

**Report for:**

# **Coventry-Warwickshire Housing Market Area**

## **2014-based Subnational Population and Household Projections**

August 2016

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## SUMMARY

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1. This report analyses key data from the 2014-based ONS subnational population projections (SNPP) and CLG (2014-based) household projections with regard to housing need in the Coventry and Warwickshire Housing Market Area (HMA). The analysis builds on information in the September 2015 Updated Assessment of Housing Need (UAoHN) which used 2012-based projection data to underpin a number of demographic and economic scenarios – ultimately leading to conclusions about housing needs across the HMA. This report has been prepared by Justin Gardner Consulting (JGC) with input also provided by GL Hearn.
2. The analysis in this report does not seek to review or revise the key assumptions in the UAoHN (for example with regard to economic growth potential) but provides an update to analysis where the more-up-to-date population and household projections potentially change this part of the evidence base. The analysis also considers 2015 mid-year population estimates (MYE) which have also been published since the UAoHN.
3. Overall, the 2014-based SNPP projects that the population of the HMA will increase by 152,300 people from 2011 to 2031; this is an 18% increase, notably higher than projected for the region or nationally. The projected level of population growth is about 9,100 people higher than was projected in the 2012-based SNPP, with this difference being driven by an 18,800 increase in Coventry and lower projected figures across the Warwickshire authorities.
4. As was the case with analysis carried out in the UAoHN, the projected level of population growth across the HMA shows a close fit with typical past trends (when studied over a range of trend periods).
5. Across the HMA, population growth is driven by natural change (births minus deaths) and international migration – there is projected to be a level of net internal out-migration (i.e. moves to other parts of the country). The pattern of population growth is similar to that seen in the 2012-based SNPP although the projected level of international migration is somewhat higher (largely due to assumptions in relation to Coventry). The components of population change are not universal across different parts of the HMA with the Warwickshire authorities tending to see lower levels of natural change and international migration than Coventry (and higher levels of internal migration).
6. With the increase in the population comes a change in the age structure; in particular an ageing of the population (a situation not unique to this HMA). However, particularly due to the demographic dynamics of Coventry it is the case that a notable increase in the population aged 15-64 is also projected. When the 2012- and 2014-based SNPP are compared, it is clear that the more recent projections shows a slightly younger age profile moving forward – despite the 2014-based projections showing 9,100 more people by 2031, there are projected to be around 5,600 fewer people aged 65 and over by this date. This impacts on household growth.

7. Consistent with the UAoHN, a number of sensitivity projection scenarios were developed, based on the most up-to-date population information (i.e. the 2014-based SNPP and 2015 MYE). When MYE data was included in the analysis, it was projected that the population of the HMA would increase by 154,300 between 2011 and 2031; this is the equivalent scenario to one developed in the UAoHN (linked to the 2012-based SNPP and 2014 MYE) which showed a population increase of 149,200. Other sensitivity projections showed either higher or lower levels of population growth with the 2014-based SNPP (+MYE) scenario sitting in the middle of the range (as was the case with the equivalent scenarios in the UAoHN).
8. The analysis has also looked at the likely level of population growth required to meet economic forecasts. The main forecast in the UAoHN was based on consideration of a range of forecasts and other information (such as from employment land reviews). Assumptions have been made about commuting patterns, double jobbing and future changes to age/sex specific employment rates – these assumptions remain unchanged from those used in the UAoHN. Across the HMA, the main economic-led projection suggested that there would need to be population growth of about 120,700 people from 2011 to 2031 if there is to be sufficient workforce growth to meet the increase in jobs. This figure is lower than shown through demographic projections but has a somewhat different spatial distribution (less population growth in Coventry and more in Warwickshire) – this finding is consistent with that in the UAoHN.
9. Using household formation rate information from the 2014-based CLG household projections, it is projected that the number of households in the HMA would increase by 4,046 per annum based on the main demographic projection (2014-based SNPP (+MYE)); this figure drops to 3,410 when linked to the economic-led scenario. Analysis of assumptions underpinning the 2014-based household projections showed that these did not differ to any notable degree from the assumptions in the 2012-based version (i.e. when looking at assumptions about household formation/headship rates).
10. To convert households into dwellings a vacancy rate was applied to the household outputs – this was set at 3% to be consistent with the UAoHN. Applying this rate to the household growth projections shows a dwelling need of 4,167 per annum when linked to the 2014-based SNPP (+MYE); this figure is virtually identical to the equivalent figure derived in the UAoHN (4,197 dwellings per annum) albeit with a slightly different spatial distribution – this is shown in Figure 1 below.

<b>Figure 1: Demographic-based housing need (per annum 2011-31) – comparing report outputs</b>			
	UAoHN	2014-based SNPP (+MYE)	Difference from UAoHN
Coventry	2,099	2,364	+265
North Warwickshire	163	149	-14
Nuneaton & Bedworth	423	348	-75
Rugby	464	436	-28
Stratford-on-Avon	449	409	-40
Warwick	600	462	-138
HMA	4,197	4,167	-30

Source: UAoHN data from Figure 30 of report

11. The analysis linked to expected economic growth showed a need for 3,512 dwellings per annum – this is about 200 per annum lower than the equivalent analysis in the UAoHN. All areas apart from North Warwickshire show lower levels of need with this scenario relative to the economic scenario in the UAoHN Report, as can be seen in Figure 2 below. The lower level of need looks to be driven by differences in the age structure projected by the 2014-based SNPP, which is generally seeing less of an ageing of the population and greater increases in age groups where people are more likely to be in employment.

<b>Figure 2: Economic-led housing need (per annum 2011-31) – comparing report outputs</b>			
	UAoHN	This Report	Difference from UAoHN
Coventry	1,350	1,297	-53
North Warwickshire	210	213	3
Nuneaton & Bedworth	495	465	-30
Rugby	425	396	-29
Stratford-on-Avon	650	611	-39
Warwick	600	530	-70
HMA	3,730	3,512	-218

Source: UAoHN data from Table 28 of report

12. In moving to conclusions about objectively assessed need there is also a need to consider market signals and affordable housing. These two topics have not been reassessed in this study and the conclusions from the UAoHN are unlikely to have changed in the period since September 2015. In the UAoHN, it was recognised that there has been some decline in household formation amongst the population aged 25-34 and a scenario was run where the headship rates for this age group were returned to levels seen in 2001 – the same approach has been used in this study. For the whole HMA (and using the 2014-based SNPP (+MYE) projection) this sees the dwelling outputs increase by about 70 dwellings per annum – a similar figure to that of 75 in the UAoHN.
13. Having worked through the various analyses it is possible to draw conclusions in a consistent manner to the 2015 UAoHN. Within the UAoHN the key concluding analysis can be found in Table 53; this table has been replicated as Figure 3 (below) with equivalent figures from analysis in this report. The figures in brackets are the figures from Table 53.
14. The analysis shows across the HMA that the more up-to-date information suggests a virtually identical level of housing need (4,237 per annum compared with 4,272 previously). There are however differences for individual areas with Coventry showing a notably higher level of need – this is due to higher population growth within the demographic projections. The uplift (for people aged 25-34) is also virtually identical but with a slightly different distribution. When looking at supporting economic growth it is also notable that the uplifts are generally higher (where applicable), this is due to lower projected population growth in the demographic projections in the relevant areas.

