources about past lettings). The future supply of affordable housing is subtracted from the newly-arising need to make an assessment of the net future need for affordable housing.

Affordability

4.10   Affordability is assessed by comparing household incomes, based on income data modelled using a number of sources including CACI, ASHE, the English Housing Survey (EHS) and ONS data, against the cost of suitable market housing (to either buy or rent). Separate tests are applied for home ownership and private renting (in line with the SHMA Guidance) and are summarised below:

   A.   Assessing whether a household can afford home ownership: A household is considered able to afford to buy a home if it costs 3.5 times (or less) of gross household income – the March 2014 NPPG does not provide guidance on what multiplies to use however the previous (2007) CLG guidance does provide a useful benchmark. The previous guidance suggests using different measures for households with multiple incomes (2.9×) and those with a single income (3.5×), however (partly due to data availability) we have only used a 3.5 times multiplier for analysis. This ensures that housing need figures are not over-estimated – in practical terms it makes little difference to the analysis due to the inclusion of a rental test (below) which tends to require lower incomes for households to be able to afford access to market housing;

   B.   Assessing whether a household can afford market renting: A household is considered able to afford market rented housing in cases where the rent payable would constitute no more than 25% of gross income – again this is based on 2007 CLG guidance in the absence of any recommendation in the NPPG. The CLG guidance (of 2007) suggests that 25% of income is a reasonable start point but notes that a higher figure could be used. In Carlisle, income levels are relatively low and it is not considered that there is justification for moving away from this standard 25% figure

4.11   It should be recognised that a key challenge in assessing housing need using secondary sources is the lack of information available regarding households' existing savings. This is a key factor in affecting the ability of young households to purchase housing particularly in the current market context where a deposit of at least 10% is typically required for the more attractive mortgage deals. The 'help to buy' scheme is likely to be making some improvements in access to the owner-occupied sector although at present this is likely to be limited (although the impact of recent extensions to this scheme to include the second-hand market should be monitored moving forward). In many cases households who do not have sufficient savings to purchase have sufficient income to rent housing privately without support, and thus the impact of deposit issues on the overall assessment of housing need is limited.

Affordable Housing

4.12   The NPPF provides the definition of affordable housing (as used in this report). The following is taken from Annex 2 of NPPF.

"Affordable housing includes social rented, affordable rented and intermediate housing, provided to specified eligible households whose needs are not met by the market. Affordable housing should:

- *Meet the needs of eligible households including availability at a cost low enough for them to afford, determined with regard to local incomes and local house prices;*
- *Include provision for the home to remain at an affordable price for future eligible households or, if these restrictions are lifted, for the subsidy to be recycled for alternative affordable housing provision."*

4.13   Within the definition of affordable housing there is also the distinction between social rented affordable rented, and intermediate housing. Social rented housing is defined as:

"Rented housing owned and managed by local authorities and registered social landlords, for which guideline target rents are determined through the national rent regime. It may also include rented housing owned or managed by other persons and provided under equivalent rental arrangements to the above, as agreed with the local authority or with the Homes and Communities Agency as a condition of grant."

4.14   Affordable rented housing is defined as:

"Rented housing let by registered providers of social housing to households who are eligible for social rented housing. Affordable Rent is not subject to the national rent regime but is subject to other rent controls that require a rent of no more than 80 per cent of the local market rent."

4.15   The definition of intermediate housing is shown below:

"Intermediate affordable housing is 'Housing at prices and rents above those of social rent, but below market price or rents. These can include shared equity products (e.g. HomeBuy), other low cost homes for sale and intermediate rent but does not include affordable rented housing."

4.16   As part of our analysis in this report we have therefore studied the extent to which both social rented, intermediate housing and affordable rented housing can meet housing need in Carlisle.

Local Prices & Rents

4.17   An important part of the SHMA is to establish the entry-level costs of housing to buy and rent – this data is then used in the assessment of the need for affordable housing. The housing needs assessment compares prices and rents with the incomes of households within each sub-area to establish what proportion of households can meet their needs in the market, and what proportion require support and are thus defined as having a 'housing need.'

4.18   In this section we establish the entry-level costs of housing to both buy and rent across the District. Our approach has been to analyse Land Registry and VOA data to establish lower quartile prices and rents. For private rented housing, this analysis has then been supplemented by an internet search to provide information at a smaller area level. For the purposes of analysis (and to be consistent with CLG guidance) we have taken lower quartile prices and rents to reflect the entry-level point into the market.

4.19   Figure 4.1 shows estimated lower quartile property prices by dwelling type. The data shows that entry-level costs to buy are estimated to start from about £57,300 for a flat and rising to £163,700 for a detached home. Looking at the lower quartile price across all dwelling types the analysis shows a figure of £89,100.

4.20   There are notable differences by location with the lower quartile price in Rural West (£131,300) being some 67% higher than the figure for the Carlisle Urban area (£78,800). Prices in the Rural East area are also relatively high. Part of this difference can be explained by the different profile of dwellings sold (e.g. more terraces and flats in Carlisle) although it is clear that prices in rural areas are notably higher than in the main urban area.

Figure 4.1: Lower quartile sales prices by type (2013)	
Dwelling type	Lower quartile price
Flat	£57,300
Terraced	£74,900
Semi-detached	£101,800
Detached	£163,700
All dwellings	£89,100
Rural West	£131,300
Rural East	£123,300
Carlisle Urban	£78,800

Source: Land Registry (2013)

4.21   A similar analysis has been carried out for private rents using Valuation Office Agency (VOA) data – this covers a 12-month period to March 2014. For the rental data information about dwelling sizes is provided (rather than types); the analysis shows an average lower quartile cost (across all dwelling sizes) of around £385 per month. There are again some variations between areas with costs being higher in the rural areas – differences are however less notable than when looking at purchase prices.

Figure 4.2: Lower quartile private rents by size and location (year to March 2014)	
Dwelling size	Monthly rent
Room only	£282
Studio	£298
1 bedroom	£340
2 bedrooms	£400
3 bedrooms	£475
4+ bedrooms	£620
All dwellings	£385
Rural West	£440
Rural East	£400
Carlisle Urban	£375

Source: Valuation Office Agency

4.22   In addition to rental costs from our internet survey we have looked at the maximum amount of Local Housing Allowance (LHA) payable on different sized properties within the area. Maximum LHA payments are based on estimates of rents at the 30th percentile and should therefore be roughly comparable with our estimates of lower quartile costs.

4.23   The geographical areas used to determine LHA are not however co-terminus with local authority boundaries and so any comparison is not exact. LHA levels are based on Broad Rental Market Areas (BRMA). The BRMA is an area where a person could reasonably be expected to live taking into account access to facilities and services for the purposes of health, education, recreation, personal banking and shopping (as defined by the Rent Office).

4.24   Virtually all of Carlisle falls into the North Cumbria (BRMA) with a very small part to the east being in the Tyneside BRMA (this area being significantly influenced by Newcastle). The North Cumbria BRMA does however extend beyond the Council boundary; extending beyond Penrith to the south. Below we have therefore provided details for the North Cumbria BRMA. The data suggests only small differences between LHA rates and our analysis based on VOA data.

Figure 4.3: Maximum LHA payments by Size and BRMA	
Size	North Cumbria BRMA
Room only	£253
1 bedroom	£350
2 bedrooms	£405
3 bedrooms	£485
4 bedrooms	£606

Source: VOA data (July 2014)

Cost of Affordable Housing

4.25   Traditionally the main type of affordable housing available in an area is social rented housing and the cost of social rented accommodation by dwelling size can be obtained from Continuous Recording (CORE) - a national information source on social rented lettings. The table below illustrates the rental cost of lettings of social rented properties by size in 2013/14. As can be seen the costs are below those for private rented housing indicating a gap between the social rented and market sectors. This gap increases for larger properties. The figures in the table include service charges.

Figure 4.4: Monthly social rent levels	
Size	Monthly Rent
1 bedroom – average	£314
2 bedrooms – average	£352
3+ bedrooms – average	£382
Lower quartile (all sizes)	£317

Source: CORE (2013)

4.26   Changes in affordable housing provision has seen the introduction of a new tenure of affordable housing (Affordable Rented). Affordable rented housing is defined in the NPPF as being *'let by local authorities or private registered providers of social housing to households who are eligible for social rented housing. Affordable Rent is subject to rent controls that require a rent of no more than 80% of the local market rent (including service charges, where applicable)'*. In the short-term it is likely that this tenure will replace social rented housing for new delivery.

4.27   Affordable Rented housing can therefore be considered to be similar to social rented housing but at a potentially higher rent. The 80% (maximum) rent is to be based on the open market rental value of the individual property and so it is not possible to say what this will exactly mean in terms of cost (for example the rent for a two-bedroom flat is likely to be significantly different to a two-bedroom detached bungalow). In addition, market rents for new-build homes are likely to be higher than within the existing stock and may well be in excess of 80% of lower quartile rents. However, for the purposes of analysis we have assumed that the 80% figure can be applied to the lower quartile private rented cost data derived from VOA information.

Gaps in the Housing Market

4.28   Figure 4.5 estimates how current prices and rents in Carlisle might equate to income levels required to afford such housing. The figures are based on the figures derived in the analysis above and include four different tenures (buying, private rent, affordable rent and social rent) and are taken as the lower quartile price/rent across the whole stock of housing available (i.e. including all property sizes).

Figure 4.5: Indicative income required to purchase/rent without additional subsidy				
Area	Lower quartile purchase price	Lower quartile private rent	Affordable rent	Lower quartile social rent
Rural West	£37,500	£21,100	£16,900	£15,200
Rural East	£35,200	£19,200	£15,400	£15,200
Carlisle Urban	£22,500	£18,000	£14,400	£15,200
Carlisle District	£25,500	£18,500	£14,800	£15,200

Source: Land Registry, VOA and CORE

4.29   For illustrative purposes the calculations are based on 3.5 times household income for house purchase and 25% of income to be spent on housing for rented properties. The figures for house purchase are based on a 100% mortgage for the purposes of comparing the different types of housing.

Income levels and affordability

4.30   Following on from our assessment of local prices and rents it is important to understand local income levels as these (along with the price/rent data) will determine levels of affordability and also provide an indication of the potential for intermediate housing to meet needs. Data about total household income has been modelled on the basis of a number of different sources of information to provide both an overall average income and the likely distribution of incomes in each area. The key sources of data include:

- CACI from *Wealth of the Nation 2012* – to provide an overall national average income figure for benchmarking
- English Housing Survey (EHS) – to provide information about the distribution of incomes (taking account of variation by tenure in particular)
- Annual Survey of Hours and Earnings (ASHE) – to assist in looking at how incomes have changed from 2012 to 2013 (2.4% for the North West region)
- ONS modelled income estimates – to assist in providing more localised income estimates (e.g. for sub-areas)

4.31   Drawing all of this data together we have therefore been able to construct an income distribution for the whole of Carlisle area and individual sub-areas for 2013. The figure below shows the distribution of household incomes for the whole of the District. The data shows that over a third (37%) of households have an income below £20,000 with a further third in the range of £20,000 to £40,000. The overall average (median) income of all households in the District was estimated to be around £23,100 with a mean income of £30,600.

Figure 4.6: Distribution of Household Income in Carlisle
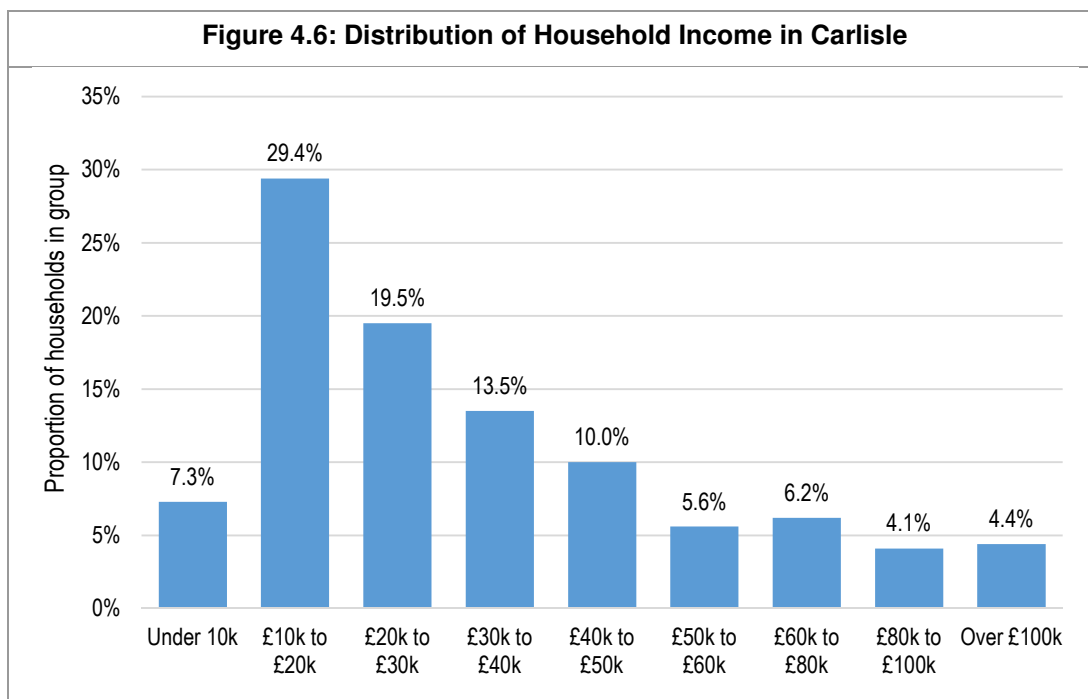
Source: Derived from ASHE, EHS, CACI and ONS data

4.32   Figure 4.7 shows how the distribution of income varies for each of the three sub-areas. Incomes were found to be highest in the rural areas with the lowest incomes estimated to be in the Carlisle Urban area.

Income band	Rural West	Rural East	Carlisle Urban	Carlisle District
Under £10k	5.8%	7.3%	15.0%	7.3%
£10k to £20k	28.7%	29.4%	31.0%	29.4%
£20k to £30k	19.2%	19.5%	19.7%	19.5%
£30k to £40k	13.5%	13.5%	13.3%	13.5%
£40k to £50k	10.6%	10.0%	7.0%	10.0%
£50k to £60k	6.1%	5.6%	3.9%	5.6%
£60k to £80k	6.6%	6.2%	5.4%	6.2%
£80k to £100k	4.2%	4.1%	3.8%	4.1%
Over £100k	5.3%	4.5%	1.0%	4.4%
Total	100.0%	100.0%	100.0%	100.0%
Mean	£36,727	£35,007	£28,507	£30,628
Median	£27,934	£26,626	£21,682	£23,099

Figure 4.7: Income levels by sub-area

Source: Derived from ASHE, EHS, CACI and ONS data

4.33   To assess affordability we have looked at households ability to afford either home ownership or private rented housing (whichever is the cheapest), without financial support. The distribution of household incomes, within each area, is then used to estimate the likely proportion of households who are unable to afford to meet their needs in the private sector without support, on the basis of existing incomes. This analysis brings together the data on household incomes with the estimated incomes required to access private sector housing.

4.34   Different affordability tests are applied to different parts of the analysis depending on the group being studied (e.g. recognising that newly forming households are likely on average to have lower incomes than existing households). Assumptions about income levels are discussed for relevant analyses where relevant in the analysis that follows.

Housing Needs Assessment

4.35   Affordable housing need has been assessed using the Basic Needs Assessment Model, in accordance with the CLG Practice Guidance. This model is summarised in the chart at Figure 4.8.

Figure 4.8: Overview of Basic Needs Assessment Model

Future Housing Need
Estimate of Newly-Forming Households in Need & Existing Households falling into Need over plan period (annualised)

Affordable Housing Supply
Estimate of Supply of Affordable Housing from Relets of Existing Properties over 3 Years (annualised)

Net Housing Need Arising   **Total Net Current Need**

Total Net Current Need

Current Housing Need (Gross)
Current Households in Housing Need based on Census and other modelled data

Affordable Housing Supply
Supply of Affordable Housing from Vacant Stock & Development Pipeline

4.36   The figures presented in this report for affordable housing needs have been based on secondary data sources including analysis of 2011 Census data. The housing needs modelling undertaken provides an assessment of housing need for a five year period (which is then annualised). Each of the stages of the housing needs model calculation are discussed in more detail below.

Current Housing Need (Backlog)

4.37   In line with CLG guidance, the backlog of affordable housing need has been based on estimating the number of households living in unsuitable housing along with consideration of their current tenure and affordability. Unsuitability is based on the number of households shown to be overcrowded in the 2011 Census along with an estimate of other needs which have been modelled by comparing the tenure profile in each area with information from previous surveys about households in need. Much of these additional needs are found in the private rented sector and relate to issues around security of tenure and housing costs.