15. Overall, when considered on the same basis as the UAoHN, the objectively assessed need in the HMA is for 4,237 dwellings per annum (2011-31) – this is 35 fewer than was shown in the UAoHN. This updated analysis, taking account of more recent published data, does not suggest any fundamental differences from the analysis and conclusions as set out in the UAoHN of September 2015. Whilst some figures for individual local authorities change slightly, it is clear, at the HMA level that the assessed level of need in the UAoHN (and linked to 2012-based data) remains sound.

**Figure 3: Components of OAN, Homes per Annum 2011-31 (conclusions consistent with UAoHN)**

	Demographic-based Need		Supporting Economic Growth		Improving Affordability		Total	
	Update	UAoHN	Update	UAoHN	Update	UAoHN	Update	UAoHN
Coventry	2,364	(2,099)	0	(0)	2	(21)	2,366	(2,120)
North Warwickshire	149	(163)	65	(47)	25	(27)	238	(237)
Nuneaton & Bedworth	348	(423)	118	(73)	5	(6)	470	(502)
Rugby	436	(464)	0	(0)	12	(16)	448	(480)
Stratford-on-Avon	409	(449)	202	(201)	12	(9)	623	(659)
Warwick	462	(600)	68	(0)	15	(0)	545	(600)
Coventry/Warwickshire	4,167	(4,197)	-	-	70	(75)	4,237	(4,272)

Source: Derived from ONS and CLG data and Updated Assessment of Housing Need (2015) – Table 53

16. It is clear from the analysis that economic growth within the HMA can be supported by adjusting the spatial distribution of housing provision between different local authorities within Coventry and Warwickshire, as Planning Practice Guidance recommends.

## 1. Introduction

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- 1.1 This report seeks to consider information in the most recent ONS subnational population projections (SNPP) and CLG household projections for the six local authorities making up the Coventry & Warwickshire Housing Market Area (the HMA) – the six local authorities are Coventry, North Warwickshire, Nuneaton & Bedworth, Rugby, Stratford-on-Avon and Warwick. This report has been prepared by Justin Gardner Consulting (JGC) with input also provided by GL Hearn.
- 1.2 This report essentially builds on some of the information in the Updated Assessment of Housing Need: Coventry-Warwickshire HMA which was published in September 2015 (report by GL Hearn). It should be made clear that this report is not a replacement or an update to previous research but simply considers the data outputs of applying more up-to-date official data. Much of the analysis in this report follows similar analysis in the September 2015 report although within this report no full description of methodology or rationale is provided. The data in this report is drawn entirely from published data from ONS and CLG and does not therefore add anything to information already in the public domain – the report does however seek to bring this data together in one place to allow consideration of the various analyses that make up household (and housing) growth estimates across the HMA.
- 1.3 The latest set of (2014-based) subnational population projections (SNPP) were published by ONS on the 25<sup>th</sup> May 2016. They replace the 2012-based projections. Subnational population projections provide estimates of the future population of local authorities, assuming a continuation of recent local trends in fertility, mortality and migration which are constrained to the assumptions made for the 2014-based national population projections.
- 1.4 They are not forecasts and do not attempt to predict the impact that future government or local policies, changing economic circumstances or other factors might have on demographic behaviour. The primary purpose of the subnational projections is to provide an estimate of the future size and age structure of the population of local authorities in England. These are used as a common framework for informing local-level policy and planning in a number of different fields as they are produced in a consistent way.
- 1.5 On the 12<sup>th</sup> July 2016, CLG published a new set of (2014-based) household projections. These take the SNPP data and apply estimates of the number (or proportion) of the population (by age and sex) who are considered to be a ‘head of household’ – from this information an estimate of household growth is derived.
- 1.6 To be consistent with previous research undertaken in the HMA, all analysis has looked at the 20-year period from 2011 to 2031 although it should be noted that the latest projections provide information on population and households up to 2039.

## 2. Review of Existing Evidence

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### Introduction

- 2.1 This section provides a review of existing evidence and the emerging policy position in terms of housing need and the distribution of housing. Two main documents have been reviewed; these are the 2015 Updated Assessment of Housing Need (UAoHN) and the Memorandum of Understanding relating to the planned distribution of housing within the Coventry & Warwickshire Housing Market Area. There is a fair amount of earlier evidence (such as the Joint SHMA and SHMA addendum) – this is not reviewed in this document as such a review is contained within the UAoHN which is discussed below.

### Updated Assessment of Housing Need (2015) – Summary

- 2.2 In September 2015, the Coventry and Warwickshire local authorities published an Updated Assessment of Housing Need (UAoHN) – the report was prepared by GL Hearn. The report goes through a number of stages of analysis before providing conclusions about the objectively assessed housing need (OAN).
- 2.3 Section 1 of the report provides some background to the project in terms of Government policy and practice guidance; it also sets out the broad approach adopted to determine housing need (in Figure 1). The report is then split into six sections which are briefly reviewed below.
- 2.4 Section 2 reviews the evidence base in existence at the time; the main documents in terms of OAN was the Coventry & Warwickshire Joint SHMA. The SHMA was largely linked to 2011-based population and household projections with a number of adjustments being made to both migration patterns and household formation rates. The UAoHN identifies in para 2.7 that the analysis identified a need, based on demographic factors, for 3,750 dwellings per annum to be provided across the HMA. The SHMA also looked at the link between homes and jobs, affordable housing and market signals and concluded a need for 3,700 to 3,800 dwellings per annum across the HMA – figures were also provided for individual local authorities.
- 2.5 Section 2 also highlights that there was a Joint SHMA addendum, commissioned in the Summer of 2014, following publication of the 2012-based subnational population projections (SNPP) by ONS. The more up-to-date projections identified a potentially higher level of need across the HMA (3,900 to 4,000 dwellings per annum based on demographic factors). Additionally, economic forecasts were also available for the work and suggested a housing need in the range of 3,600 to 4,500 dwellings per annum.
- 2.6 The main bulk of the UAoHN starts in Section 3 where there is an update to trend-based demographic projections. At the time of the UAoHN being written, the most up-to date information was from 2012-based projections (both population and household) as well as mid-year population estimates (MYE) up to 2014. Section 3 works through a number of analyses, including looking at past population growth, the components of population change and age structure changes.