4.38   The data modelling estimates housing unsuitability by tenure and from these figures households living in affordable housing are excluded (as these households would release a dwelling on moving and so no net need for affordable housing will arise). The analysis also excludes all outright owners under the assumption (which is supported by analysis of survey data) that they will have sufficient equity to move and 90% of owners with a mortgage. Again analysis of a range of recent surveys indicates that the vast majority of owners with a mortgage are able to afford housing once savings and equity are taken into account. A final adjustment (which only really impacts on the Carlisle Urban area) is to slightly reduce the unsuitability figures to take account of student-only households – such households could technically be overcrowded but would be unlikely to be considered as being in housing need.

4.39   At the time of the assessment there were an estimated 943 households living in unsuitable housing (excluding current social tenants and the majority of owner-occupiers) – this represents 1.9% of all households in the District. The figure below shows the current locations of these households by sub-area – the data suggests a similar (and lower) level of unsuitability in the two rural areas with a higher figure seen in the Carlisle Urban sub-area.

Figure 4.9: Estimated number of households in unsuitable housing			
Area	In unsuitable housing	Total number of households	% in unsuitable housing
Rural West	52	3,517	1.5%
Rural East	179	11,441	1.6%
Carlisle Urban	712	33,726	2.1%
Carlisle District	943	48,684	1.9%

Source: Census (2011) and data modelling

4.40   Our estimated level of backlog need is therefore 943. We can however additionally consider that a number of these households might be able to afford market housing without the need for subsidy. For an affordability test we have used the income data and adjusted the distribution to reflect a lower average income amongst households living in unsuitable housing – for the purposes of the modelling an income estimate of 69% of the figure for all households in each area has been used. Overall, around 58% of households with a current need are estimated to be likely to have insufficient income to afford market housing and so our estimate of the total backlog need is reduced to 543 households.

Figure 4.10: Estimated Backlog Need by Sub-Area			
Area	In unsuitable housing	% Unable to Afford	Revised Gross Need (including Affordability)
Rural West	52	54.7%	28
Rural East	179	52.4%	94
Carlisle Urban	712	59.2%	421
Carlisle District	943	57.6%	543

Source: Census (2011), data modelling and income analysis

4.41   CLG guidance also suggests that the housing register can be used to estimate levels of housing need. Our experience working across the Country is that housing registers can be highly variable in the way allocation policies and pointing systems work. This means that in many areas it is difficult to have confidence that the register is able to define an underlying need. Many housing registers include households who might not have a need whilst there will be households in need who do not register (possibly due to being aware that they have little chance of being housed). For these reasons, the method linked to Census and other modelled data is preferred.

4.42   That said, data from the 'Cumbria Choice' Choice Based Lettings Scheme in July 2014 does suggest a figure that is of broadly the same order of magnitude – in total there were 439 households in need (defined as in bands A to C) with the majority of these identifying the need to be arising in the Carlisle Urban area.

Newly-Arising Need

4.43   To estimate newly-arising (projected future) need we have looked at two key groups of households based on the CLGs SHMA Guidance. These are:

- Newly forming households; and
- Existing households falling into need.

Newly-Forming Households

4.44   For newly-forming households we have estimated (through our demographic modelling) the number of new households likely to form per annum over the 2013-30 period and then applied an affordability test. This has been undertaken by considering the changes in households in specific 10-year age bands relative to numbers in the age band below 10 years previously to provide an estimate of *gross* household formation. This differs from numbers presented in the demographic projections which are for net household growth. The number of newly-forming households are limited to households forming who are aged under 45 – this is consistent with CLG guidance (from 2007) which notes after age 45 that headship (household formation) rates 'plateau'. There may be a small number of household formations beyond age 45 (e.g. due to relationship breakdown) although the number is expected to be fairly small when compared with formation of younger households.

4.45   The estimates of gross new household formation have been based on outputs from our core demographic projection. In looking at the likely affordability of newly-forming households we have drawn on data from previous surveys. This establishes that the average income of newly-forming households is around 84% of the figure for all households. This figure is remarkably consistent across areas (and is also consistent with analysis of English Housing Survey data at a national level).

4.46   We have therefore adjusted the overall household income data to reflect the lower average income for newly-forming households. The adjustments have been made by changing the distribution of income by bands such that average income level is 84% of the all household average. In doing this we are able to calculate the proportion of households unable to afford market housing without any form of subsidy (such as LHA/HB). Our assessment suggests that overall around 48% of newly-forming households will be unable to afford market housing – there are some differences in assessed affordability in the different sub-areas with a higher proportion unable to afford in Carlisle Urban and a lower figure in Rural East.

Figure 4.11: Estimated Level of Housing Need from Newly Forming Households (per annum)			
Area	Number of new households	% unable to afford	Total in need
Rural West	65	44.7%	29
Rural East	206	42.6%	88
Carlisle Urban	660	49.4%	326
Carlisle District	931	47.5%	443

Source: Projection Modelling/Income analysis

Existing Households falling into Housing Need

4.47   The second element of newly arising need is existing households falling into need. To assess this we have used information from CoRe. We have looked at households who have been housed over the past five years - this group will represent the flow of households onto the Housing Register over a five year period. From this we have discounted any newly forming households (e.g. those currently living with family) as well as households who have transferred from another social rented property. An affordability test has also been applied, although relatively few households are estimated to have sufficient income to afford market housing.

4.48   This method for assessing existing households falling into need is consistent with the SHMA guide which says on page 46 that *'Partnerships should estimate the number of existing households falling into need each year by looking at recent trends. This should include households who have entered the housing register and been housed within the year as well as households housed outside of the register (such as priority homeless households applicants)'*.

4.49   Figure 4.12 therefore shows our estimate of likely new need from existing households per year moving forward. The data shows an additional need arising from 216 households, with a notably high proportion of these being in the Carlisle Urban area.

Figure 4.12: Estimated level of Housing Need from Existing Households falling onto need (per annum)		
Area	Number of Existing Households falling into Need	% of Need
Rural West	5	2.3%
Rural East	27	12.6%
Carlisle Urban	184	85.0%
Carlisle District	216	100.0%

Source: CoRe/affordability analysis

Supply of Affordable Housing

4.50   The future supply of affordable housing is the flow of affordable housing arising from the existing stock that is available to meet future need. It is split between the annual supply of social/affordable rent relets and the annual supply of relets/sales within the intermediate sector.

4.51   The Practice Guidance suggests that the estimate of likely future relets from the social rented stock should be based on past trend data which can be taken as a prediction for the future. We have used information from the Continuous Recording system (CoRe) to establish past patterns of social housing turnover. Our figures include general needs and supported lettings but exclude lettings of new properties plus an estimate of the number of transfers from other social rented homes. These exclusions are made to ensure that the figures presented reflect relets from the existing stock. Additionally an estimate of the number of 'temporary' supported lettings have been removed from the figures (the proportion shown in CoRe as being lettings in direct access hostels or foyer schemes).

4.52   On the basis of past trend data is has been estimated that 379 units of social/affordable rented housing are likely to become available each year moving forward.

Figure 4.13: Analysis of past social/affordable rented housing supply (per annum - past 3 years)	
Total lettings	729
% as non-newbuild	90.0%
Lettings in existing stock	657
% non-transfers	60.8%
Sub-total	399
% non-temporary housing	94.9%
Total lettings to new tenants	379

Source: CoRe

4.53   The supply figure is for social/affordable rented housing only and whilst the stock of intermediate housing in Carlisle is not significant compared to the social/affordable rented stock it is likely that some housing does become available each year (e.g. resales of shared ownership). For the purposes of this assessment we have estimated the likely size and turnover in the intermediate stock on the basis of 2011 Census data (and assuming a turnover half of the rate seen in the social/affordable rented stock). From this it is estimated that around 17 additional properties might become available per annum.

4.54　The total supply of affordable housing is therefore estimated to be 396 per annum. The table below shows the locations where supply is expected to arise. The sub-area estimates have been calculated on the basis of the current stock of affordable housing within each location – the distribution does not vary much from administrative data provided by the Council covering the past three years.

Figure 4.14: Supply of affordable housing by sub-area		
Area	Social/affordable rented relets	Intermediate housing 'relets'	Total supply (per annum)
Rural West	9	1	10
Rural East	51	1	52
Carlisle Urban	319	15	334
Carlisle District	379	17	396

Source: Derived from CoRe and Census (2011) analysis

Net Housing Need

4.55　Figure 4.15 shows our overall calculation of housing need. This excludes supply arising from sites with planning consent (the 'development pipeline'). The analysis has been based on meeting housing need over the 17-year period from 2013 to 2030. Whilst most of the data in the model are annual figures the backlog has been divided by 17 to make an equivalent annual figure.

4.56　The data shows an overall need for affordable housing of 5,011 units over the next 17-years (295 per annum). The net need is calculated as follows:

Net Need = Backlog Need + Need from Newly-Forming Households + Existing Households falling into Need – Supply of Affordable Housing

Figure 4.15: Estimated level of Housing Need (2013-30)		
	Per annum	17-years
Backlog need	32	543
Newly forming households	443	7,526
Existing households falling into need	216	3,670
Total Gross Need	691	11,739
Supply	396	6,728
Net Need	295	5,011

Source: Census (2011)/CoRe/Projection Modelling and affordability analysis

4.57　Figure 4.16 shows the annualised information for individual sub-areas. The analysis shows a need for additional affordable housing in all areas with Carlisle seeing the highest need (about 68% of the total).

Figure 4.16: Estimated level of Housing Need (per annum)						
Area	Backlog need	Newly forming households	Existing households falling into need	Total Need	Supply	Net Need (per annum)
Rural West	2	29	5	36	10	26
Rural East	6	88	27	120	52	68
Carlisle Urban	25	326	184	534	334	201
Carlisle District	32	443	216	691	396	295

Source: Census (2011)/CoRe/Projection Modelling and affordability analysis

Role of the Private Rented Sector in Meeting Housing Need

4.58   As well as considering the supply of social/affordable rented and intermediate housing it is important to examine the extent to which the private rented sector (through the Local Housing Allowance (LHA) system) is meeting the needs of households in the area. We have therefore used data from the Department of Work and Pensions (DWP) to look at the number of LHA supported private rented homes. As of February 2014 it is estimated that there were 2,259 benefit claimants in the private rented sector; this is 66% higher than the number observed five years earlier (in February 2009).

4.59   What this information does not tell us is how many lettings are made each year to tenants claiming benefit as this will depend on the turnover of stock. From English Housing Survey we estimate that the proportion of households within the private sector who are "new lettings" each year (i.e. stripping out the effect of households moving from one private rented property to another) is around 13%. Applying this to the number of LHA claimants in the private rented sector gives us an estimate of 294 private sector lettings per annum to new LHA claimants in the District. This figure is derived from claimants rather than households and it is possible that there are a number of multiple LHA claimant households (i.e. in the HMO sector).

4.60   The overall estimated number of lettings in the LHA part of the PRS can be seen to be almost exactly the same as the total net need derived through housing needs analysis. It is not however appropriate to treat this sector as a form of affordable housing and net it from the overall annual housing needs estimate of 295 affordable homes per annum. Neither the SHMA Guidance (CLG, 2007) nor the NPPF (CLG, 2012) recognise this sector as affordable housing.

4.61   However, it should be recognised that, in practice, the private rented sector does make a significant contribution to filling the gap in relation to meeting housing need and given the levels of affordable housing need shown in this study, the private rented sector is likely to continue to be used to some degree to make up for the shortfall of genuine affordable housing for the foreseeable future.

4.62   The extent to which the Council wishes to see the private rented sector being used to make up for shortages of affordable housing is a matter for policy intervention and is outside the scope of this report. However it should be recognised that the Private Rented Sector does not provide the same level of security of tenure and that standards within the sector are likely to be lower than for social rented properties. Furthermore there are households with specific housing needs who may not be able to find suitable accommodation within the Private Rented Sector.

Understanding the Context to the Housing Needs Assessment

4.63   The housing needs analysis concludes that there is a shortfall of 5,011 affordable homes over the period from 2013 to 2030 (295 per annum). However there are a number of things that need to be remembered in interpreting the housing needs analysis.

4.64   The Basic Needs Assessment Model which has been used was designed specifically to identify whether there is a shortfall or surplus of affordable housing. It is a statutory requirement to underpin affordable housing policies.

4.65   The needs assessment therefore does not look at all housing needs, but specifically the needs of those who can't afford market housing (assuming no more than 25% of households' gross income is spent on housing costs). It assumes that all households are adequately housed in a home that they can afford.

4.66   The needs assessment is a 'snapshot' assessment at a point in time, which is affected by the differential between housing costs and incomes at that point; as well as the existing supply of affordable housing. In the case of Carlisle, the stock of affordable housing (social rented) has decreased by about 8% over the last decade. This has affected the level of affordable housing need. The shortfall of affordable housing identified is therefore to some extent affected by past investment decisions.

4.67   Moreover, as the Basic Needs Assessment Model is designed to identify a shortfall of genuine affordable housing, it assumes that all households in 'housing need' are housed in affordable homes (which includes provision that the home remains at an affordable price for future eligible households).

4.68   In reality, there are two key factors which need to be considered:

- Some households defined as in housing need may choose to spend more than 25% of their gross income on housing costs or may not actively seek an affordable home; and
- Some households defined as in housing need are accommodated in the Private Rented Sector, supported by Local Housing Allowance.

4.69   It is estimated that there are currently around 2,300 Local Housing Allowance claimants housed in the Private Rented Sector with many more expected to be in this sector and paying more than 25% of their income on housing but not claiming Housing Benefit (for example a single person might need to see their housing costs get up to around 45%-50% of rent before getting Housing Benefit (although other benefits such as working tax credits will kick in below this level))

4.70   As the level of housing need is very sensitive to differences between housing costs and incomes, changes in the difference between incomes and housing costs over time will affect the level of housing need identified.

4.71   Due to the role of the private rented sector in meeting housing need there is no evidence of a significant shortfall in overall housing provision to meet local housing requirements over and above that shown by the demographic modelling and so no additional uplift is required to take account of affordability issues.

4.72   Given the current stock of affordable housing in the area, the funding mechanisms for delivery of new affordable housing and policies affecting sales of existing properties, it is unrealistic to assume that all households in housing need will be provided with an affordable home. It is realistic to assume that the Private Rented Sector will continue to play an important role in meeting housing need in the short-to-medium term.

Need for Different Types of Affordable Housing

4.73   Having studied housing costs, incomes and housing need the next step is to make an estimate of the proportion of affordable housing need that should be met through provision of different housing products. We therefore use the income information presented earlier in this section to estimate the proportion of households who are likely to be able to afford intermediate housing and the number for whom only social or affordable rented housing will be affordable. There are three main types of affordable housing that can be studied in this analysis:

- Intermediate
- Affordable rent
- Social rent

4.74   Whilst the process of separating households into different income bands for analytical purposes is quite straightforward, this does not necessarily tell us what sort of affordable housing they might be able to afford or occupy.

4.75   For example a household with an income close to being able to afford market housing might be able to afford intermediate or affordable rent but may be prevented from accessing certain intermediate products (such as shared ownership) as they have insufficient savings to cover a deposit. Such a household might therefore be allocated to affordable rented or intermediate rented housing as the most suitable solution. However we would expect that few Registered Providers would build intermediate rented homes, given that the level of potential occupants for affordable rented homes is greater (as it includes households who could claim housing benefit to supplement their incomes).

4.76   The distinction between social and affordable rented housing is also complex. Whilst rents for affordable rented housing would be expected to be higher than social rents, this does not necessarily mean that such a product would be reserved for households with a higher income. In reality, as long as the rent to be paid falls at or below LHA limits then it will be accessible to a range of households (many of whom will need to claim housing benefit). Local authorities' tenancy strategies might set policies regarding the types of households which might be allocated affordable rented homes; and many authorities will seek to avoid where possible households having to claim higher levels of housing benefit. This however needs to be set against other factors, including viability and the availability of grant funding. Over the current spending period to 2015 grant funding is primarily available to support delivery of affordable rented homes. A significant level of affordable housing delivery is however through developer contributions (Section 106 Agreements).

4.77   For these reasons it is difficult to exactly pin down what proportion of additional affordable homes should be provided through different affordable tenure categories. In effect there is a degree of overlap between different affordable housing tenures, as Figure 4.17 shows.

Figure 4.17: Overlap between Affordable Housing Tenures
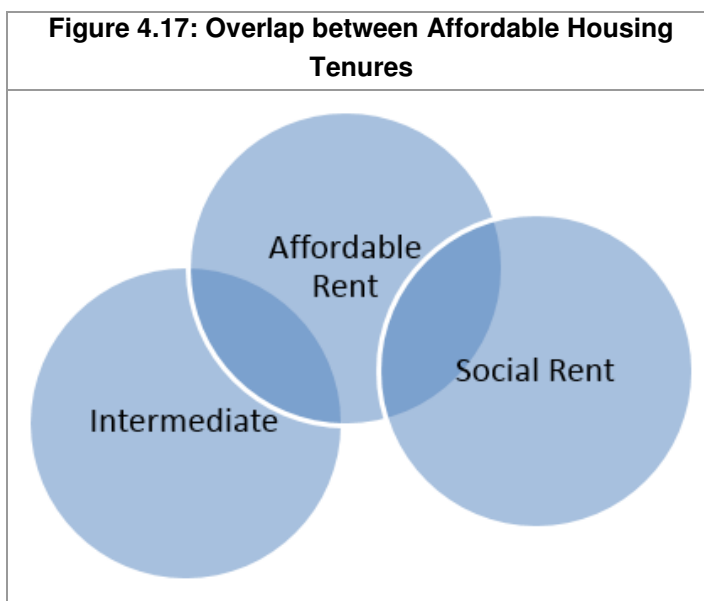
4.78   Given this overlap, for analytical purposes we have defined the following categories:

- Households who can afford 80% or more of market rent levels;
- Households who afford no more than existing social rent levels (or would require housing benefit, or an increased level of housing benefit to do so);
- Households which fall in between these parameters, who would potentially be able to afford more than existing social rent levels but could not afford 80% of market rents.