- 2.7 The analysis moves on to consider population growth in the 2012-based SNPP, with these figures also taking account of the more recent MYE data. Between 2011 and 2031, this showed population growth across the HMA of over 17% - notably higher than regionally or nationally. Population growth was projected to be particularly strong in Coventry. A number of sensitivity projections were carried out; this included looking at the changes to migration patterns implied by the latest MYE, consideration of migration trends over the previous 10-years and adjustments to take account of Unattributable Population Change (UPC). At the HMA level (Table 11) these projections were either higher or lower than the SNPP and it was concluded that the SNPP was a sound demographic projection (across the HMA).
- 2.8 Levels of population growth (and the age/sex profile of the population) were then converted into estimates of household growth and housing need (the latter by applying a vacancy allowance). Figures were converted from population into households by using information about household formation rates from the 2012-based CLG household projections. Across the HMA, this analysis concluded a need based on demographic factors of 4,197 dwellings per annum. Figures were also provided for the sensitivity projections but it was concluded that none were more robust than the SNPP.
- 2.9 Section 4 of the UAoHN deals with economic growth potential; a range of different economic forecasts were accessed along with analysis of past trends in job growth from a number of sources. Three initial scenarios were developed to look at potential job growth based on forecasts by both Experian and Cambridge Econometrics; the forecasts looked at the period from 2014 to 2031 and showed a range of job growth from 45,400 to 59,800 across the HMA.
- 2.10 The analysis considered commuting patterns and double jobbing (i.e. the number of people with more than one job) to convert job growth into an estimate of the required growth in the resident workforce – this showed an estimated range of between 41,500 and 55,000 additional workers (2014-31). To convert population into workforce, additional assumptions were made about how age/sex specific employment rates might change in the future – this analysis was based on consideration of national level assumptions made (or implied) by a range of forecasting houses with figures at a local level being adjusted by reference to 2011 Census data.
- 2.11 The level of workforce growth was fed through a demographic model to estimate the required growth in population; using data about household formation rates and vacant homes, this was then converted into estimates of housing need. Overall, across the HMA, the analysis suggested a need for between about 3,600 and 4,100 additional homes for the workforce to grow in line with the economic forecasts.
- 2.12 Analysis was also carried out to look at the likely level of job growth associated with the demographic projections (linked to the 2012-based SNPP). This suggested that workforce growth would be sufficient to support around 61,300 additional jobs (2014-31) – a higher figure than in any of the economic forecasts. However, the spatial distribution of jobs in the forecasts did not match the potential distribution from the SNPP; most notably, Coventry could support more jobs than forecast with the opposite being the case across Warwickshire generally.

- 2.13 The analysis of economic growth concluded with a review of other evidence of employment growth; this predominantly looked at employment land reviews and associated studies. This concluded in Table 28 that job growth of about 48,200 was reasonable across the HMA (2014-31) – running this through the demographic modelling showed a need for 3,730 dwellings per annum. The distribution of this need was again different to than in demographic modelling, with Coventry showing a lower need when linked to economic forecasts and Warwickshire a higher need (albeit not universally across all local authorities in the County).
- 2.14 Section 5 of the UAoHN provided an update to analysis of market signals and reviewed a range of data about house prices, sales trends, rent levels and price:income ratios. It was concluded (in para 5.39) that the *'evidence from market signals does not justify any substantial adjustments to overall housing provision'*. However, it is noted that it would be appropriate to look at the extent to which household formation has been suppressed and that improving affordability would manifest itself in an improvement or recovery in household formation rates – this is subsequently considered in more detail in Section 7 of the report.
- 2.15 Section 6 of the UAoHN updates the analysis of affordable housing need; the analysis follows the methodology set out in Planning Practice Guidance and concludes (Table 43) a need for 1,462 affordable dwellings per annum to meet the need in full by 2031. All areas showed a need for affordable housing and Table 45 shows that the affordable need represents 35% of the total need implied by demographic projections.
- 2.16 The report recognises that the link between affordable housing need and the overall need for housing is complex, but does note that assuming some improvements to household formation rates would potentially provide additional accommodation for younger people who are currently living with parents or in temporary/shared accommodation.
- 2.17 Section 7 of the UAoHN brings together the previous analysis and sets out a 'start point' for the analysis of housing need (which is based on the 2012-based SNPP). The report then looks at economic growth potential and suggests that a higher level of provision may be needed in North Warwickshire, Nuneaton & Bedworth and Stratford-on-Avon. The report is however clear that it is important not to double count needs in more than one place (e.g. a higher level of population growth in say Stratford-on-Avon to meet job growth forecasts will need to be assessed alongside a reduction in population growth in other areas). The report summarises the market signals as 'average' and that across the HMA, both house prices and rents are below national averages.
- 2.18 The final piece of analysis carried out looks at potential changes to household formation rates to support improvements in affordability; this essentially recognises that there have been some reductions in the formation rates of people aged 25-34 and that an improvement in affordability would likely be manifest in increased household formation rates amongst younger people within this group. The analysis interrogates the projected household formation rates and recognises that the CLG household projections are already building in some improvements to household formation rates within this age group (albeit not universally in all areas). This analysis led to adjustments to housing need projections in a most areas.

- 2.19 The conclusions of the study are neatly summarised in Table 53 of the UAoHN and this has been replicated in Figure 2.1 below. The report suggests an OAN of 4,272 dwellings per annum in the 2011-31 period – this is based on the HMA wide demographic need along with an adjustment to improve the household formation rates of the 25-34 population (termed improving affordability). Additional uplifts are shown to support economic growth where relevant, although these do not impact on the HMA wide housing need as the overall need linked to economic growth is lower than the demographic need.

<b>Figure 2.1: Components of OAN, Homes per Annum 2011-31 (conclusions from UAoHN)</b>				
	Demographic-based Need	Supporting Economic Growth	Improving Affordability	Total
Coventry	2,099	0	21	2,120
North Warwickshire	163	47	27	237
Nuneaton & Bedworth	423	73	6	502
Rugby	464	0	16	480
Stratford-on-Avon	449	201	9	659
Warwick	600	0	0	600
Coventry/Warwickshire	4,197	-	75	4,272

Source: Updated Assessment of Housing Need (2015) – Table 53

- 2.20 The report outlines that Coventry is unlikely to be able to meet its housing needs in full. In considering what contribution other authorities in the HMA might make to Coventry's unmet housing needs, there are clearly a range of factors which need to be considered including supply-side factors which are beyond the scope of the report. However, the evidence suggested that a revised distribution of housing provision across the HMA could help to support employment growth in some areas – in particular in North Warwickshire, and Stratford-on-Avon, and thus contribute positively to economic growth for the HMA/LEP area as a whole. It is clear that economic growth can be supported by addressing the distribution of housing provision, as the PPG advises.
- 2.21 The remainder of this report uses more up-to-date demographic information (from 2014-based projections and mid-year population estimates) to update the information in Table 53 of the UAoHN – the analysis is provided to a consistent analysis.

## **Memorandum of Understanding (MoU)**

- 2.22 The six Councils in the HMA plus Warwickshire County Council have a MoU in respect of housing provision; the MoU seeks to ensure that the needs of the HMA are met in full and establishes a framework for co-operation between the different authorities. One reason for the MoU is a recognition that Coventry will be unable to meet its full needs within the City boundary; the focus is to ensure that housing needs arising from growth in the population of Coventry (but not able to be met in the City) will be met in the HMA as a whole.
- 2.23 In determining the level of housing provision in each local authority, account was taken of a range of evidence, this included the projections as set out in the UAoHN, the distribution of economic growth, migration and commuting relationships to Coventry as well as information about housing land supply. The table below (Figure 2.2 – taken from the MoU) provides what is considered to be an appropriate and robust distribution of housing across the HMA.

<b>Figure 2.2: Memorandum of Understanding Housing Distribution (2011-31)</b>		
	Total (2011-31)	Per annum
Coventry	24,600	1,230
North Warwickshire	5,280	264
Nuneaton & Bedworth	14,060	703
Rugby	12,400	620
Stratford-on-Avon	13,180	659
Warwick	18,640	932
Coventry/Warwickshire	88,160	4,408

Source: Memorandum of Understanding

- 2.24 It should be noted that the figures for Coventry are set out as a minimum and figures for the Warwickshire authorities would be redistributed if capacity in the City increases; additionally, figures for North Warwickshire and Stratford-on-Avon include a need from areas outside the HMA (this is 2,620 dwellings in total). Hence the MoU is working on the basis of an OAN for 85,540 dwellings across the HMA, plus 2,620.

### 3. Overall Population Growth

- 3.1 This section sets out the projected population growth in the 2014-based SNPP and compares the findings to the 2012-based SNPP figures.
- 3.2 Figure 3.1 below shows projected population growth from 2011 to 2031 in the HMA, individual local authorities and a range of comparator areas. The data shows that the population of the HMA is projected to grow by around 152,300 people. This is a 17.6% increase – some way above the projected increase in the region (11.8%) and also above the figure projected for England (14.6%). In proportionate terms, the strongest growth is projected to be in Coventry; significantly higher than in any other location. In total, two-thirds of all population growth is projected to be in Coventry.

**Figure 3.1: Projected population growth (2011-2031) – 2014-based SNPP**

	Population 2011	Population 2031	Change in population	% change
Coventry	316,915	417,468	100,553	31.7%
North Warwickshire	62,089	64,939	2,851	4.6%
Nuneaton & Bedworth	125,409	134,889	9,481	7.6%
Rugby	100,496	116,361	15,866	15.8%
Stratford-on-Avon	120,824	130,424	9,600	7.9%
Warwick	137,736	151,703	13,968	10.1%
HMA	863,469	1,015,784	152,319	17.6%
West Midland	5,608,667	6,267,889	659,222	11.8%
England	53,107,169	60,853,179	7,746,010	14.6%

Source: ONS

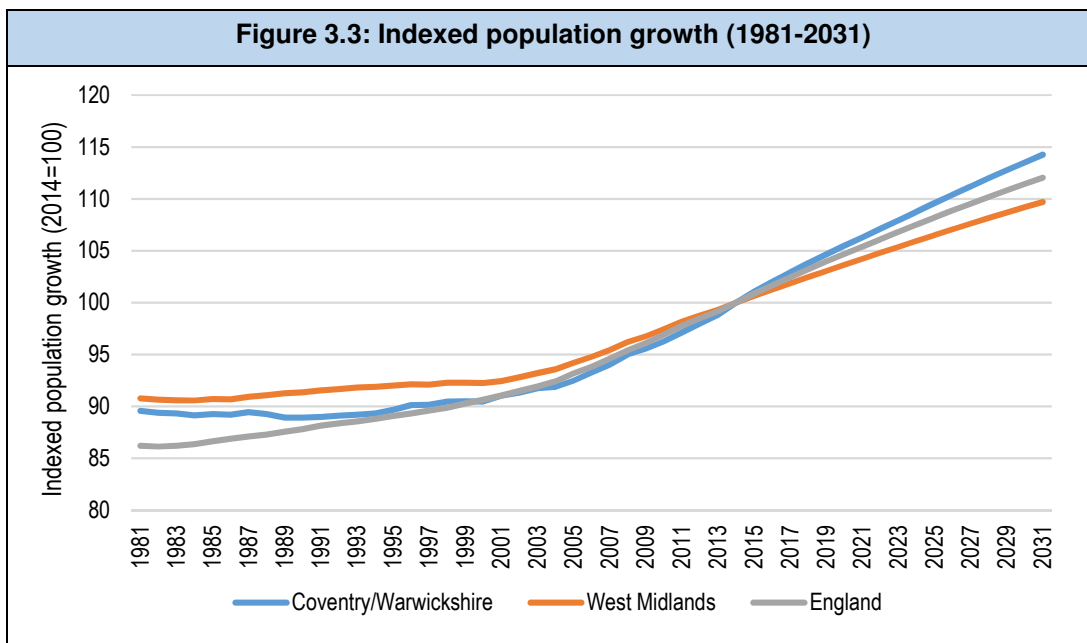
- 3.3 It is also possible to compare the 2014-based SNPP with the previous full set of projections (the 2012-based SNPP). This comparison is shown for the HMA authorities in Figure 3.2 below. This shows that the latest projections show a slightly higher level of population growth (9,100 more people – about 6% higher growth) over the 2011-31 period. The analysis does however show a different spatial distribution of this growth with Coventry projected to see population growth some 18,800 people higher than in the 2012-based SNPP and all other areas (with the exception of Rugby which is largely unchanged) projected to see notably lower levels of growth.

**Figure 3.2: Projected population growth (2011-2031) – comparing projection releases**

	2012-based SNPP	2014-based SNPP	Difference	% difference from 2012-based
Coventry	81,759	100,553	18,794	23.0%
North Warwickshire	4,171	2,851	-1,321	-31.7%
Nuneaton & Bedworth	13,633	9,481	-4,153	-30.5%
Rugby	15,667	15,866	198	1.3%
Stratford-on-Avon	10,929	9,600	-1,329	-12.2%
Warwick	17,009	13,968	-3,041	-17.9%
HMA	143,170	152,319	9,149	6.4%