4.79   The first of these categories would include equity-based intermediate products such as shared ownership and shared equity homes but could also include intermediate rented housing. The latter two categories are both rented housing and in reality can be considered together (both likely to be provided by Registered Providers (or the Council) with some degree of subsidy). Additionally, both affordable rented and social rented housing is likely to be targeted at the same group of households; many of whom will be claiming Housing Benefit. For this reason the last two categories are considered together for the purposes of drawing conclusions.

4.80   Taking the gross numbers for housing need and comparing this against the supply from relets of existing stock, the following net need arises within the different categories. Overall the analysis suggests around 30% of housing could be intermediate with the remaining 70% being either social or affordable rented. There are not significant differences between the different sub-areas.

Figure 4.18: Estimated level of Housing Need (per annum) by type of affordable housing						
Area	Intermediate			Social/affordable rented		
	Total need	Supply	Net need	Total need	Supply	Net need
Rural West	8	1	7	28	9	19
Rural East	25	1	24	95	51	45
Carlisle Urban	72	15	57	462	319	143
Carlisle District	105	17	88	586	379	207
% of total	30%			70%		

Source: Housing Needs Analysis

4.81   In determining policies for affordable housing provision on individual sites, the analysis in Figure 4.18 should be brought together with other local evidence such as from the Housing Register or parish surveys where available. Consideration could also be given to areas with high concentrations of social rented housing where additional intermediate housing might be desirable to improve the housing mix and to create 'housing pathways'.

Previous affordable housing needs assessments

4.82   This section has provided estimates of the overall need for affordable housing by following CLG guidance. It is of interest to compare the outputs of this analysis with those in previous housing needs modelling exercises. The last affordable needs modelling was undertaken as part of the Housing Needs and Demand Study (HNDS) in 2011. The table below compares the outputs of that modelling with the outputs in this report. To ensure consistency some figures from the HNDS have been adjusted to ensure comparability with this report – notably the current need has been looked at over a 17-year period whilst the committed supply of affordable housing has been excluded.

4.83   The data shows that the level of need suggested in this report is much lower than in the 2011 HNDS. However, it needs to be noted that the methodologies are not directly comparable. In particular the 2011 report used a survey based method and not just secondary data sources as in this report.

4.84   The key difference between the studies can be seen when looking at estimates of existing households falling into need. The 2011 HNDS put this figure at 913 per annum compared with just 216 in this report. When considering the methodologies it seems that this difference is largely explained by the HNDS picking up a number of households as in need who are moving to (or within) the private rented sector and paying more than 25% of their income on housing – such households are not analysed using the secondary data approach.

4.85   Whilst it is arguable that such households have a need based on the affordability methodology (of not more than 25% being spent on housing) it is also quite probable that these households are choosing to pay a higher proportion on housing and in reality would not be seeking an affordable housing solution. Hence, whilst the 2011 analysis is technically correct it is likely to over-estimate the actual need for additional affordable homes which is considered to be more in line with the figures emanating from this assessment.

Figure 4.19: Comparing housing needs estimates in 2011 and 2014 – per annum over 17-year period		
	2011 assessment	2014 assessment
Backlog need	34	32
Newly forming households	350	443
Existing households falling into need	913	216
Total Gross Need	1,297	691
Supply	556	396
Net Need	741	295

Source: HNDS 2011 and update

4.86 The annual need in this assessment (for 295 affordable homes) can also be compared with an analysis by the City Council in the 2009 SHMA. This source suggested an annual need for 222 affordable homes per annum.

Summary

4.87 An assessment of housing need has been undertaken which is compliant with Government guidance to identify whether there is a shortfall or surplus of affordable housing in Carlisle. This has estimated current housing need in 2013 of 543 households, excluding existing social housing tenants where they would release a home for another household in need.

4.88 The housing needs model then looked at the balance between needs arising and the supply of affordable housing. Each year an estimated 659 households are expected to fall into housing need and 396 properties are expected to come up for relet.

4.89 Overall, in the period from 2013 to 2030 a net deficit of 5,011 affordable homes is identified (295 per annum). There is thus a requirement for new affordable housing in the District and the Council is justified in seeking to secure additional affordable housing.

4.90 While a deficiency in affordable housing is identified, in practice some households who are unable to secure affordable housing are able to live within the Private Rented Sector supported by housing benefit, It seems likely that the Private Rented Sector will continue to be used to make up for any shortfall of affordable housing.

4.91 When looking at the Council's affordable housing policies this information strongly supports a target of between 25% and 30% depending on location. The analysis would also support a tenure split of 30% intermediate housing and 70% social/affordable rented. Any targets ultimately taken forward in the Local Plan will also need to be informed by an assessment of viability.

4.92 It should be borne in mind that the needs assessment presents a 'snapshot' of housing need based on current housing market conditions. We consider that the affordable housing needs assessment should be reviewed in 5-years' time (2019).

5.   Requirements for Different Sizes/Types of Homes

Introduction

5.1   As noted in Section 2, there are a range of factors which influence housing demand. These factors play out at different spatial scales and influence both the level of housing demand (in terms of aggregate household growth) and the nature of demand for different types, tenures and sizes of homes. It is important to understand that the housing market is influenced by macro-economic factors, as well as the housing market conditions at a regional and local level.

5.2   In this section we consider in some detail the implications of demographic drivers on demand for different housing products. The assessment is intended to provide an understanding of the implications of demographic dynamics on need and demand for different sizes of homes. This however needs to be brought together with an understanding of wider factors including:

- The need and opportunity to develop the housing offer;
- The findings of the housing needs analysis which provide a short-term view of requirements;
- Economic factors, such as trends in employment, overall and by occupation; and
- Local policy objectives.

5.3   The analysis in this section seeks to use the information available about the size and structure of the population and household structures; and consider what impact this may have on the sizes of housing required in the future. For the purposes of this analysis we have looked at the demographic change as indicated in our core demographic projection – delivery of 8,122 additional homes from 2013 to 2030 (based on the sub-area projections).

5.4   It should be noted that this projection will not necessarily be translated into policy but has been used to indicate the likely size requirements of homes moving forward. Were a projection with a different housing figure used then the outputs would be expected to be broadly similar.

Methodology

5.5   Figure 5.1 below describes the broad methodology employed in the housing market modelling. Data is drawn from a range of sources including the 2011 Census and our demographic projections and below we briefly discuss key information sources.

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Figure 5.1: Stages in the Housing Market Model
Establish how households of different ages occupy homes (by tenure)
Project how the profile of households of different ages will change in future
Draw together housing needs, viability and funding issues to consider affordable housing delivery
Model future requirements for market and affordable housing by size and compare to existing profile of homes
Output recommendations for housing requirements by tenure and size of housing

Understanding how Households Occupy Homes

5.6   Whilst the demographic projections provide a good indication of how the population and household structure will develop it is not a simple task to convert the net increase in the number of households in to a suggested profile for additional housing to be provided. The main reason for this is that in the market sector households are able to buy or rent any size of property (subject to what they can afford) and therefore knowledge of the profile of households in an area does not directly transfer into the sizes of property to be provided. The size of housing which households occupy relates more to their wealth and age than the number of people which they contain.

5.7   For example, there is no reason why a single person cannot buy (or choose to live in) a four bedroom home as long as they can afford it and hence projecting an increase in single person households does not automatically translate in to a need for smaller units. This issue is less relevant in the affordable sector (particularly since the introduction of the social sector size criteria) although there will still be some level of under-occupation moving forward with regard to older person and working households who may be able to continue to under-occupy their current homes.

5.8   The general methodology is to use the information derived in the projections about the number of household reference persons (HRPs) in each age and sex group and apply this to the profile of housing within these groups. The data for this analysis has been formed from a commissioned table by ONS (Table C1213 which provides relevant data for all local authorities in England) with data then calibrated to be consistent with 2011 Census data (e.g. about house sizes in different tenure groups and locations).

5.9   Figure 5.2 shows an estimate of how the average number of bedrooms varies by different ages of HRP and different sexes by broad tenure group. In the market sector the average size of accommodation rises over time to typically reach a peak around the 45-49 age groups. In the affordable sector this peak appears earlier. After this peak the average dwelling size decreases – possibly due to a number of people down-sizing as they get older. It is also notable that the average size for affordable housing dwellings are lower than those for market housing whilst in market housing male HRPs live in larger accommodation for all age groups (with no particular trend being seen in the affordable sector).

Figure 5.2: Average Bedrooms by Age, Sex and Tenure
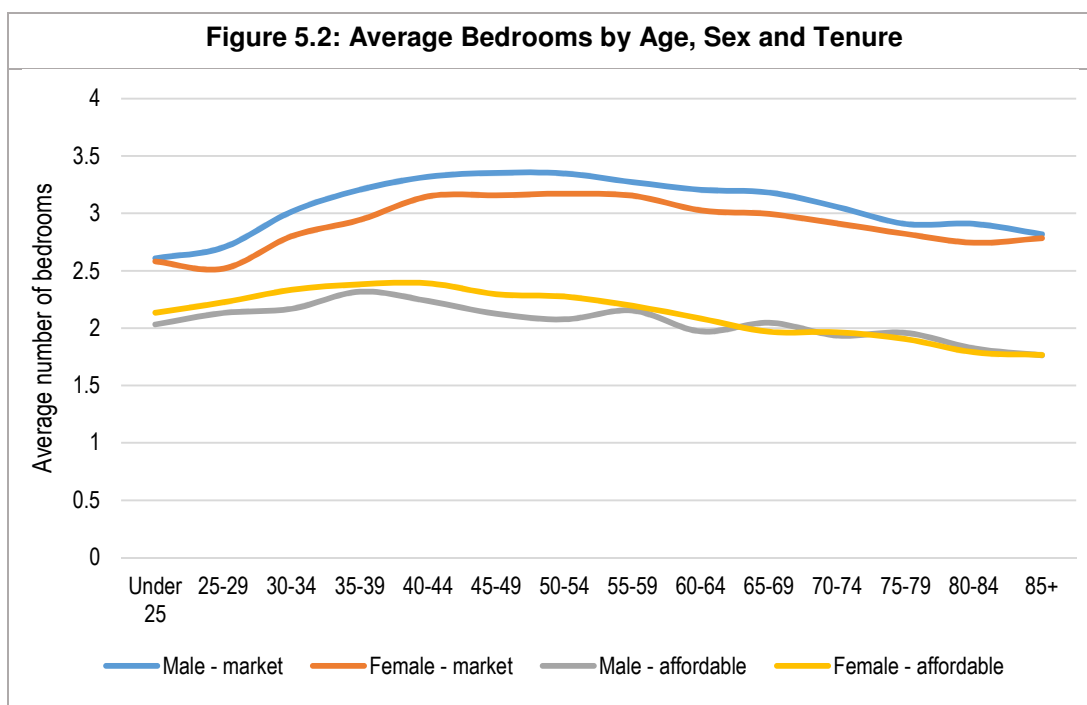
Source: Derived from ONS Commissioned Table C1213 and 2011 Census

Establishing a Baseline Position

5.10   As of 2013 it is estimated that there were 48,684 households living in Carlisle. Analysis of Census data linked to the demographic baseline provides us with an estimate of the profile of the housing stock in 2013, as shown in the table below. Figure 5.3 shows that an estimated 16% of households live in affordable housing with 84% being in the market sector (the size of the affordable sector has been fixed by reference to an estimate of the number of occupied social rented and shared ownership homes in the 2011 Census). The data also suggests that homes in the market sector are generally bigger than in the affordable sector with 65% having three or more bedrooms compared to 31% for affordable housing.

5.11   These figures are for households rather than dwellings due to information about the sizes of vacant homes across the whole stock (i.e. market and affordable) not being readily available. For the purposes of analysis this will not make any notable difference to the outcome. We have however translated the household projections into dwelling figures by including a 4.3% vacancy allowance when studying the final outputs of the market modelling.

Figure 5.3: Estimated Profile of Dwellings in 2011 by Size						
Size of housing	Market		Affordable		Total	
	Number	%	Number	%	Number	%
1 bedroom	1,694	4.1%	2,094	27.1%	3,789	7.8%
2 bedrooms	12,655	30.9%	3,230	41.8%	15,886	32.6%
3 bedrooms	18,509	45.2%	2,162	28.0%	20,671	42.5%
4+ bedrooms	8,100	19.8%	239	3.1%	8,339	17.1%
Total	40,958	100.0%	7,726	100.0%	48,684	100.0%
% in tenure	84.1%		15.9%		100.0%	

Source: Derived from 2011 Census

Tenure Assumptions

5.12   The housing market model has been used to estimate future requirements for different sizes of property over the 17-year period from 2013 to 2030. The model works by looking at the types and sizes of accommodation occupied by different ages of residents, and attaching projected changes in the population to this to project need and demand for different sizes of homes. However the way households of different ages occupy homes differs between the market and affordable sectors (as shown earlier). Thus it is necessary to consider what the mix of future housing will be in the market and affordable sectors.

5.13   The key assumption here is not a policy target but possible delivery. Our assumption is influenced by a range of factors. The Housing Needs analysis in this report provides evidence of notable housing need although the viability of providing affordable housing will limit the amount that can be delivered. On the basis of information in the Council's emerging Local Plan we believe that 30% is probably an achievable level of affordable housing delivery in rural areas with a figure of 25% applied to the urban area. It should be stressed that this is not a policy position and has been applied simply for the purposes of providing outputs from the modelling process.

Key Findings: Market Housing

5.14   As we have previously identified there are a range of factors which can be expected to influence demand for housing. This analysis specifically looks at the implications of demographic drivers. It uses a demographic-driven approach to quantify demand for different sizes of properties over the 17-year period from 2013 to 2030.

5.15   Figures 5.4 and 5.5 show estimates of the sizes of market housing required from 2013 to 2030 based on demographic trends for the whole of the District. The data suggests a requirement for homes for 5,735 additional households with the majority of these being two- and three-bedroom homes.

Figure 5.4: Estimated Size of Dwellings Required 2013 to 2030 – Market Housing				
Size	2013	2030	Additional households 2013-2030	% of additional households
1 bedroom	1,694	1,968	274	4.8%
2 bedrooms	12,655	14,973	2,318	40.4%
3 bedrooms	18,509	21,176	2,667	46.5%
4+ bedrooms	8,100	8,577	477	8.3%
Total	40,958	46,694	5,735	100.0%

Source: Housing Market Model

5.16   Figure 5.5 shows how our estimated market requirement compares with the current stock of housing (based on households (i.e. excluding the 4.3% vacancy allowance)). The data suggests that housing requirements reinforce around the existing profile of stock, but with a slight shift towards a requirement for smaller dwellings relative to the distribution of existing housing. This is understandable given the fact that household sizes are expected to fall slightly in the future (which itself is partly due to the ageing of the population).