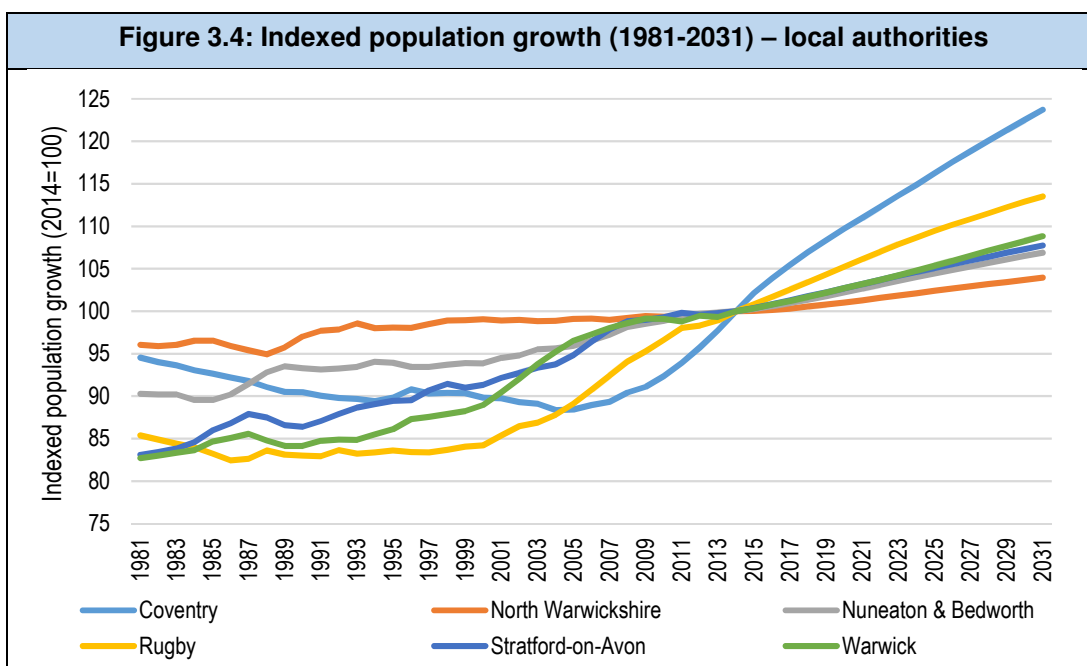
Source: ONS

3.4 Figure 3.3 below shows past and projected population growth in the period 1981 to 2031; figures have been indexed to 100 for 2014. The data shows long-term population growth in the HMA to have generally been stronger than across the region but weaker than seen nationally; moving forward from 2014, growth is confirmed as being projected to be stronger than in other location – this is likely to largely be due to short-term trends (past 5-6 years) being used by ONS to project forward to 2031 (and beyond to 2039).



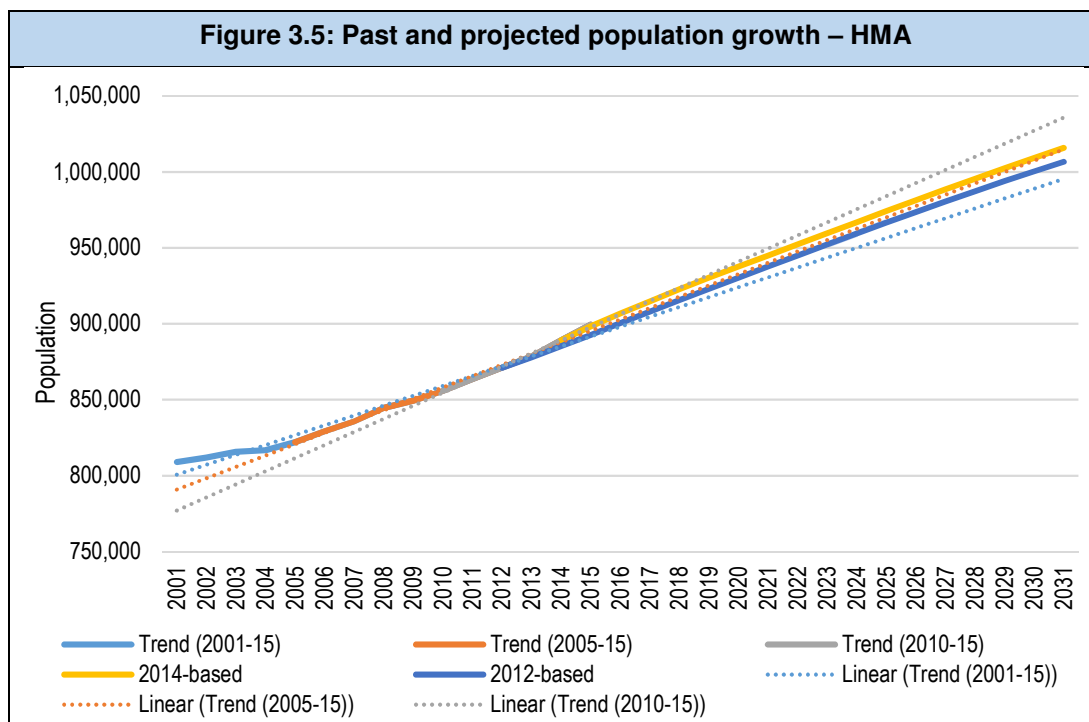
Source: ONS

3.5 Figure 3.4 below shows the same information for each local authority; the most notable finding is the strong recent population growth in Coventry, which follows a period of sustained population decline. All other areas (with the slight exception of Rugby) show very modest short-term past population growth.



Source: ONS

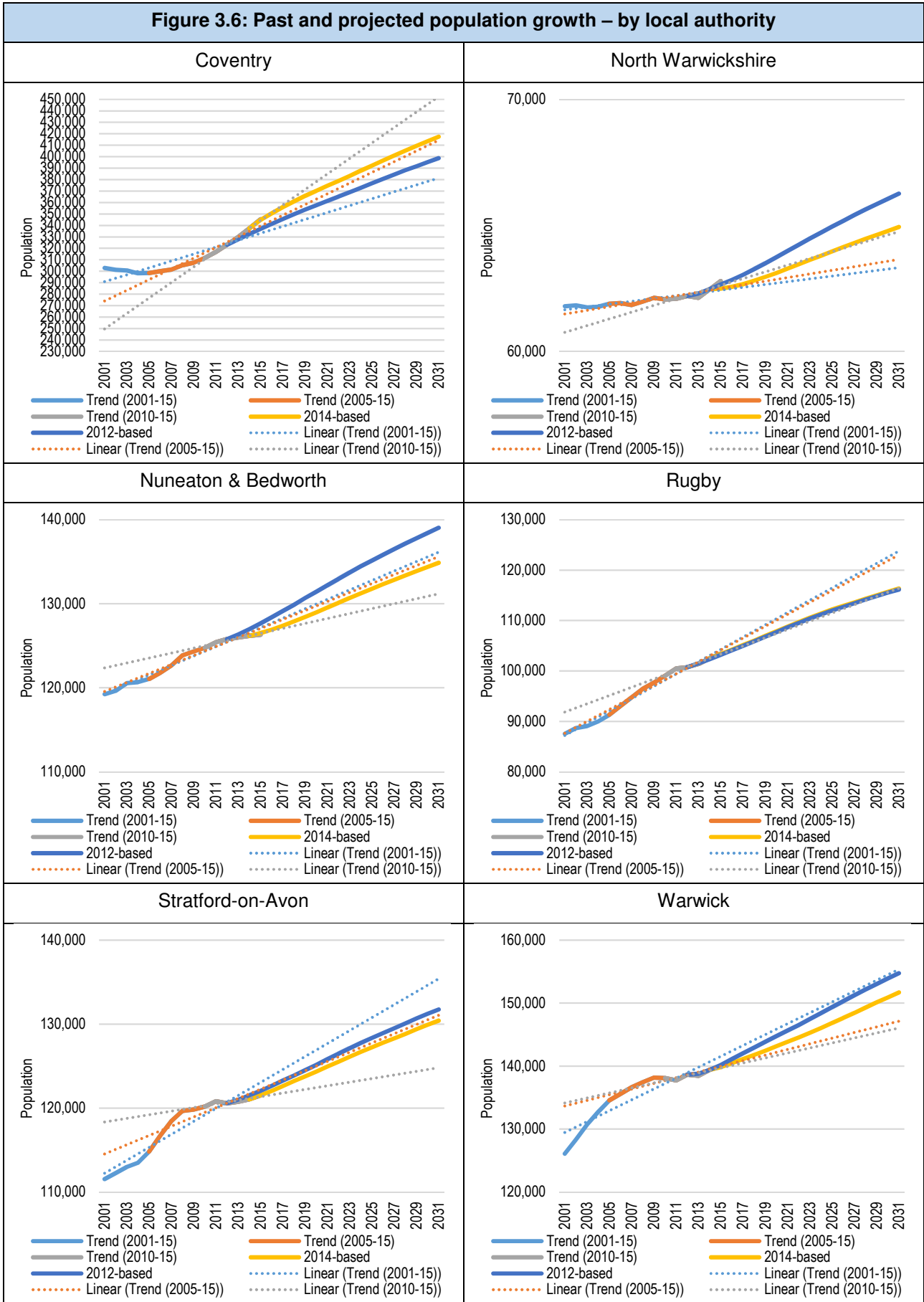
3.6 It is also worthwhile to focus this data on the more recent period (from 2001) and this is shown in the Figure 3.5 below (for the HMA). The data also plots linear trend lines for the past 5-, 10- and 14- years (a 5-year period is the trend period largely used by ONS when constructing the SNPP). The data shows that the population is expected to grow broadly in line with past trends, albeit the trends do vary depending on the period studied.



Source: ONS

3.7 For information, Figure 3.6 below shows the same information for each individual local authority. All of the charts show an interval on the x-axis of 10,000 population; this emphasizes the difference between Coventry and other areas, in particular this shows difference when compared with North Warwickshire.

**Figure 3.6: Past and projected population growth – by local authority**



Source: ONS



## 4. Components of Population Growth

- 4.1 Of the 152,200 projected increase in the population over the 20-years to 2031, some 46% is a result of projected natural increase (more births than deaths) while the remaining 54% is the projected net number of migrants – 69% due to international migration and a small level of net internal out-migration (internal migration is defined as moves from one part of the United Kingdom to another). The proportion of growth attributed to natural change is slightly lower in the 2014-based SNPP than was the case for the 2012-based version whilst international migration is notably higher. There is also a small change (in a downward direction) in the projected number of net internal migrants<sup>1</sup>.

<b>Figure 4.1: Projected Components of population change – 2012- and 2014-based SNPP – HMA</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	3,721	52%	3,501	46%
Internal Migration	-1,001	-14%	-1,125	-15%
International Migration	4,465	62%	5,235	69%
Total Change	7,158	100%	7,616	100%

Source: ONS

- 4.2 Equivalent figures are shown for each of the individual local authorities in Figures 4.2 to 4.7 below. This shows that population growth in Coventry is driven by natural change and international migration (with a notable level of internal net out-migration); North Warwickshire and Stratford-on-Avon see population growth being largely driven by internal net migration (with both areas seeing negative natural change); Nuneaton & Bedworth and Warwick see a particularly high proportion of natural change with population growth in Rugby being driven by natural change, internal net migration and to a lesser extent international net migration. This analysis is clear that population growth comes from a number of different sources in different areas.
- 4.3 The patterns shown are not unexpected in an area with a major urban centre being surrounded by more rural locations. For example, Coventry has a younger population and therefore sees more births (due to having a higher proportion of the population in child-bearing ages) and relatively fewer deaths (due to having a lower proportion of older people, who have higher death rates). With regard to migration, it is typical to see stronger levels of international migration in major urban areas with movements from such locations to other areas (these latter moves being picked up as internal migration). One of the main consequences of the patterns observed is around the way age structures develop – the major urban area (i.e. Coventry) will typically maintain a younger population profile than in the more rural locations.

<sup>1</sup> It should be noted that the figures in the table do not quite add up; this is due to inclusion of 'other' changes in the 2011-12/14 period and small adjustments made by ONS (to ensure consistency with national projections) from 2014 to 2031.

<b>Figure 4.2: Projected Components of population change – 2012- and 2014-based SNPP – Coventry</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	2,841	69%	2,756	55%
Internal Migration	-2,860	-69%	-2,488	-49%
International Migration	4,139	100%	4,776	95%
Total Change	4,088	100%	5,028	100%

Source: ONS

<b>Figure 4.3: Projected Components of population change – 2012- and 2014-based SNPP – North Warwickshire</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	-18	-8%	-46	-33%
Internal Migration	204	98%	151	107%
International Migration	22	11%	37	26%
Total Change	209	100%	143	100%

Source: ONS

<b>Figure 4.4: Projected Components of population change – 2012- and 2014-based SNPP – Nuneaton &amp; Bedworth</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	403	59%	325	69%
Internal Migration	261	38%	182	39%
International Migration	17	2%	-38	-8%
Total Change	682	100%	474	100%

Source: ONS

<b>Figure 4.5: Projected Components of population change – 2012- and 2014-based SNPP – Rugby</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	302	39%	299	38%
Internal Migration	360	46%	353	45%
International Migration	120	15%	134	17%
Total Change	783	100%	793	100%

Source: ONS

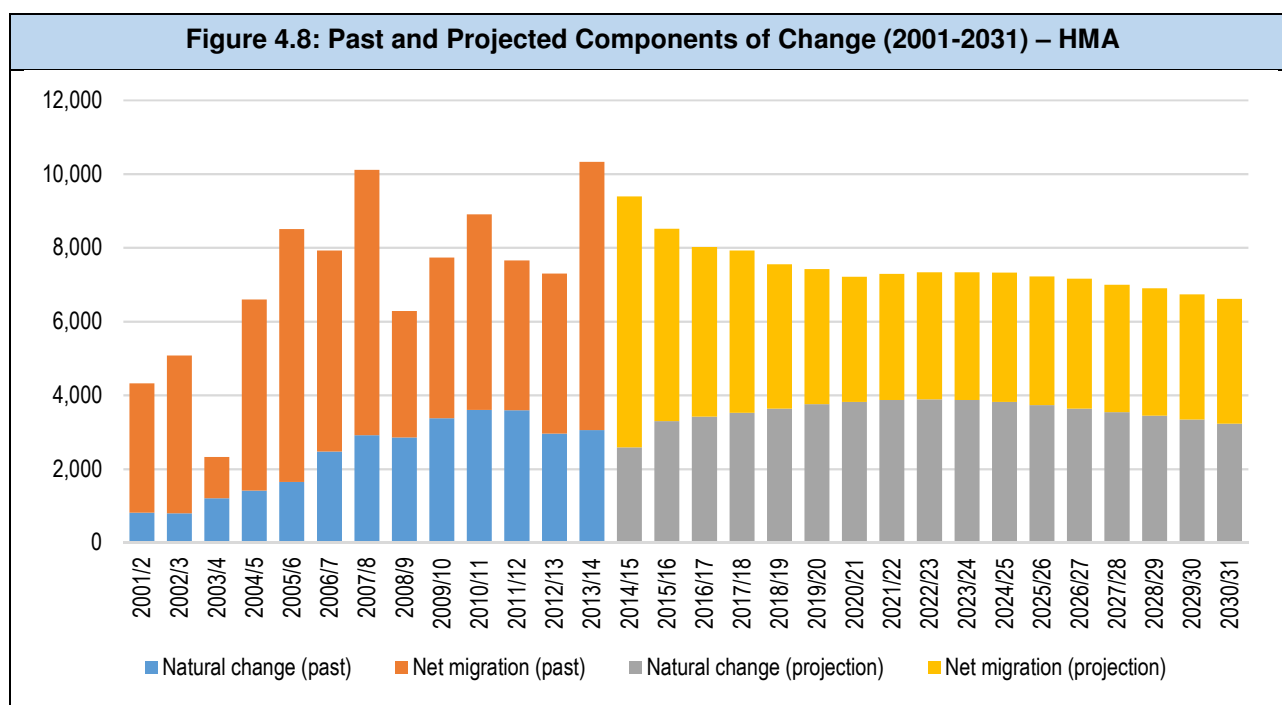
<b>Figure 4.6: Projected Components of population change – 2012- and 2014-based SNPP – Stratford-on-Avon</b>				
	2012-based SNPP		2014-based SNPP	
Natural Change	-260	-48%	-284	-60%
Internal Migration	690	127%	582	123%
International Migration	113	21%	175	37%
Total Change	546	100%	480	100%