Figure 5.5: Impact of Demographic Trends on Market Housing Requirements by House Size, 2013 to 2030
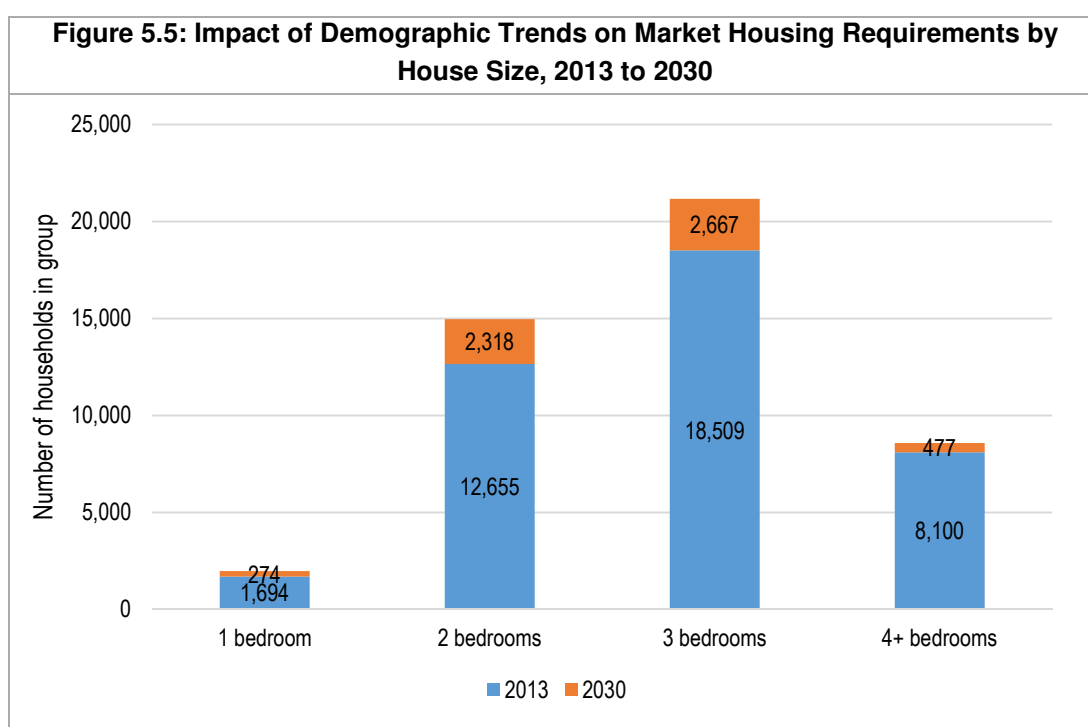
Source: Housing Market Model

5.17   The graphs and statistics are based upon our modelling of demographic trends. As we have identified, it should be recognised that a range of factors including affordability pressures and market signals will continue to be important in understanding market demand; this may include an increased demand in the private rented sector for rooms in a shared house due to changes in housing benefit for single people. In determining policies for housing mix, policy aspirations are also relevant.

5.18   In the short-term we would expect stronger demand in relative terms for larger family homes as the market for smaller properties is restricted by mortgage finance constraints. Over the 17-year projection period it is anticipated that there will be a continuing market for larger family homes, but the existing stock is expected to make a significant contribution to meeting this demand, as older households downsize (releasing equity from existing homes).

5.19   As the last few years have shown, there are a range of inter-dependencies which affect housing demand, with effective demand for entry-level market housing currently curtailed by the availability of mortgage finance for first-time buyers and those on lower earnings. This is likely to affect market demand for smaller properties typically purchased by first-time buyers in the short-term.

5.20   We are of the view that it is appropriate through the planning system to seek to influence the balance of types and sizes of market housing through considering the mix of sites allocated for development rather than specific policies relating to the proportion of homes of different sizes which are then applied to specific sites. This approach is implicit within NPPF which requires local planning authorities to *'identify the size, type, tenure and range of housing that is required'.*

5.21   At the strategic level, a local authority in considering which sites to allocate, can consider what type of development would likely be delivered on these sites. It can also provide guidance on housing mix implicitly through policies on development densities.

Key Findings: Affordable Housing

5.22   Figures 5.6 and 5.7 show estimates of the sizes of affordable housing required based on our understanding of demographic trends. The data suggests in the period between 2013 and 2030 that around 76% of the requirement is for homes with one- or two-bedrooms with around 24% of the requirement being for larger homes with three or more bedrooms.

5.23   This analysis provides a longer-term view of requirements for affordable housing and does not reflect any specific priorities such as for family households in need rather than single people. In addition we would note that smaller properties (i.e. one bedroom homes) typically offer limited flexibility in accommodating the changing requirements of households, whilst delivery of larger properties can help to meet the needs of households in high priority and to manage the housing stock by releasing supply of smaller properties. That said, there may in the short-term be an increased requirement for smaller homes as a result of welfare reforms limiting the amount of housing benefit being paid to some working-age households.

Figure 5.6: Estimated Size of Dwellings Required 2013 to 2030 – Affordable Housing				
Size	2013	2030	Additional households 2013-2030	% of additional households
1 bedroom	2,094	2,806	712	34.7%
2 bedrooms	3,230	4,071	840	40.9%
3 bedrooms	2,162	2,610	448	21.8%
4+ bedrooms	239	291	52	2.5%
Total	7,726	9,778	2,052	100.0%

Source: Housing Market Model

5.24   Figure 5.7 shows how our estimated affordable requirement compares with the stock of affordable housing in 2013 – the figures are based on households (i.e. before adding in a vacancy allowance). Again, the data shows that relative to the current stock there is a slight move towards a greater proportion of smaller homes being required – this makes sense given that in the future household sizes are expected to drop whilst the population of older people will increase – older person households (as shown earlier) are more likely to occupy smaller dwellings.

Figure 5.7: Impact of Demographic Trends on Affordable Housing Requirements by House Size, 2012 to 2030
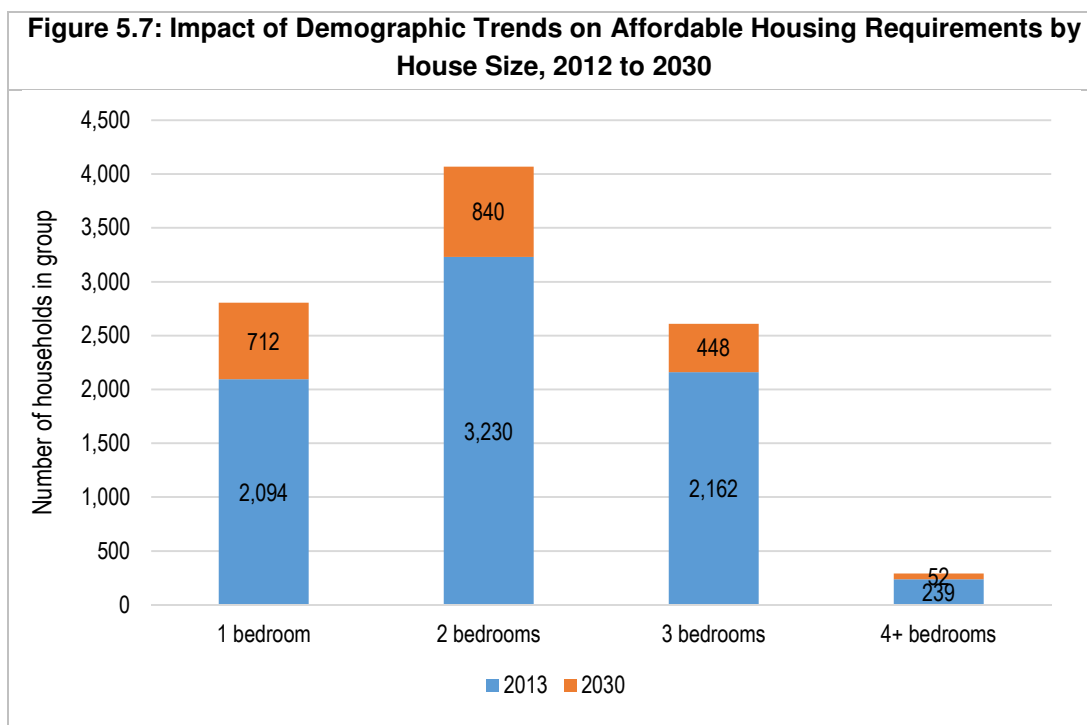
Source: Housing Market Model

Indicative Targets by Dwelling Size

5.25   Figures 5.8 and 5.9 summarises the above data in both the market and affordable sectors under the modelling exercise. We have also factored in a 4.3% vacancy allowance in moving from household figures to estimates of housing requirements.

Number of bedrooms	Market			Affordable		
	Households	Dwellings	% of dwellings	Households	Dwellings	% of dwellings
1 bedroom	274	285	4.8%	712	742	34.7%
2 bedrooms	2,318	2,418	40.4%	840	876	40.9%
3 bedrooms	2,667	2,781	46.5%	448	467	21.8%
4+ bedrooms	477	498	8.3%	52	55	2.5%
Total	5,735	5,982	100.0%	2,052	2,140	100.0%

Figure 5.8: Estimated dwelling requirement by number of bedrooms (2013 to 2030)

Source: Housing Market Model

Figure 5.9: Size of housing required 2013 to 2030

Market	Affordable

Source: Housing Market Model
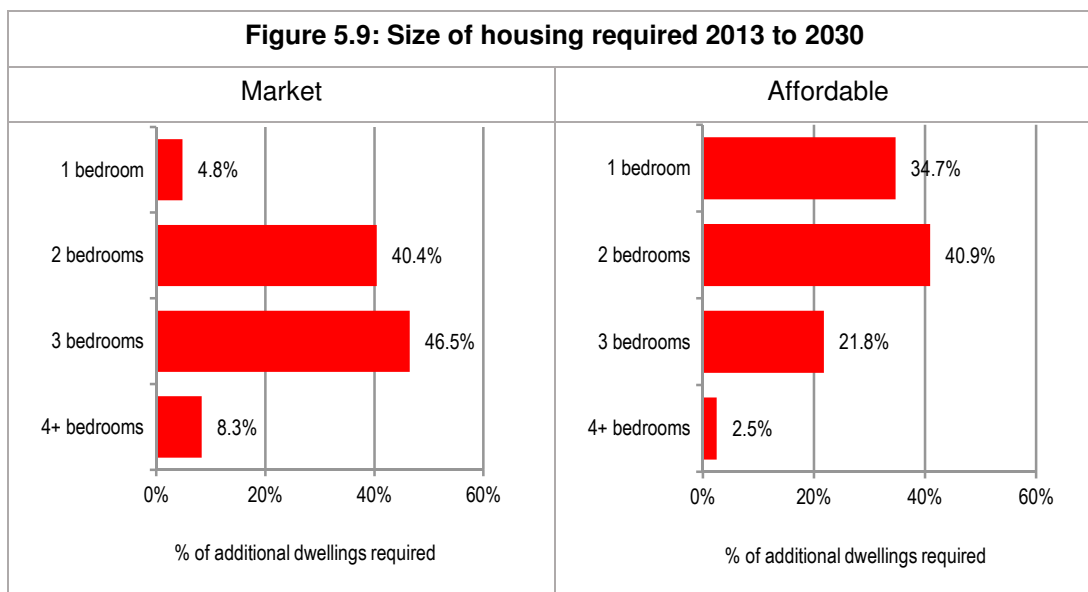
5.26 Whilst the outputs of the modelling provide estimates of the proportion of homes of different sizes that should be provided there are a range of factors which should be taken into account in setting policies for provision. This is particularly the case in the affordable sector where there are typically issues around the demand for and turnover of one bedroom homes. We also need to consider that the stock of four bedroom affordable housing is very limited and tends to have a very low turnover. As a result, whilst the number of households coming forward for four or more bedroom homes is typically quite small the ability for these needs to be met is even more limited.

5.27 It should also be recognised that local authorities have statutory homeless responsibilities towards families with children and would therefore prioritise the needs of families over single person households and couples. On this basis the profile of affordable housing to be provided would be further weighted to two or more bedroom housing. In the short-term however there may be a need to increase the supply of one-bedroom homes due to the social sector size criteria.

5.28 For these reasons we would suggest in converting the long-term modelled outputs into a profile of housing to be provided (in the affordable sector) that the proportion of one bedroom homes required is reduced slightly from these outputs with a commensurate increase in four or more bedroom homes also being appropriate.

5.29 There are thus a range of factors which are relevant in considering policies for the mix of affordable housing sought through development schemes. At a District-wide level, the analysis would support policies for the mix of affordable housing of:

- 1-bed properties: 30%-35%
- 2-bed properties: 35%-40%
- 3-bed properties: 20%-25%
- 4-bed properties: 5%-10%

5.30   Our strategic conclusions recognise the role which delivery of larger family homes can play in releasing supply of smaller properties for other households; together with the limited flexibility which one-bed properties offer to changing household circumstances which feed through into higher turnover and management issues.

5.31   The issue of the need for one bedroom accommodation is particularly important for Carlisle; whilst the analysis above and data from the Housing Register identifies a need for such accommodation it is the case that one bedroom dwellings in some locations and of certain build types (e.g. flats) may suffer from low demand. Riverside (the largest Registered Provider in the District) have, for example, recently carried out a selective demolition of 1-bed flats on a number of estates and replaced them with more popular property types. Therefore, whilst a need for one bedroom homes is identified it is likely that a notable proportion of these would be best provided as bungalows (to mobility standards) to meet the needs of an ageing population. Decisions on the most appropriate type of housing should therefore be taken at a more localised level, taking account of the current stock of housing and the likely household groups with a need/demand for accommodation.

5.32   The need for affordable housing of different sizes will vary by area across the Carlisle District and over time. In considering the mix of homes to be provided within specific development schemes, the information herein should be brought together with details of households currently on the Housing Register in the local area and the stock and turnover of existing properties.

5.33   In the market sector we would suggest a profile of housing that more closely matches the outputs of the modelling. The recommendations take some account of the time period used for the modelling and the fact that the full impact of the ageing population will not be experienced in the short-term. In addition, as noted earlier, current constraints on mortgage finance is likely to suppress demand for smaller units in the short-term (particularly those which would normally have high demand from first-time buyers).

5.34   On the basis of these factors we consider that the provision of market housing should be more explicitly focused on delivering smaller family housing for younger households. On this basis we would recommend the following mix of market housing be sought:

- 1-bed properties: 5%
- 2-bed properties: 40%
- 3-bed properties: 45%
- 4-bed properties: 10%

5.35   Although we have quantified this on the basis of the market modelling and our understanding of the current housing market we do not strongly believe that such prescriptive figures should be included in the plan making process and that the 'market' is to some degree a better judge of what is the most appropriate profile of homes to deliver at any point in time. The figures can however be used as a monitoring tool to ensure that future delivery is not unbalanced when compared with the likely requirements as driven by demographic change in the area.

Smaller-area Housing Market Modelling Outputs

5.36   Whilst the analysis above has focused on outputs for the whole of Carlisle District the data itself has been built up from analysis at a smaller area level. The tables below provide the outputs of this analysis in terms of the sizes of accommodation estimated to be required in each of the affordable and market sectors for the three different areas.

5.37   The analysis shows a greater need for family sized (3+ bedroom) accommodation in the Carlisle Urban area when compared with the rural areas (where there is a greater focus on two-bedroom homes). This finding is due to the different demographic profile in each area and how this is expected to develop over time. Specifically in the Carlisle Urban area the population is generally younger and has more people who are likely to be part of a family household – hence the greater need for family homes. In the rural areas there is still a strong need for family sized accommodation shown in the analysis but the need for more two bedroom homes is driven by an ageing population and the evidence that there will be some degree of downsizing as people get older.

Figure 5.10: Estimated dwelling requirement by number of bedrooms (2013 to 2030) – Market Sector					
Sub-area		1 bedroom	2 bedrooms	3+ bedrooms	Total
Rural West	No.	21	165	195	380
	%	5.4%	43.2%	51.3%	100.0%
Rural East	No.	76	555	521	1,152
	%	6.6%	48.2%	45.3%	100.0%
Carlisle Urban	No.	189	1,698	2,562	4,449
	%	4.2%	38.2%	57.6%	100.0%
TOTAL	No.	285	2,418	3,279	5,982
	%	4.8%	40.4%	54.8%	100.0%

Source: Housing Market Model

5.38   In the affordable sector, there is relatively little difference between areas in terms of the estimated sizes of accommodation required – all areas show about a third of homes being required as 1 bedroom properties and about a quarter for family sized homes with three or more bedrooms. Two bedroom homes are the main size of dwelling required in the affordable sector in all areas.

Figure 5.11: Estimated dwelling requirement by number of bedrooms (2013 to 2030) – Affordable Sector					
Sub-area		1 bedroom	2 bedrooms	3+ bedrooms	Total
Rural West	No.	53	68	43	163
	%	32.4%	41.5%	26.1%	100.0%
Rural East	No.	175	193	125	494
	%	35.5%	39.1%	25.4%	100.0%
Carlisle Urban	No.	514	615	354	1,483
	%	34.7%	41.5%	23.8%	100.0%
TOTAL	No.	742	876	522	2,140
	%	34.7%	40.9%	24.4%	100.0%

Source: Housing Market Model

Indicative Requirements for Specialist Housing for Older People

5.39   Given the ageing population and higher levels of disability and health problems amongst older people there is likely to be an increased requirement for specialist housing options moving forward. The analysis in this section draws on data from the Housing Learning and Information Network (Housing LIN) along with our demographic projections to provide an indication of the potential level of additional specialist housing that might be required for older people in the future.

Current stock of housing

5.40   Figure 5.12 below shows the current supply of specialist housing for older people. At present it is estimated that there are 535 units; this is equivalent to 54 units per 1,000 people aged 75 and over. The majority (80%) of this housing is in the affordable sector with only a fifth being market housing (even though the majority of retired households are owner-occupiers).

Figure 5.12: Current supply of specialist housing for older people			
	Affordable	Market	Total	Supply per 1,000 aged 75+
Sheltered	323	108	431	44
Extra-Care	104	0	104	11
Total	427	108	535	54

Source: Housing LIN

Projected future need for specialist housing

5.41   The analysis above showed a total of 54 specialist units per 1,000 people aged 75 and over; this figure is significantly lower than the national average of about 170. In projecting forward how many additional units might be required we have modelled on the basis of maintaining the 54 position and also the implications of increasing this to 170. The analysis is based on achieving these levels by 2030.