Source: ONS

Figure 4.7: Projected Components of population change – 2012- and 2014-based SNPP – Warwick				
	2012-based SNPP		2014-based SNPP	
Natural Change	454	53%	451	65%
Internal Migration	344	40%	93	13%
International Migration	55	6%	152	22%
Total Change	850	100%	698	100%

Source: ONS

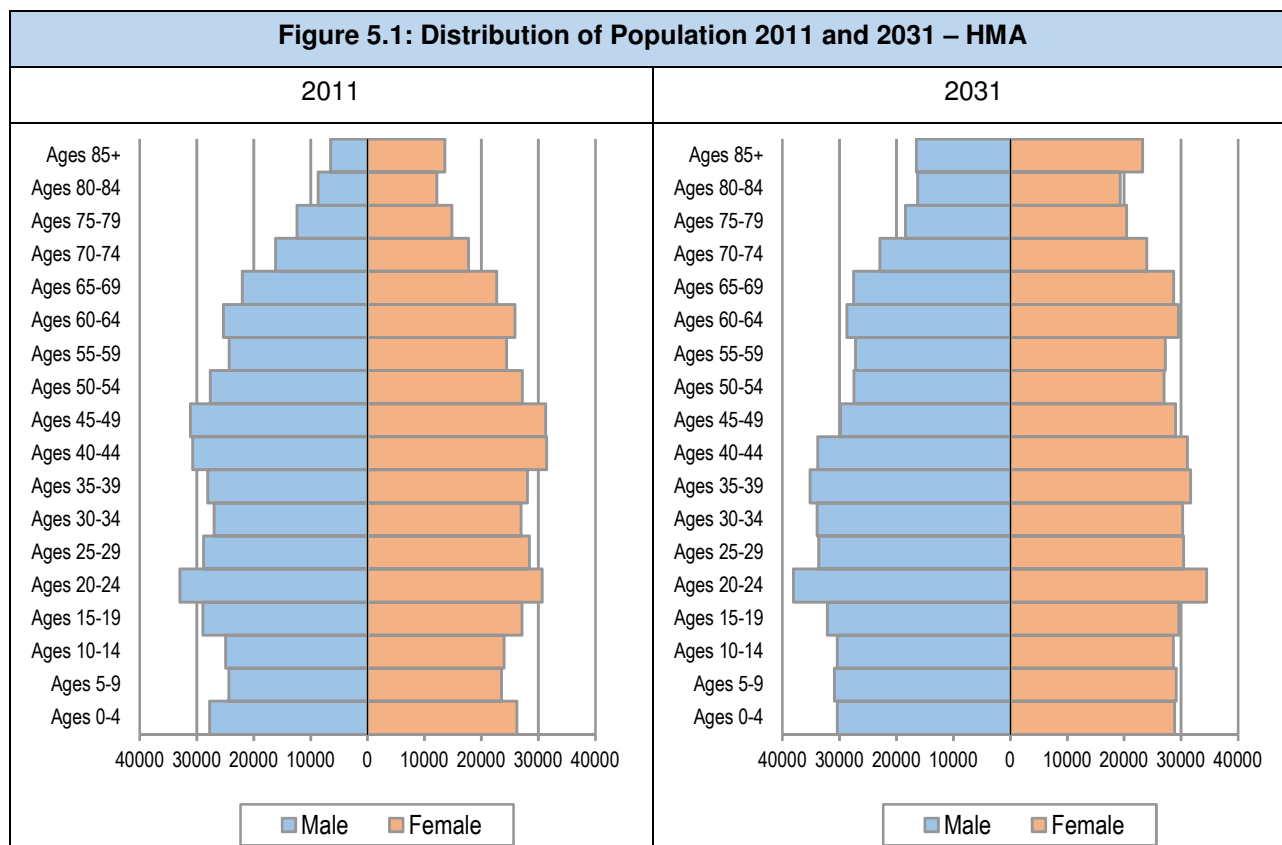
- 4.4 Figure 4.8 below brings together data about migration (both past trends and the future projection) along with information about natural change. This shows that natural change is expected to increase slightly until about 2023 and then start to fall as the projection works through to 2031 – this reflects age structure changes (particularly related to increases in the older person population where deaths rates are higher). Net migration is generally projected to fall over time, which to a significant degree is driven by national projections expecting international migration to fall. Over the whole projection period (2014-31) the level of natural change is projected to be 3,600 per annum, with net migration averaging about 3,900 people each year, starting from around 6,800 in 2014/15 and decreasing to around 3,200 by 2031.
- 4.5 The main consequence of this analysis is that the rate of population growth reduces over time (albeit not significantly from about 2021, when there is a slight short-term increase). A reducing rate of population growth is consistent with ONS national projections; reflecting (as noted above) a reducing projected level of international net migration.



Source: ONS

## 5. Age Structure Changes

5.1 With the overall change in the population will also come changes to the age profile. Figure 5.1 below shows population pyramids for 2011 and 2031. 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 20,100 people to 39,700.



Source: ONS

5.2 Figure 5.2 below also summarises the findings for key (5 year) age groups. The largest growth will be in people aged 65 and over. In 2031 it is estimated that there will be 217,300 people aged 65 and over. This is an increase of 70,500 from 2011, representing growth of 48%. The population aged 85 and over is projected to increase by an even greater proportion, 98%. Looking at the other end of the age spectrum the data shows that there are projected to be around 18% more people aged under 15 with increases (and some modest decreases) shown for other age groups.