5.42   The analysis shows to maintain the current level of provision there would need to be a further 316 units provided – this figure increases to 2,145 if the level of provision were to get to the national average. It should be stressed that the analysis below is based on modelling data on a series of assumptions and should therefore be treated as indicative (particularly given the very wide range of outputs depending on the assumptions used).

Figure 5.13: Projected need for specialist housing for older people (2013-30)		
	@ 54 per 1,000	@ 170 per 1,000
Need	851	2,680
Supply	535	535
Net need	316	2,145

Source: Derived from demographic projections and Housing LIN

5.43   A mid-point of the two estimates would suggest a need for around 1,230 additional specialist units for older people which would represent about 15% of the overall housing need shown through demographic modelling. The figure of 1,230 would imply around 112 units per 1,000 population being available which is close to the sort of figures we have seen modelled in similar exercises elsewhere in the Country (e.g. Warwickshire County Council uses a figure of 125 per 1,000).

Types and tenures of specialist housing

5.44   Figure 5.14 below shows the tenure of older person households – the data has been split between single pensioner households and those with two or more pensioners (which will largely be couples). The data shows that pensioner households are relatively likely to live in outright owned accommodation (69%) and are also more likely than other households to be in the social rented sector. The proportion of pensioner households living in the private rented sector is relatively low (4% compared with 14% of all households in the District).

5.45   There are however notable differences for different types of pensioner households with single pensioners having a much lower level of owner-occupation than larger pensioner households – this group also has a much higher proportion living in the social rented sector.

Figure 5.14: Tenure of older person households – Carlisle
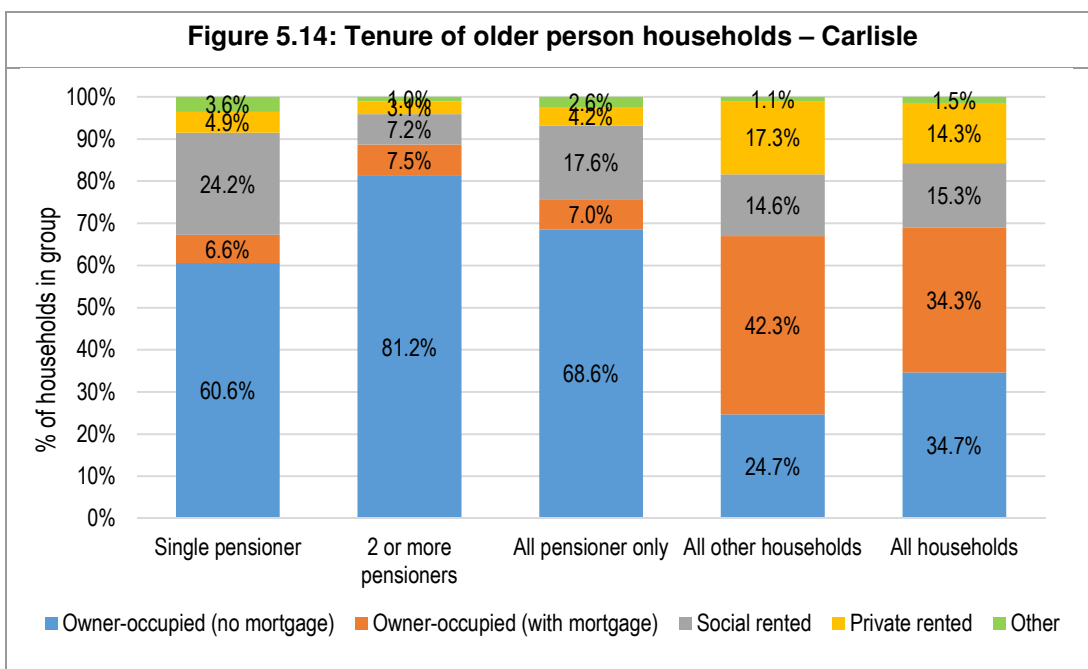
Source: 2011 Census

5.46   The information about current tenures can be used to estimate the amount of additional housing likely to be required in each of the market and affordable sectors. Looking at the data above it is considered that around 65% of older person households would be able to afford a market solution – this figure is arbitrary but based on current levels of outright ownership and recognising stronger growth in single person households in the future (such households having lower levels of home ownership).

5.47   Figure 5.15 shows that using this proportion of home ownership along with the current supply of different tenures of specialist housing it would be expected that there is a need for around 1,044 units of market specialist housing and 187 in the affordable sector – about 14 per annum.

5.48   The analysis is not specific about the types of specialist housing that might be required; we would consider that decisions about mix should be taken at a local level taking account of specific needs and the current supply of different types of units available. There may also be the opportunity moving forward for different types of provision to be developed as well as the more traditional sheltered and Extra-Care housing.

5.49   Within the different models and assumptions made regarding the future need for specialist retirement housing (normally defined as a form of congregate housing designed exclusively for older people which usually offers some form of communal space, community alarm service and access to support and care if required), there may for example be an option to substitute some of this specialist provision with a mix of one and two bedroomed housing aimed to attract 'early retired' older people which could be designated as age specific or not. Such housing could be part of the general mix of one and two bedroom homes but built to Lifetime Homes standards in order to attract retired older people looking to 'down size' but perhaps not wanting to live in specialist retirement housing.

5.50   Our experience when carrying out stakeholder work as part of other SHMA commissions typically identifies a demand for bungalows. Where developments including bungalows are found it is clear that these are very popular to older people downsizing. It should be acknowledged that providing significant numbers of bungalows involves cost implications for the developer given the typical plot size compared to floor space – however providing an element of bungalows should be given strong consideration on appropriate sites, allowing older households to downsize while freeing up family accommodation for younger households.

Figure 5.15: Projected need for older persons accommodation (including specialist housing) – by broad tenure (2013-30)			
	Market	Affordable	Total
Need	1,148	618	1,766
Supply	104	431	535
Net need	1,044	187	1,231

Source: Derived from demographic projections

Registered care housing

5.51   As well as the need for specialist housing for older people the analysis needs to consider Registered Care. At present (according to Housing LIN) there are around 868 spaces in nursing and residential care homes. Given new models of provision (including Extra-care housing) it may be the case that an increase in this number would not be required. There will however need to be a recognition that there may be some additional need for particular groups such as those requiring specialist nursing or for people with dementia.

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5.52   The demographic modelling includes estimates of the number of people expected to be living in 'institutions'. Between 2013 and 2030, this number (based on the population aged 75+) is expected to increase by 655 people (39 per annum). This figure is important to note if the Council intend to include C2 class uses in their assessment of 5-year housing land supply as it will be necessary to include figures on both the need and supply side of the equation.

Comparison with previous research

5.53   The housing need and demand study (HNDS) of 2011 also contained an analysis of the need for different sizes of accommodation (albeit based on a household survey methodology). The table below compares the outputs of this modelling with those in this report. Generally, the findings are quite similar. In the market sector the analysis in the HNDS did not identify any need for one bedroom homes although this report suggest a very moderate need (about 5%). In the affordable sector this report tends to show a slightly higher need for smaller homes with 35% of the need being in the one-bedroom sector compared with 27% in the HNDS. The need for three or more bedroom homes shows a trend in the opposite direction. Both analyses do however confirm that the main requirement in the affordable sector is for homes with two bedrooms.

Figure 5.16: Comparison of size requirements by tenure (HNDS and SHMA review)				
Dwelling size	Market housing		Affordable housing	
	HNDS (2011)	SHMA review (2014)	HNDS (2011)	SHMA review (2014)
1 bedroom	0%	5%	27%	35%
2 bedrooms	44%	40%	42%	41%
3+ bedrooms	56%	55%	31%	24%
TOTAL	100%	100%	100%	100%

Source: HNDS and SHMA review

Summary

5.54   There are a range of factors which will influence demand for different sizes of homes, including demographic changes; future growth in real earnings and households' ability to save; economic performance and housing affordability. Our analysis linked to long-term (17-year) demographic change concludes that the following represents an appropriate mix of affordable and market homes:

	1-bed	2-bed	3-bed	4+ bed
Market	5%	40%	45%	10%
Affordable	30-35%	35-40%	20-25%	5-10%
All dwellings	10-15%	40%	40%	5-10%

5.55   Our strategic conclusions in the affordable sector recognise the role which delivery of larger family homes can play in releasing supply of smaller properties for other households; together with the limited flexibility which one-bed properties offer to changing household circumstances which feed through into higher turnover and management issues.

5.56   The mix identified above should inform strategic District-wide policies. In applying these to individual development sites regard should be had to the nature of the development site and character of the area, and to up-to-date evidence of need as well as the existing mix and turnover of properties at the local level.

5.57   Based on the evidence, we would expect the focus of new market housing provision to be on two and three-bed properties. Continued demand for family housing can be expected from newly forming households. There may also be some demand for medium-sized properties (2 and 3 beds) from older households downsizing and looking to release equity in existing homes, but still retain flexibility for friends and family to come and stay.

5.58   Analysis of the need for specialist accommodation for older people suggests a need for around 1,230 additional units over the 2013-30 period (72 per annum) of which around 15% will be in the affordable sector. The need for such units is included within the overall housing need outputs assessed in Section 3 although analysis of changes to the institutional population does identify a potential additional requirement from around 40 people each year over and above these figures.

5.59   The analysis of an appropriate mix of dwellings should also inform the 'portfolio' of sites which are considered through the Local Plan process. Equally it will be of relevance to affordable housing negotiations.

6. Conclusions – Overall Housing Requirements

6.1 The NPPF (and guidance) sets out that plans should be prepared on the basis of meeting full needs for market and affordable housing. The guidance sets out that the latest national projections should be seen as a starting point but that authorities may consider sensitivity testing projections in response to local circumstances and the latest demographic evidence.

6.2 In accordance with the planning guidance, the latest CLG household projections have formed the starting point for our assessment. These projections indicate a requirement for around 240 homes per annum. There are two particular limitations with this projection: it only covers the period to 2021 and our analysis suggests that there is robust justification to deviate from some of the assumptions underpinning the ONS/CLG work (particularly to reflect recent migration trends being significantly below longer-term trends).

6.3 This leads us to consider updating the trend-based projection. This projection is linked to the most recent (2012-based SNPP) but, in line with guidance, incorporates migration inputs which have been amended to reflect a more 'normal' trend period. This indicates a requirement for 6,300 dwellings over the 2013 to 2030 period, equivalent to 370 per annum, which in our view is a robust starting point for housing requirements in Carlisle.

6.4 The guidance then effectively sets out a number of tests which should be applied in order to consider whether there is a case to adjust the level of housing provision (particularly upwards relative to the demographic evidence). Paraphrasing the guidance, these tests can be broadly described as follows:

- Is there evidence that household formation rates in the projections have been constrained? Do market signals point to a need to increase housing supply?
- How do the demographic projections 'sit' with the affordable housing needs evidence, and should housing supply be increased to meet affordable needs?
- What do economic forecasts say about jobs growth? Is there evidence that an increase in housing numbers would be needed to support this?

Test 1: Has household formation been constrained? Is there a market rationale to increase supply?

6.5 The first of the above tests relates to whether there is evidence that household formation rates in the projections have been constrained. The headship rates in the 2011-based projections are based on trends between 2001 and 11 – a period during which house prices rose substantially and affordability worsened. When we compare this to the 2008 based headship rates for Carlisle we see some divergence which suggests that there has been some household suppression in Carlisle over the recent past. This suppression is also projected forward in the 2011-based CLG household projections.

6.6   Market analysis also suggests that there has been some suppression of household formation in the District. Particularly focussing on the early part of the last decade there is evidence of a demand supply imbalance and worsening affordability. As a result of this the analysis has moderated household formation (headship) rates in the modelling to return towards the rates published in the 2008-based CLG household projections.

6.7   This adjustment to headship rates takes the estimated annual housing need up to 481 homes per annum (from 370).

Test 2: Is overall housing supply capable of meeting affordable housing needs?

6.8   The second test is to consider the ability of overall housing numbers to ensure affordable housing needs can be satisfied. Following the approach advocated by the guidance, the net affordable housing need identified in Carlisle from 2013 to 2030 is 5,011, equivalent to 295 households each year. This is the level of need which would need to be accommodated over the remainder of the plan period.

6.9   This level of need represents around 61% of a housing requirement of 481 homes per annum; however further analysis suggests that the private rented sector is providing roughly the same number of benefit supported lettings as the need – hence the affordable 'market' looks to be roughly in balance (although it should be recognised that the private rented sector is not recognised in the NPPF as an affordable tenure). Provision of additional affordable housing will assist in reducing the reliance on the private rented sector moving forward.

6.10   Overall, the level of affordable need does not appear to be putting any additional (and upward) pressures on overall housing requirements.

Test 3: Will overall housing provision support forecast economic growth

6.11   In line with guidance, we have also considered the implications of future economic and employment trends on housing requirements by modelling the housing which would be required to meet the level of employment growth forecast by Cumbria County Council's commissioned forecasts (from Experian).

6.12   The Experian forecasts suggests an additional 6,350 jobs can be expected in the Carlisle District in the 2013-30 period. For the workforce to grow at the same level would require some 564 homes per annum to be provided. This estimate includes consideration of how employment rates might change but does not take account of commuting patterns or 'double jobbing'.

6.13   Overall, the evidence would suggest that to support economic growth a higher housing requirement is likely to be needed than is shown in the core demographic based analysis.

Overall Conclusion on Housing Requirements

6.14   Drawing the range of evidence together, we conclude that a requirement of 480-565 homes per annum would be a reasonable objective assessment of need. It should be recognised that this is an objective, policy-off analysis and takes no account of land supply or development constraints within the District. The NPPF and practice guidance dictates that assessments are undertaken in this way.

Appendix 1: Projection Methodology and Key Data

Introduction

A1.1   Our methodology used to determine population growth and hence housing requirements is based on fairly standard population projection methodology consistent with the methodology used by ONS and CLG in their population and household projections. Essentially the method establishes the current population and how this will change in the period from 2013 to 2030. This requires us to work out how likely it is that women will give birth (the fertility rate); how likely it is that people will die (the death rate) and how likely it is that people will move into or out of the local authority area. These are the principal components of population change and are used to construct our population projections.

A1.2   Figure A1.1 shows the key stages of the projection analysis through to the assessment of housing requirements.

Figure A1.1: Overview of Methodology

Fertility (Births) • Mortality (Deaths) • In-Migration • Out-Migration • Natural Change • Net Migration • Population Projection • Headship Assumptions • Household Projection • Vacancy Allowance • Housing Requirement
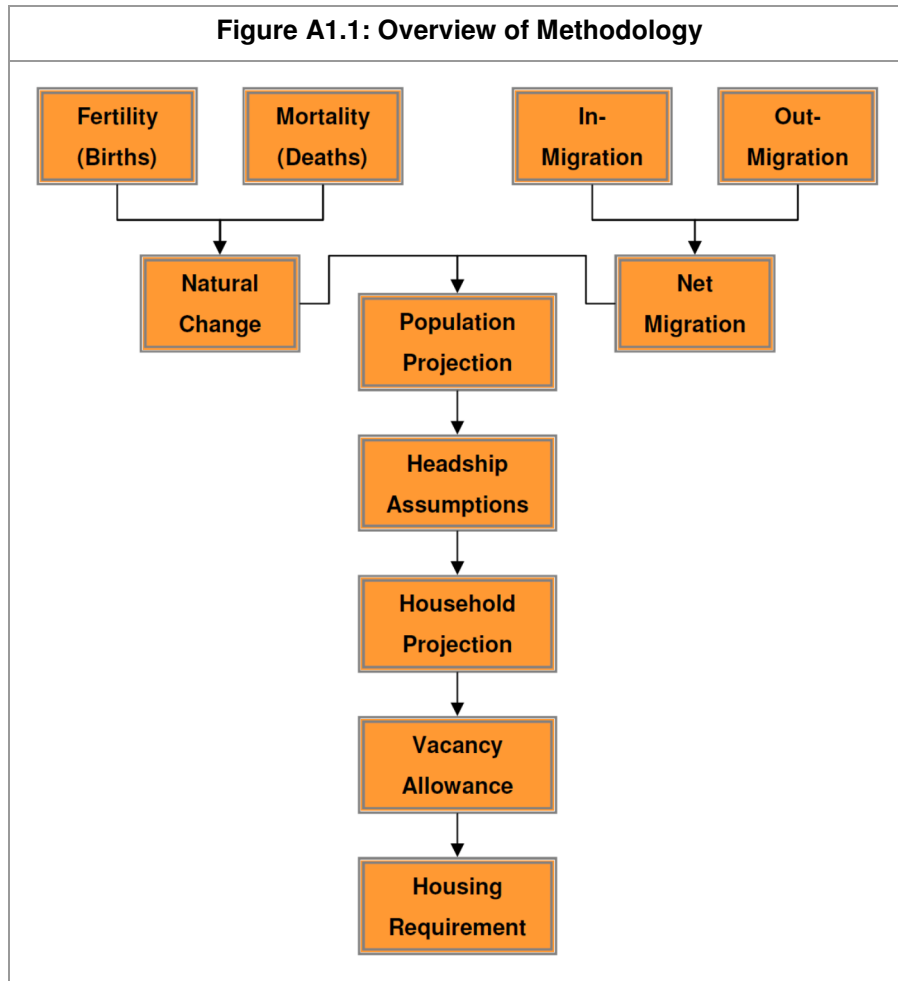
Projections Run

A1.3   As part of this assessment we have run a number of projections to assess how the population and local economy (number of people in employment) might change under different assumptions. The projections were developed to follow the logical set of steps set out in CLG advice of March 2014. Two core projections were developed (one based on demographic trends and one on meeting job growth forecasts). Core outputs from these projections are provided in this section with a summary of the projections being listed below:

- PROJ 1 (Demographic-based – linked to the latest (2012-based) SNPP with an uplift to migration assumptions to take account of the possible impact of restricted housing supply and longer-term migration trends)
- PROJ 2 (Jobs-led – linked to employment growth of about 6,350 jobs – this being the level of job growth expected in a 2014 Experian economic forecast)

A1.4   An initial projection was also developed on the basis of the 2012-based interim SNPP and CLG household projections. This scenario is not detailed below due to it being rejected as containing a notable level of household formation constraint moving forward as well as a constraint linked to recent housing delivery rates/lower than long-term trend migration.

Past Population Dynamics

A1.5   Before describing the projection process and key inputs it is of interest to study past population growth and the components of change. The table below summarises key data from ONS mid-year population estimates (MYE) going back to 2001. The data for 2001-11 is from the revised MYE which uses Census data to adjust past estimates to ensure consistency between data for 2001 and 2011.

A1.6   The information shows a number of interesting trends in relation to Carlisle and these are summarised below:

- Natural change (the number of births minus the number of deaths) has been increasing over time from a negative position up until 2004/5 to a level of net growth over the past eight years for which data is available. This trend is consistent with that seen in many areas where relatively high birth rates have driven a greater level of population growth than was observed earlier in the past decade.
- Net internal migration (people moving from one part of the Country to/from Carlisle) has gone from being strongly positive to the complete opposite. In 2001/2, ONS data shows a net in-migration of around 1,200 people with more recent data showing net internal migration to be more in balance (many years in fact showed net out-migration).
- With a reduction in net internal migration we have also seen a general decrease in the level of net international migration, particularly in the years from 2007/8 where international migration averaged around 50 people per annum (compared with 320 from 2002 to 2007). The two most recent years (2011-13) show international net out-migration – something which hadn't been observed since 2001/2.
- The other changes are fairly minor in number compared to the migration figures – other changes are largely linked to estimated changes in the prison and armed forces populations.

- The other (unattributable) column of data reflects an adjustment made by ONS to ensure consistency between Census based mid-year population estimates and the mid-year estimates prior to Census data being available. In Carlisle the positive figures imply that the various components of population change (once added together) are about 1,100 people lower than the overall level of population growth (in the decade to 2011). Whilst it is unknown as to what components of change this difference is linked to it is most probable that this will be due to the under-recording of in-migration or over-recording of out-migration – this in turn may be linked to international migration data which has historically been the most difficult component of population change to accurately measure. The ONS data does not provide a figure for other (unattributable) in 2011/13 as there is no Census data against which to measure whether or not population change has been over- or under-estimated.

Figure A1.2: Components of population change (2001-13) – Carlisle						
Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	-221	1,155	-37	-36	96	957
2002/3	-88	827	240	-11	88	1,056
2003/4	-5	1,193	338	3	106	1,635
2004/5	-55	647	458	-2	102	1,150
2005/6	37	704	298	-5	111	1,145
2006/7	22	195	262	-8	115	586
2007/8	119	-397	55	-16	124	-115
2008/9	72	-520	109	-2	129	-212
2009/10	153	-365	114	-10	127	19
2010/11	190	54	82	23	141	490
2011/12	235	258	-17	1	-	477
2012/13	41	-2	-45	3	-	-3

Source: ONS Components of Change

A1.7 Overall the key finding from this analysis is of highly fluctuating levels of migration over time which in itself makes it difficult to confidently develop a demographic trend based projection. The fluctuations in migration can be more clearly emphasized in the figure below which separates out in- and out-migration (rather than just showing the net figures as in the table above). This shows that the key change over time has been a reduction in the number of people moving to the area from other parts of the country (internal in-migration) although there has also been a reduction in international in-migration.

Figure A1.3: Past migration trends by component and type (2001-13) – Carlisle
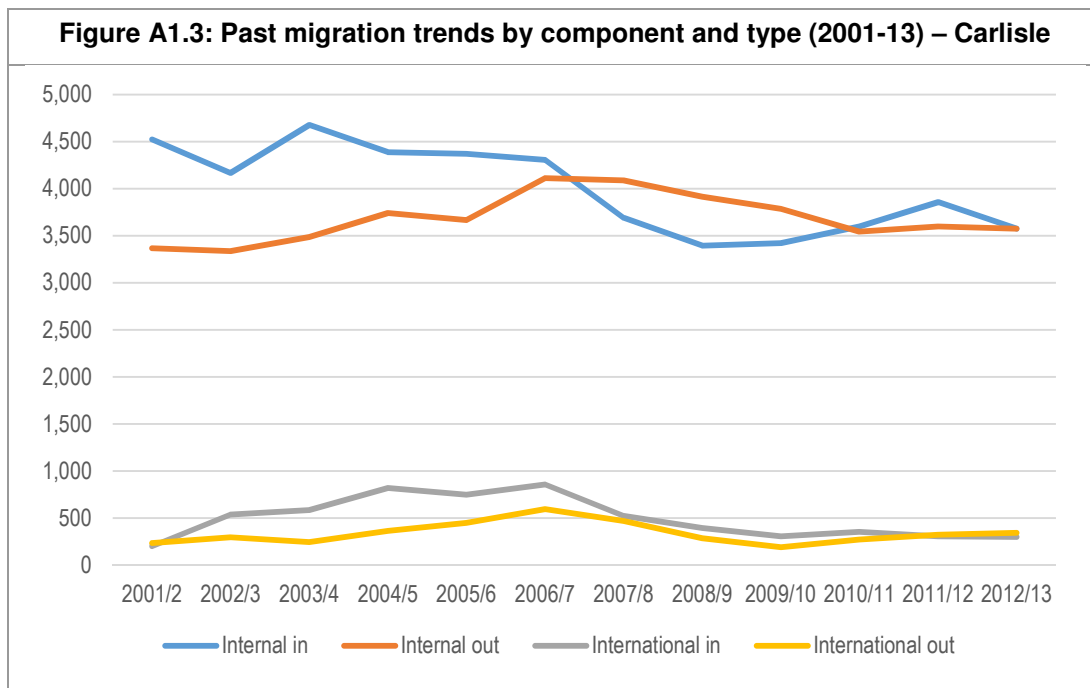
Source: ONS Components of Change

Baseline Population

A1.8   The baseline for our projections is taken to be 2013 with the projection run for each year over the period up to 2030. The estimated population profile as of 2013 has been taken from ONS mid-year population estimates. The overall population in 2013 is estimated to be 107,949 with slightly more females than males.

Figure A1.4: Population of Carlisle (5 year age bands) – 2013		
Age group	Male	Female
Ages 0-4	3,190	2,994
Ages 5-9	2,979	2,851
Ages 10-14	2,670	2,682
Ages 15-19	3,017	3,120
Ages 20-24	3,408	3,718
Ages 25-29	3,142	3,191
Ages 30-34	3,166	3,264
Ages 35-39	2,946	2,996
Ages 40-44	3,821	3,768
Ages 45-49	3,885	3,993
Ages 50-54	4,096	4,064
Ages 55-59	3,427	3,552
Ages 60-64	3,406	3,408
Ages 65-69	3,142	3,314
Ages 70-74	2,341	2,539
Ages 75-79	1,815	2,226
Ages 80-84	1,270	1,721
Ages 85+	964	1,863
All Ages	52,685	55,264

Source: ONS midyear population estimates

Fertility and Mortality Rate Assumptions

A1.9   For modelling of fertility and mortality we have used the rates contained within the ONS 2012-based subnational population projections (SNPP).

A1.10   For the period from 2013 to 2030 the total fertility rate (the expected average number of live births per woman throughout their childbearing lifespan) has been calculated to average about 1.89. Whilst there are some small year-by-year variations these figures are broadly constant throughout the projection period.

A1.11   With regard to death rates the data suggests that life expectancy is expected to increase over time for both males and females. It is not possible to provide exact life expectancy figures from the 2012-based SNPP as this to some degree will depend on the assumptions made about the death rates for age groups beyond 90 (the ONS data stops at a figure for 90+). However in modelling life expectancy for Carlisle we suggest that the figures will see an improvement from 79.0 to 82.8 for males from 2013 to 2030 with figures of 82.4 to 85.2 expected for females.

A1.12   We have no evidence to suggest that either the fertility or mortality estimates used by ONS are unreasonable and note that the expected figures and changes are consistent with past trend data and future expected patterns as published by ONS on a national basis.

Migration Assumptions

A1.13   For the purposes of understanding the profile of migrants we have again drawn on the ONS 2012-based sub-national population projections. The figure below show the profile of in- and out-migrants by age in each area linked to our updated demographic projection. This projection sees an average level of net in-migration of 497 people per annum (made up of 4,400 in-migrants and 3,903 people moving out). The data shows that the key age groups are people aged 15-29. Virtually all age groups are expected to see a level of net in-migration.

A1.14   When projecting migration patterns for the various projection scenarios we have used the migration data and adjusted levels of in-migration to match the requirements of our scenario (e.g. when testing what level of migration is required to support a workforce of a particular size). This approach has consistently been adopted across all analysis.

Figure A1.5: Estimated annual level of migration by five-year age band (2013-2030) – Carlisle
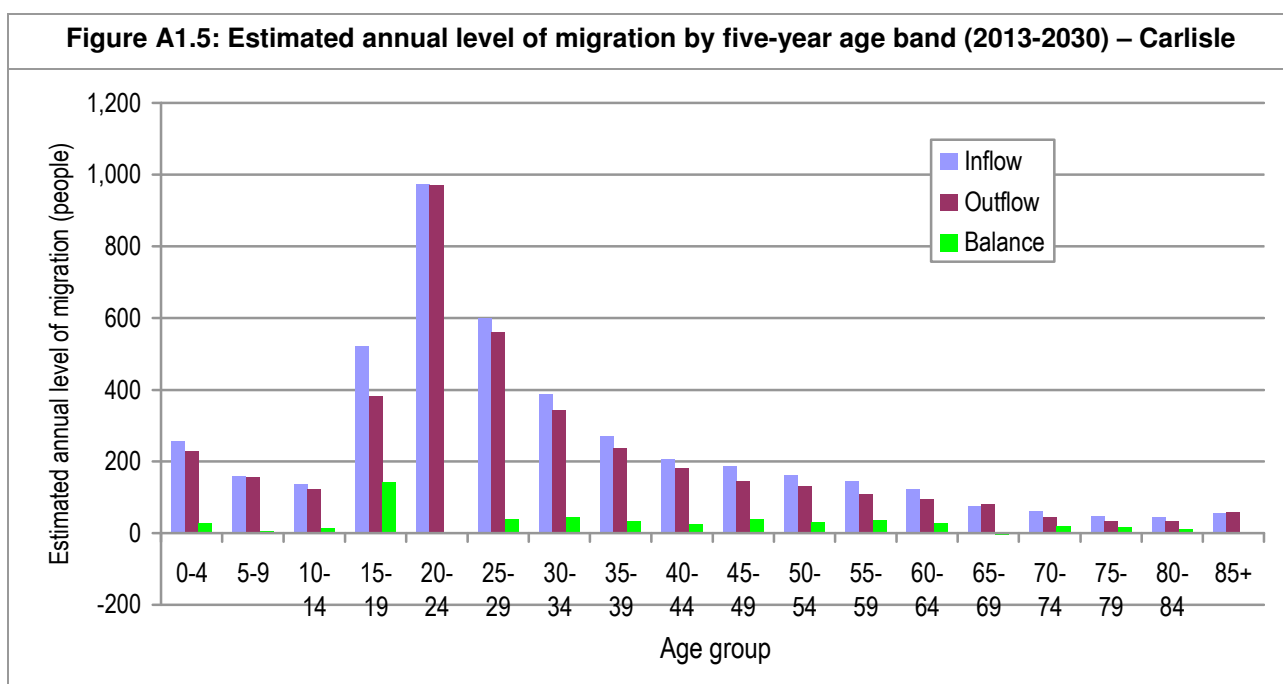
Source: Derived from ONS 2012-based subnational population projections

Economic (Employment) Assumptions

A1.15   With the change in demographic structure will come changes in the number of people who are working (as the population of people of working age changes). The next stage of the projection process was therefore to make estimates about how employment levels would change under each of our projections and also to consider the demographic implications of different levels of employment growth. The process is set out in the Figure A1.6.

Figure A1.6: Overview of Economic-Driven projection methodology

A1.16   It is not however a simple task to convert population data into estimates of the number of people who will be working as employment rates are likely to change in the future for three main reasons:

- Changes to pensionable age will potentially see people working for longer and increase the proportion of older age groups who are in employment
- Moving out of recession there is likely to be a reduction in unemployment which would increase employment rates
- The general trend over the past decade has been for increased economic activity for many age groups (notably older people (both sexes) and females aged 25 and over). This trend may be expected to continue into the future

A1.17   To study how employment rates might change in the future the analysis starts by looking at past trends in economic activity over the 2001-11 period from Census data. This analysis has been carried out at a national level (for England). The data shows the following key trends:

- Reducing economic activity rates for those aged 16-24 (particularly for males)
- No particular change in rates for males aged 25-49
- Increasing economic participation for males aged 50 and over
- Increasing participation rates for all female age groups from age 25 and upwards

A1.18   The trends studied below are for economic activity rates although in this report the analysis is based on employment rates (which is the economically active population minus those who are unemployed). Ideally trends in employment rates would have been studied but this has proved difficult due to different definitions used in the 2001 and 2011 Census (relating to how students are recorded). For the purposes of analysis it is assumed that employment rate trends follow a similar pattern to economic activity rate trends.

Figure A1.7: Past trends in economic activity rates (England)
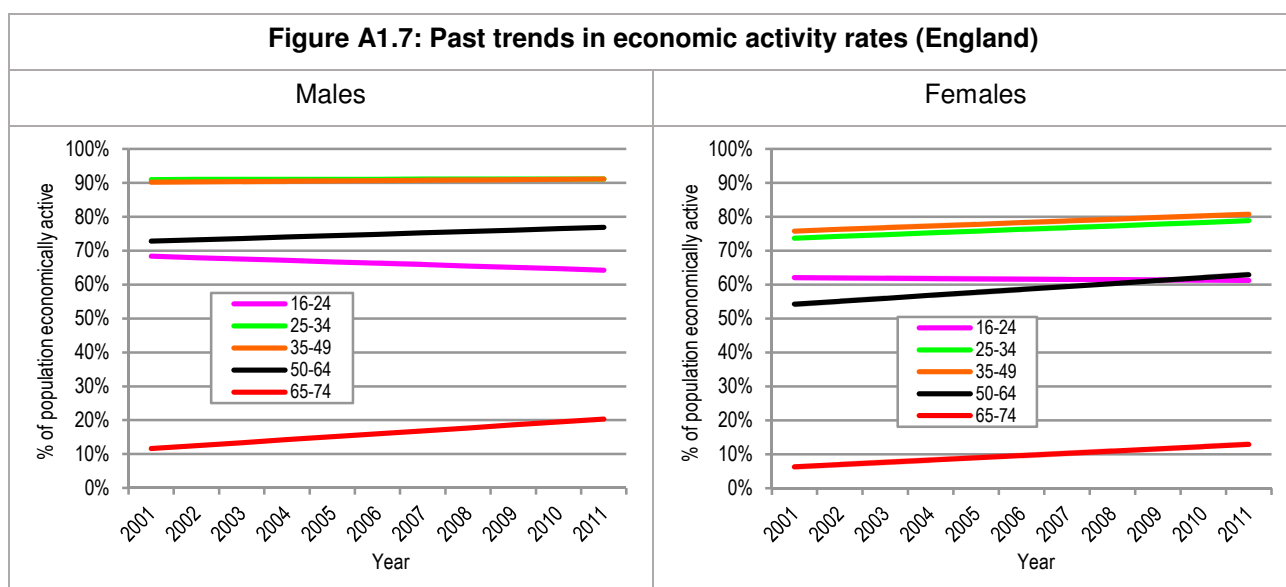
Source: Census (2001 and 2011)

A1.19   To project these rates forward some of the reasons for these trends need to be considered. In particular the reduction in economic activity rates for people aged 16-24 is likely to some degree to be linked to an increase in students (which may not continue into the future) whilst some of the rapid increases for females are arguably unlikely to continue at the same rate as in the past.

A1.20   To try to get a realistic view about how employment rates might change in the future an analysis of a national economic forecast (from Experian) and also the national (2012-based) population projections has been undertaken. Essentially the method used works on the basis that both the Experian forecasts and the population projections are correct and then models what level of change to employment rates would be required for both the population and the number of jobs to pan-out.

A1.21   Figures A1.8 and A1.9 show the projected changes to employment rates for males and females through this modelling. It can be seen that for many age groups there are expected to continue to be increases in the future but that these improvements reduce over time. The figures in the charts are for employment rates (rather than economic activity as shown above) with the past trends being plotted in line with economic activity trends but to a different baseline in 2011 (which is informed by Census data).

Figure A1.8: Projected changes to employment rates (England) – males

Source: Derived from Census, Experian and ONS national population projections

Figure A1.9: Projected changes to employment rates (England) – females

16-24 (trend)	25-34 (trend)	35-49 (trend)	50-64 (trend)	65-74 (trend)
16-24 (proj'n)	25-34 (proj'n)	35-49 (proj'n)	50-64 (proj'n)	65-74 (proj'n)
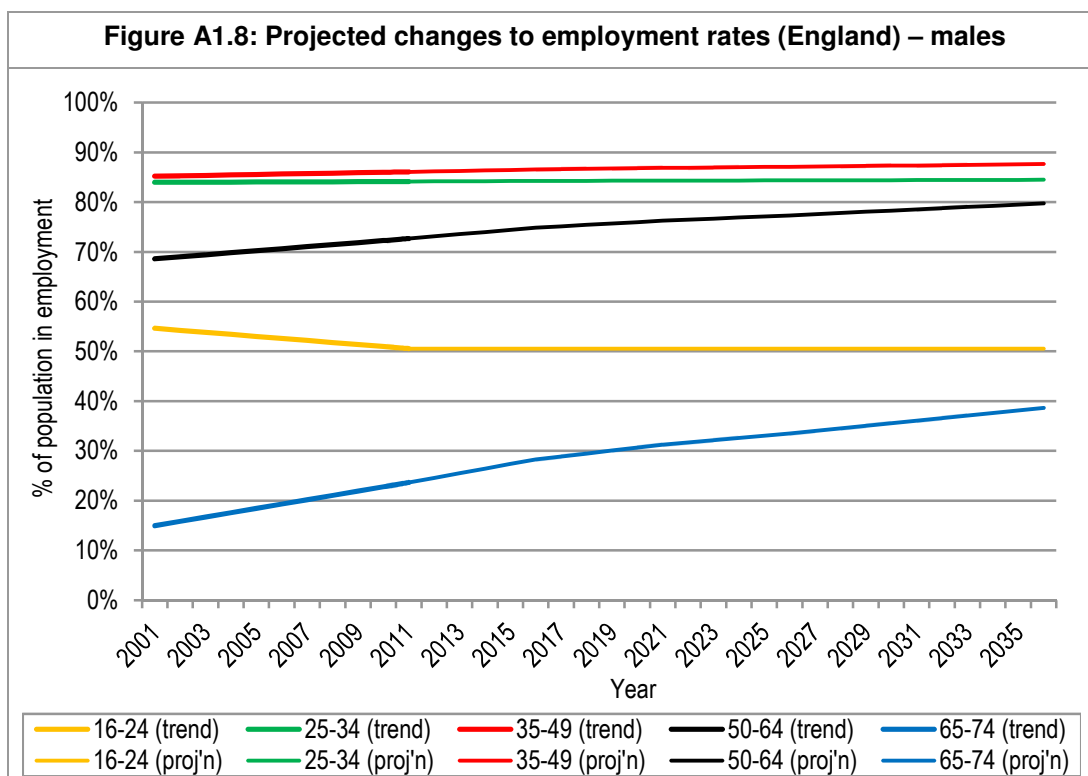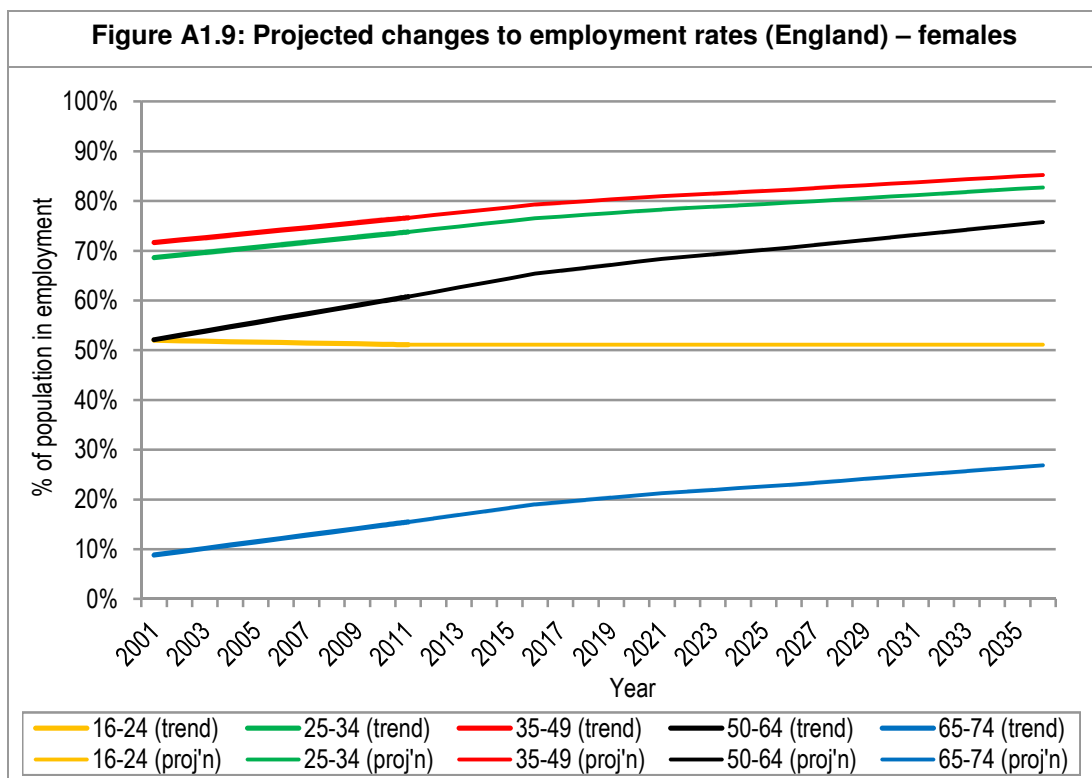
Source: Derived from Census, Experian and ONS national population projections

A1.22 At the local area level the derived national data has been applied – using the incremental changes year-on-year and applied to a baseline 2011 position. The figure below shows (for Carlisle) that although actual employment rates in 2011 are different for some age/sex groups when compared with the national position the general trends seen over the past decade are quite similar. Hence it appears sound to use the national calculation for employment rates changes and apply this at the local level.

Figure A1.10: Past trends in economic activity rates – Carlisle

Source: Census (2001 and 2011)

jg c
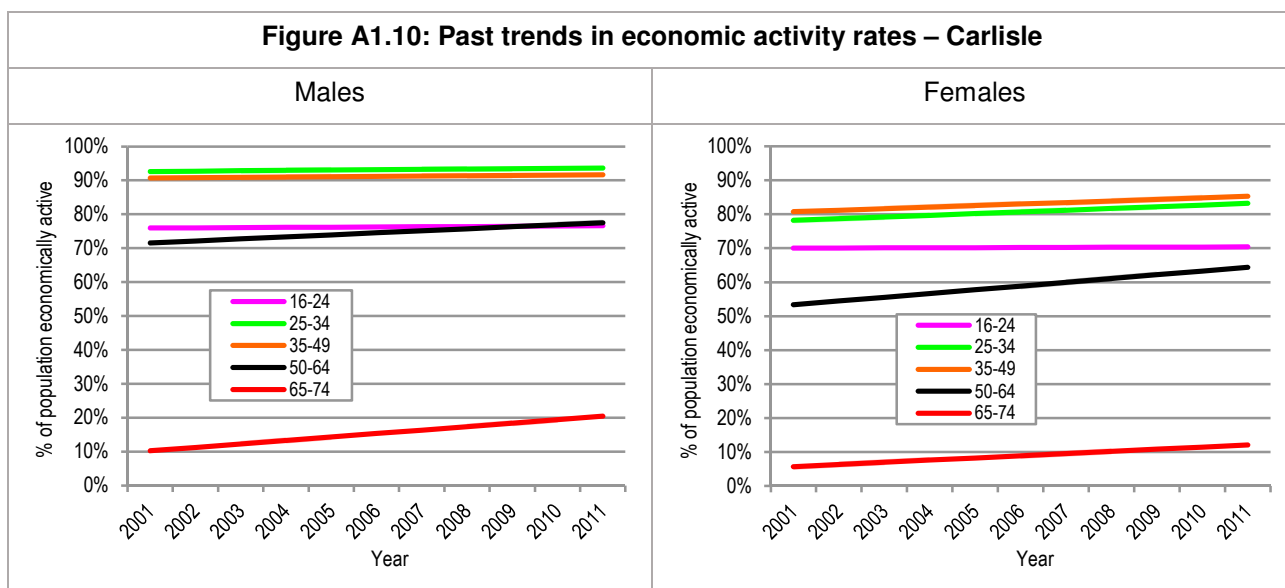
A1.23   Figure A1.11 below shows the employment rates used for modelling from 2013 to 2030. From the population modelling exercise it was estimated in mid-2013 that there were 54,249 people in employment with an employment rate for those aged 16-64 of 76.0% - due to the modelled improvement in rates this figure rises to 80.1% by 2030. Looking at the employment rate based on the population aged 16-74 sees a change from 68.1% to 71.1% whilst the rate calculated as a proportion of the total population aged 16 or over would actually be expected to fall slightly.

Figure A1.11: Employment Rates by Age and Sex – Carlisle						
Sex	Year	Aged 16 to 24	Aged 25 to 34	Aged 35 to 49	Aged 50 to 64	Aged 65 to 74
Male	2013	63.4%	87.1%	88.3%	75.4%	25.6%
	2030	63.4%	87.3%	89.4%	80.2%	35.7%
Female	2013	60.7%	79.8%	83.2%	64.6%	16.0%
	2030	60.7%	85.9%	89.0%	74.7%	23.7%

Source: Derived from a range of data sources (including Census, Experian and ONS national population projections)

Household (and Housing) Growth Projections

A1.24   Having estimated the population size and the age/sex profile of the population the next step in the process is to convert this information into estimates of the number of households in the area. As noted in the main text our analysis of household sizes has identified a level of constraint being projected forward by CLG in their 2011-based household projections.

A1.25   So as to not project forward this constraint we have considered the headship rates contained within the 2008-based CLG household projections which arguably cover a trend period where there were relatively few constraints on household formation. The methodology starts with rates as in the 2011-based projections but then projects forward using a methodology which gradually returns rates back towards the figures in the 2008-based release.

A1.26   Figure A1.12 shows headship rates derived from the analysis for each of the key periods of 2013 and 2030. The data shows that whilst most headship rates remain at a fairly constant level over time there are a number of groups where notable changes are projected to occur (both in an upward and downward direction).

Figure A1.12: Estimated Headship Rates by Age (2013 and 2030)		
Age group	2013	2030
Ages 15-24	14.2%	16.9%
Ages 25-34	49.3%	53.4%
Ages 35-44	57.8%	64.5%
Ages 45-54	60.0%	64.2%
Ages 55-64	61.7%	60.6%
Ages 65-74	66.4%	64.5%
Ages 75-84	77.9%	72.5%
Ages 85+	88.9%	89.0%

Source: Derived from CLG 2011- and 2008-based household projections

A1.27   One of the key features of the methodology used is that household formation rates are considered for each individual age group. The figure below shows how the rates change under our core methodology. The data also shows how the rates might have been expected to change if the 2011-based CLG projections had been used and also if future trends had tracked the incremental changes in the 2008-based projections – data from the 2008-based projections is also included for context. The methodology shows that particularly strong improvements are expected for some of the younger age groups (up to age 44) which is consistent with recognising that it is these age groups likely to have been most constrained through the housing market downturn.

Figure A1.13: Projected household formation rates by age of head of household – Carlisle
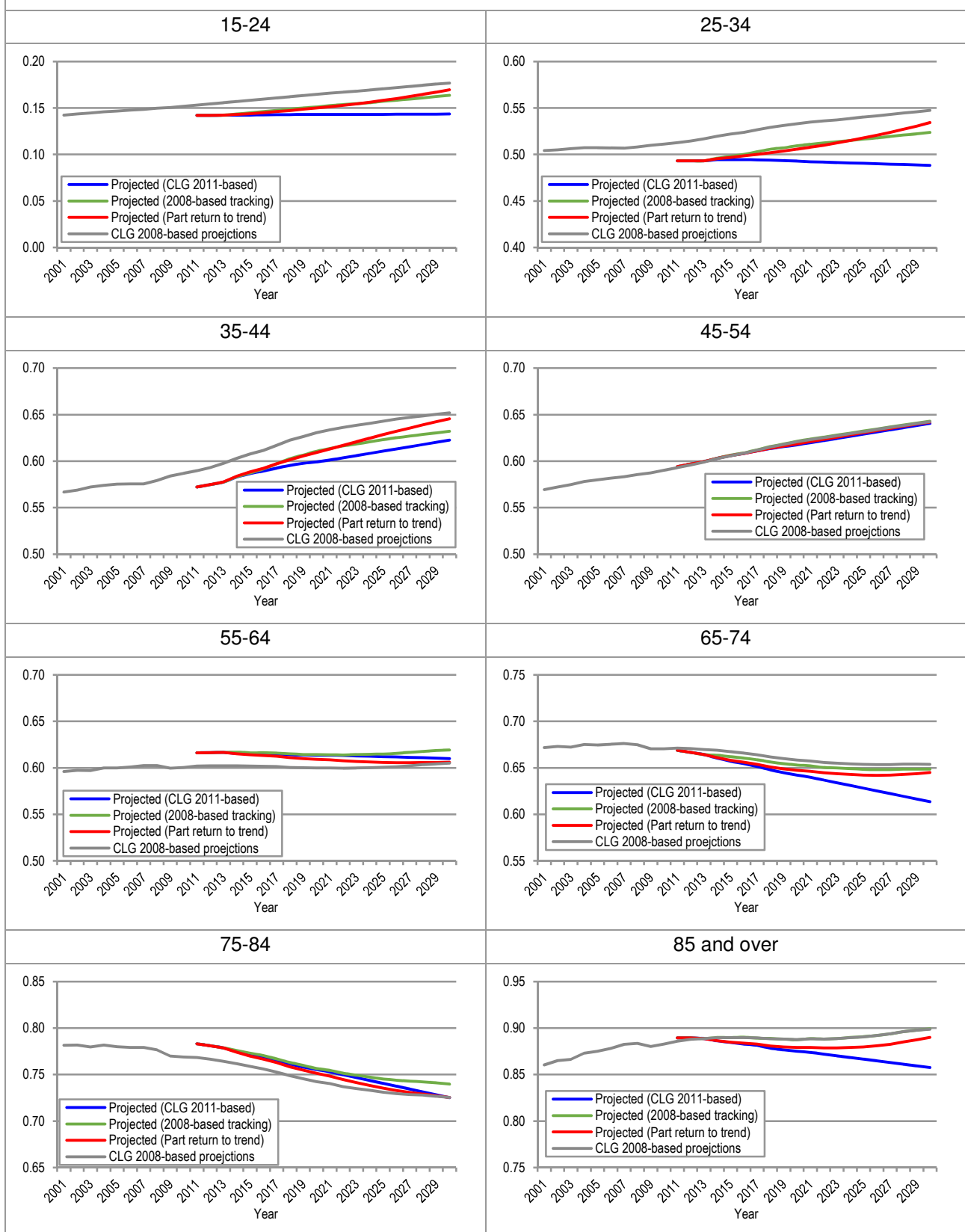
Source: Derived from CLG data

A1.28 When applying these headship rates to the population an estimated number of households in 2013 of 48,684 is derived.

A1.29 In converting an estimated number of households into requirements for additional dwellings we have also factored in a small vacancy allowance which is normal to allow for movement of households between properties. In Carlisle, the 2011 Census recorded 2,087 unoccupied household spaces and 48,342 households (the number of vacant homes therefore being 4.3% above the number of households). A figure of 4.3% has therefore been used to convert households into dwellings – it is assumed that this figure will be reflective of what can be achieved in new housing stock and includes an allowance for second homes.

Detailed Projection Outputs

A1.30 This section provides detailed outputs of the modelling under each of the scenarios run to look at population growth, employment change and housing requirements. All the projections look at the period from 2013 to 2030 with outputs available for each year of the projection (although these have generally been summarised for 5 year periods post 2015). The projections run are summarised in Figure A1.14.

Figure A1.14: Description of Projections used for Demographic Modelling	
Projection	Description
PROJ 1	Demographic-based – linked to the latest (2012-based) SNPP with an uplift to migration assumptions to take account of the impact of restricted housing supply and longer-term migration trends
PROJ 2	Jobs-led – linked to employment growth of about 6,350 jobs – this being the level of job growth expected in a 2014 Experian economic forecast

Population Projections

A1.31 Figure A1.15 shows the expected growth in population under each of the scenarios. Under demographic-based assumptions (PROJ 1) the population is expected to increase by around 10,600 people over the 17-year period – this represents population growth of 9.8% or about 0.6% per annum. With housing delivery in line with projected job growth we see a higher level of population growth of 13,800 (12.8%).

Figure A1.15: Population Estimates 2013 to 2030					
	2013	2015	2020	2025	2030
PROJ 1 (Demographic-based)	107,949 0.0%	109,026 1.0%	112,129 3.9%	115,363 6.9%	118,515 9.8%
PROJ 2 (Job-led)	107,949 0.0%	109,472 1.4%	112,734 4.4%	117,709 9.0%	121,796 12.8%

Population Change Dynamics

A1.32   Figure A1.16 shows population pyramids for 2013 and 2030 under the demographic-based projection (PROJ 1). The 'pyramids' clearly show the growth in population overall and highlight the ageing of the population with a greater proportion of the population expected to be in age groups aged 60 and over (and even more so for older age groups) – in particular the oldest age group (85+) shows an increase from 2,800 people to 5,300.

Figure A1.16: Distribution of Population 2013 and 2030 for PROJ 1 – Demographic-based

2013	2030

Age Group	2013 Male	2013 Female	2030 Male	2030 Female
Ages 85+	964	1,863	2,339	2,945
Ages 80-84	1,270	1,721	2,356	2,642
Ages 75-79	1,815	2,226	2,623	2,863
Ages 70-74	2,341	2,539	3,280	3,477
Ages 65-69	3,142	3,314	3,920	3,968
Ages 60-64	3,406	3,408	3,870	4,054
Ages 55-59	3,427	3,552	3,657	3,651
Ages 50-54	4,096	4,064	3,098	3,154
Ages 45-49	3,885	3,993	3,426	3,492
Ages 40-44	3,821	3,768	3,538	3,401
Ages 35-39	2,946	2,996	3,897	3,461
Ages 30-34	3,166	3,264	3,523	3,279
Ages 25-29	3,142	3,191	3,231	2,974
Ages 20-24	3,408	3,718	3,446	3,516
Ages 15-19	3,017	3,120	3,261	3,283
Ages 10-14	2,670	2,682	3,271	3,119
Ages 5-9	2,979	2,851	3,218	3,076
Ages 0-4	3,190	2,994	3,189	3,016

A1.33   Figure A1.17 summarises the findings for key (5 year) age groups under PROJ 1 (Demographic-based). The largest growth will be in people aged 65 and over. In 2030 it is estimated that there will be 30,400 people aged 65 and over. This is an increase of 9,200 from 2013, representing growth of 43%. The population aged 85 and over is projected to increase by an even greater proportion, 87%. Looking at the other end of the age spectrum the data shows that there are projected to be around 9% more people aged under 15 with both increases and decreases shown for other age groups.

Figure A1.17: PROJ 1 (demographic-based) population change 2013 to 2030 by five year age bands				
Age group	Population 2013	Population 2030	Change in population	% change from 2013
Under 5	6,184	6,205	21	0.3%
5-9	5,830	6,294	464	8.0%
10-14	5,352	6,390	1,038	19.4%
15-19	6,137	6,544	407	6.6%
20-24	7,126	6,962	-164	-2.3%
25-29	6,333	6,206	-127	-2.0%
30-34	6,430	6,802	372	5.8%
35-39	5,942	7,359	1,417	23.8%
40-44	7,589	6,939	-650	-8.6%
45-49	7,878	6,918	-960	-12.2%
50-54	8,160	6,252	-1,908	-23.4%
55-59	6,979	7,308	329	4.7%
60-64	6,814	7,924	1,110	16.3%
65-69	6,456	7,888	1,432	22.2%
70-74	4,880	6,757	1,877	38.5%
75-79	4,041	5,486	1,445	35.8%
80-84	2,991	4,998	2,007	67.1%
85+	2,827	5,284	2,457	86.9%
Total	107,949	118,515	10,566	9.8%

Economic (Employment) Changes

A1.34 Figure A1.18 shows the estimated number of people living in Carlisle who are working under each of the projections. The data shows under the demographic-based assumptions (PROJ 1) that the number of people working is projected to increase by 4,500 from 2013 to 2030 (an 8% increase). The projection linked to job growth trends shows a higher workforce increase (of 6,350 over the 17-year period).

Figure A1.18: Employment Estimates 2013 to 2030					
	2013	2015	2020	2025	2030
PROJ 1 (Demographic-based)	54,249 0.0%	54,850 1.1%	56,339 3.9%	57,414 5.8%	58,731 8.3%
PROJ 2 (Job-led)	54,249 0.0%	55,117 1.6%	56,695 4.5%	58,782 8.4%	60,597 11.7%

Household (and Housing) Growth

A1.35 Figure A1.19 shows the projected growth in the number of households under each of the scenarios. The demographic-based projection (PROJ 1) shows household growth of about 16% over the 17-year period (7,850 additional households). The employment based projection shows a higher level of increase (of 19%) - this is 9,200 additional households.

Figure A1.19: Household Estimates 2013 to 2030

	2013	2015	2020	2025	2030
PROJ 1	48,684	49,469	51,649	54,002	56,530
(Demographic-based)	0.0%	1.6%	6.1%	10.9%	16.1%
PROJ 2 (Job-led)	48,684	49,628	51,886	54,923	57,878
	0.0%	1.9%	6.6%	12.8%	18.9%

A1.36 The analysis above concentrated on the number of additional households. In reality there are always likely to be some vacant homes in the area and so the number of properties required to house all of these households will be slightly greater than the projected household numbers. A vacancy allowance of 4.3% has therefore been applied to all of the above figures to make estimated housing requirements; the resulting figures are shown in the table below.

Figure A1.20: Estimated housing numbers with vacancy allowance (to 2030)

Projection variant	Annual household growth	Annual requirement with vacancy allowance	Requirement over 17-years
PROJ 1 (Demographic-based)	462	481	8,183
PROJ 2 (Job-led)	541	564	9,589

Summary of Projections by sub-area

A1.37 The series of tables below (Figure A1.12 – A1.29) show summary outputs for each sub-area under each of the projection scenarios. In each case the first table shows annual figures with the second one showing data for the full 17-year period. Additional information has been provided about the changing population age structure (based on the demographic trend-based projection) to show the extent of population ageing in each area. It should be noted that figures for population, households/housing and employment do not exactly sum to the District-wide projections due to the assumptions applied to the analysis.

Rural West

Figure A1.21: Summary of projections 2013 to 2030 – annual – Rural West

Projection	Population growth		Housing numbers		Employment growth	
	Per annum	% change	Per annum	% change	Per annum	% change
PROJ 1 (Demographic trend-based)	47	0.6%	32	0.9%	17	0.4%
PROJ 2 (Jobs-led)	66	0.8%	40	1.1%	30	0.7%

Figure A1.22: Summary of projections 2013 to 2030 – total – Rural West

Projection	Population growth		Housing numbers		Employment growth	
	Total	% change	Total	% change	Total	% change
PROJ 1 (Demographic trend-based)	795	9.8%	543	14.8%	294	6.8%
PROJ 2 (Jobs-led)	1,130	13.9%	677	18.5%	504	11.7%

Figure A1.23: PROJ 1 (trend-based) population change 2013 to 2030 by five year age bands – Rural West				
Age group	Population 2013	Population 2030	Change in population	% change from 2013
Under 15	1,206	1,256	50	4.2%
15-29	1,143	1,381	238	20.8%
30-44	1,376	1,487	111	8.1%
45-59	1,931	1,400	-531	-27.5%
60-74	1,674	1,917	243	14.5%
75+	798	1,481	683	85.7%
Total	8,127	8,922	795	9.8%

Rural East

Figure A1.24: Summary of projections 2013 to 2030 – annual – Rural East						
	Population growth		Housing numbers		Employment growth	
Projection	Per annum	% change	Per annum	% change	Per annum	% change
PROJ 1 (Demographic trend-based)	151	0.6%	97	0.8%	55	0.4%
PROJ 2 (Jobs-led)	213	0.8%	122	1.0%	94	0.7%

Figure A1.25: Summary of projections 2013 to 2030 – total – Rural East						
	Population growth		Housing numbers		Employment growth	
Projection	Total	% change	Total	% change	Total	% change
PROJ 1 (Demographic trend-based)	2,560	9.8%	1,646	13.8%	935	6.9%
PROJ 2 (Jobs-led)	3,621	13.8%	2,075	17.4%	1,597	11.7%

Figure A1.26: PROJ 1 (trend-based) population change 2013 to 2030 by five year age bands – Rural East				
Age group	Population 2013	Population 2030	Change in population	% change from 2013
Under 15	3,894	4,036	142	3.7%
15-29	3,562	4,499	937	26.3%
30-44	4,171	4,620	449	10.8%
45-59	6,479	4,380	-2,099	-32.4%
60-74	5,352	6,466	1,114	20.8%
75+	2,691	4,708	2,017	74.9%
Total	26,149	28,709	2,560	9.8%

Carlisle Urban

Figure A1.27: Summary of projections 2013 to 2030 – annual – Carlisle Urban

Projection	Population growth		Housing numbers		Employment growth	
	Per annum	% change	Per annum	% change	Per annum	% change
PROJ 1 (Demographic trend-based)	424	0.6%	349	1.0%	200	0.6%
PROJ 2 (Jobs-led)	517	0.7%	390	1.1%	250	0.7%

Figure A1.28: Summary of projections 2013 to 2030 – total – Carlisle Urban

Projection	Population growth		Housing numbers		Employment growth	
	Total	% change	Total	% change	Total	% change
PROJ 1 (Demographic trend-based)	7,211	9.8%	5,932	16.9%	3,400	9.4%
PROJ 2 (Jobs-led)	8,794	11.9%	6,630	18.8%	4,246	11.7%

Figure A1.29: PROJ 1 (trend-based) population change 2013 to 2030 by five year age bands – Carlisle Urban

Age group	Population 2013	Population 2030	Change in population	% change from 2013
Under 15	12,266	13,463	1,197	9.8%
15-29	14,891	13,853	-1,038	-7.0%
30-44	14,414	14,840	426	3.0%
45-59	14,607	14,778	171	1.2%
60-74	11,124	14,314	3,190	28.7%
75+	6,370	9,635	3,265	51.3%
Total	73,673	80,884	7,211	9.8%

Appendix 2: Detailed Projection Outputs

PROJECTION: Demographic based (PROJ 1)

Components of change

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Births	1,243	1,250	1,247	1,247	1,238	1,236	1,234	1,231	1,228	1,224	1,223	1,225	1,224	1,223	1,221	1,221	1,222
Deaths	1,074	1,066	1,062	1,070	1,072	1,074	1,077	1,080	1,089	1,101	1,110	1,120	1,131	1,144	1,159	1,173	1,186
Natural Change	170	184	184	178	166	163	157	150	139	123	113	105	94	79	62	48	36
In-migration	4,445	4,441	4,452	4,433	4,425	4,404	4,387	4,369	4,359	4,357	4,357	4,366	4,376	4,390	4,400	4,412	4,426
Out-migration	4,088	4,071	4,043	3,990	3,963	3,937	3,906	3,870	3,853	3,838	3,817	3,816	3,815	3,824	3,830	3,839	3,851
Net migration	357	369	409	443	462	467	481	500	506	518	540	551	561	567	570	573	575

Population (broad age groups)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Age 0-14	17,366	17,538	17,745	17,927	18,182	18,345	18,453	18,580	18,637	18,744	18,777	18,826	18,850	18,857	18,798	18,883	18,889	18,889
Age 15-29	19,596	19,431	19,298	19,219	19,158	19,118	19,090	19,063	18,984	18,882	18,899	18,936	19,054	19,154	19,286	19,350	19,512	19,712
Age 30-44	19,961	19,774	19,617	19,361	19,137	19,088	19,185	19,362	19,741	20,106	20,416	20,687	20,744	20,874	21,031	21,048	21,084	21,100
Age 45-59	23,017	23,300	23,508	23,804	23,894	23,859	23,576	23,289	22,896	22,462	21,974	21,549	21,341	21,141	20,927	20,808	20,609	20,477
Age 60-74	18,150	18,434	18,638	18,880	19,164	19,446	19,842	20,198	20,506	20,521	20,805	21,072	21,310	21,566	21,856	22,042	22,345	22,569
Age 75+	9,859	9,998	10,220	10,428	10,702	11,009	11,348	11,637	12,013	12,704	13,188	13,640	14,063	14,423	14,762	15,159	15,469	15,767
Total population	107,949	108,474	109,026	109,618	110,238	110,864	111,493	112,129	112,777	113,420	114,059	114,710	115,363	116,016	116,659	117,289	117,908	118,515
Change from previous year		525	552	592	620	626	629	636	648	643	639	651	653	653	643	630	619	607
Households	48,684	49,085	49,469	49,921	50,369	50,798	51,238	51,649	52,120	52,601	53,065	53,535	54,002	54,491	54,984	55,491	56,012	56,530
Change from previous year		401	384	452	448	429	440	411	471	480	464	470	467	489	493	507	520	519
Employment rate (16+)	60.6%	60.7%	60.8%	61.0%	61.0%	61.0%	61.0%	61.0%	60.9%	60.7%	60.6%	60.4%	60.3%	60.1%	60.0%	59.9%	59.8%	59.7%
Labour force	54,249	54,548	54,850	55,239	55,523	55,723	56,005	56,339	56,636	56,808	56,992	57,182	57,414	57,676	57,950	58,223	58,452	58,731
Change from previous year		298	302	389	284	200	282	333	297	172	184	190	232	262	274	273	229	279

PROJECTION: Job growth (PROJ 2)

Components of change

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Births	1,243	1,257	1,258	1,260	1,248	1,246	1,248	1,247	1,252	1,266	1,271	1,279	1,284	1,284	1,281	1,289	1,293
Deaths	1,074	1,067	1,064	1,071	1,073	1,075	1,079	1,083	1,092	1,107	1,117	1,127	1,139	1,152	1,168	1,183	1,197
Natural Change	170	190	194	188	174	171	168	164	159	159	154	152	144	132	114	107	96
In-migration	4,721	4,605	4,446	4,327	4,390	4,554	4,493	4,664	5,103	4,514	4,580	4,530	4,449	4,307	4,764	4,544	4,602
Out-migration	4,088	4,071	4,043	3,990	3,963	3,937	3,906	3,870	3,853	3,838	3,817	3,816	3,815	3,824	3,830	3,839	3,851
Net migration	633	534	403	336	427	618	587	794	1,250	676	763	715	633	484	934	705	751

Population (broad age groups)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Age 0-14	17,366	17,573	17,806	17,996	18,248	18,415	18,549	18,701	18,809	19,032	19,118	19,231	19,317	19,376	19,350	19,525	19,596	19,665
Age 15-29	19,596	19,562	19,502	19,412	19,293	19,228	19,262	19,272	19,310	19,518	19,568	19,663	19,802	19,884	19,934	20,122	20,287	20,501
Age 30-44	19,961	19,827	19,705	19,453	19,216	19,166	19,300	19,507	19,960	20,497	20,871	21,223	21,359	21,547	21,723	21,845	21,954	22,062
Age 45-59	23,017	23,334	23,563	23,860	23,938	23,899	23,635	23,362	23,006	22,661	22,195	21,799	21,615	21,428	21,211	21,138	20,963	20,863
Age 60-74	18,150	18,450	18,664	18,906	19,186	19,467	19,873	20,238	20,566	20,630	20,928	21,216	21,473	21,742	22,035	22,254	22,575	22,821
Age 75+	9,859	10,005	10,233	10,440	10,711	11,017	11,361	11,654	12,040	12,760	13,251	13,712	14,143	14,508	14,845	15,259	15,577	15,884
Total population	107,949	108,750	109,472	110,068	110,593	111,193	111,980	112,734	113,691	115,098	115,931	116,845	117,709	118,484	119,098	120,143	120,952	121,796
Change from previous year		801	722	596	524	600	788	754	957	1,407	833	915	863	776	613	1,046	809	844
Households	48,684	49,182	49,628	50,084	50,503	50,925	51,425	51,886	52,475	53,241	53,782	54,361	54,923	55,473	55,973	56,657	57,260	57,878
Change from previous year		498	446	457	418	422	500	461	589	765	541	579	562	550	501	684	603	618
Employment rate (16+)	60.6%	60.7%	60.8%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	60.9%	60.8%	60.6%	60.5%	60.4%	60.3%	60.2%	60.2%	60.1%
Labour force	54,249	54,714	55,117	55,507	55,731	55,914	56,291	56,695	57,176	57,805	58,093	58,432	58,782	59,106	59,353	59,869	60,196	60,597
Change from previous year		465	404	390	225	183	377	404	481	629	288	339	350	324	246	517	326	401