<b>Figure 5.2: Population change 2011 to 2031 by five-year age bands – HMA</b>				
Age group	Population 2011	Population 2031	Change in population	% change from 2011
Under 5	53,949	59,268	5,319	9.9%
5-9	47,905	60,060	12,155	25.4%
10-14	48,874	59,007	10,133	20.7%
15-19	55,986	61,727	5,741	10.3%
20-24	63,611	72,556	8,945	14.1%
25-29	57,211	64,063	6,852	12.0%
30-34	53,867	64,208	10,341	19.2%
35-39	56,116	66,814	10,698	19.1%
40-44	62,106	64,905	2,799	4.5%
45-49	62,376	58,834	-3,542	-5.7%
50-54	54,823	54,446	-377	-0.7%
55-59	48,674	54,386	5,712	11.7%
60-64	51,193	58,244	7,051	13.8%
65-69	44,662	56,206	11,544	25.8%
70-74	33,932	46,900	12,968	38.2%
75-79	27,199	38,825	11,626	42.7%
80-84	20,896	35,593	14,697	70.3%
85+	20,089	39,747	19,658	97.9%
Total	863,469	1,015,788	152,319	17.6%

Source: ONS

- 5.3 It is useful to compare the age structure projections from the 2014-based SNPP with similar figures in the 2012-based version. The simplest way to compare the figures is to look at the age structure in 2031 – this is shown in Figure 5.3 below. This analysis shows that the most significant differences are in age groups 20-39, which show between 3% and 6% higher population levels in 2031 in the 2014-based SNPP than was projected in the 2012-based version. The other notable difference is in the 85 and over age groups where the population level in 2031 is projected to be some 6.5% lower in the 2014-based SNPP – all age groups from 45 and above show lower population levels in the 2014-based SNPP than the 2012-based version. A final population change of note is the higher number of children within the 2014-based projections.
- 5.4 The report will move on to consider household growth linked to the various projections, however an initial observation is that despite the higher level of population growth in the 2014-based SNPP it is possible that this will have a limited impact on household growth. This is because the higher number of children will not impact on the number of households, whilst the lower number of older households (who have some of the highest headship rates) will show a lower number of households. The increases in the population aged 15-44 will lead to more households although this will to some extent be balanced by the lower older population (the population aged 15-44 tend to have lower headship rates than older people).

<b>Figure 5.3: Difference in age structure in 2031 (2012- and 2014-based SNPP) – HMA</b>				
Age group	2012-based	2014-based	Difference	% difference from 2012-based
Under 5	58,555	59,268	714	1.2%
5-9	58,928	60,060	1,132	1.9%
10-14	58,737	59,007	271	0.5%
15-19	61,341	61,727	386	0.6%
20-24	68,838	72,556	3,717	5.4%
25-29	60,272	64,063	3,791	6.3%
30-34	61,621	64,208	2,587	4.2%
35-39	64,602	66,814	2,212	3.4%
40-44	63,502	64,905	1,402	2.2%
45-49	59,034	58,834	-200	-0.3%
50-54	54,511	54,446	-65	-0.1%
55-59	54,701	54,386	-315	-0.6%
60-64	59,101	58,244	-858	-1.5%
65-69	57,297	56,206	-1,092	-1.9%
70-74	47,793	46,900	-893	-1.9%
75-79	39,302	38,825	-477	-1.2%
80-84	36,003	35,593	-410	-1.1%
85+	42,500	39,747	-2,754	-6.5%
Total	1,006,639	1,015,788	9,149	0.9%

Source: ONS

- 5.5 Figure 5.4 below shows a summary of the Figure 5.3 information in broad age bands for each local authority. All areas show a lower number of people aged 65 and over by 2031 in the 2014-based SNPP when compared with the 2012-based version. Differences for the Under 15 and 15-64 populations are generally not substantial in most areas although in Coventry it is notable that the number of people aged 15-64 is somewhat higher in the 2014-based projections – this will have some impact on the resident labour force which is discussed later in this report.

**Figure 5.4: Difference in age structure in 2031 (2012- and 2014-based SNPP) broad age bands**

	Age group	2012-based	2014-based	Difference	% difference from 2012-based
Coventry	Under 15	77,407	79,891	2,485	3.2%
	15-64	257,002	273,965	16,963	6.6%
	65 and over	64,266	63,612	-654	-1.0%
	Total	398,674	417,468	18,794	4.7%
North Warwickshire	Under 15	10,375	10,113	-262	-2.5%
	15-64	37,750	36,920	-830	-2.2%
	65 and over	18,135	17,906	-229	-1.3%
	Total	66,260	64,940	-1,321	-2.0%
Nuneaton & Bedworth	Under 15	24,613	23,553	-1,059	-4.3%
	15-64	81,230	78,952	-2,277	-2.8%
	65 and over	33,200	32,384	-816	-2.5%
	Total	139,042	134,890	-4,153	-3.0%
Rugby	Under 15	20,445	21,020	575	2.8%
	15-64	67,347	67,618	271	0.4%
	65 and over	28,371	27,724	-648	-2.3%
	Total	116,163	116,362	198	0.2%
Stratford-on-Avon	Under 15	18,982	19,155	172	0.9%
	15-64	68,823	68,898	75	0.1%
	65 and over	43,948	42,372	-1,576	-3.6%
	Total	131,753	130,424	-1,329	-1.0%
Warwick	Under 15	24,398	24,603	205	0.8%
	15-64	95,372	93,828	-1,544	-1.6%
	65 and over	34,975	33,273	-1,702	-4.9%
	Total	154,745	151,704	-3,041	-2.0%
HMA	Under 15	176,220	178,336	2,116	1.2%
	15-64	607,523	620,181	12,658	2.1%
	65 and over	222,896	217,271	-5,625	-2.5%
	Total	1,006,639	1,015,788	9,149	0.9%

Source: ONS

## 6. 2015 Mid-Year Population Estimates and Sensitivity Scenarios

### Introduction

6.1 Since the 2014-based SNPP were published, ONS has published further population estimates (for mid-2015). Whilst the new population figures do not change the published projections it is the case that this new data can be used to look at a range of modelling sensitivities. The approach taken is similar to that in the 2015 Updated Assessment of Housing Need and looks at a number of scenarios.

### 2015 Mid-Year Population Estimates

6.2 On the 23<sup>rd</sup> June 2016, ONS published a new set of mid-year population estimates (MYE); these provided an estimate of population size and structure in 2015 and the level of births, deaths and migration in the 2014/15 period. Whilst the publication of one year of additional data should not be seen as indicating any particular trend it is worth briefly comparing the MYE with changes projected in the SNPP.

6.3 Figure 6.1 below shows that between 2014 and 2015, the ONS MYE estimates population growth of about 10,400 people, this can be contrast with a lower figure (of 9,400) that was projected. Coventry stands out as showing a higher level of population growth than was projected with North Warwickshire also showing a notable upward difference. In Nuneaton & Bedworth it is notable that population growth in the MYE was somewhat lower than projected. At the HMA level, the difference between the estimate and the projection is largely due to assumed levels of migration.

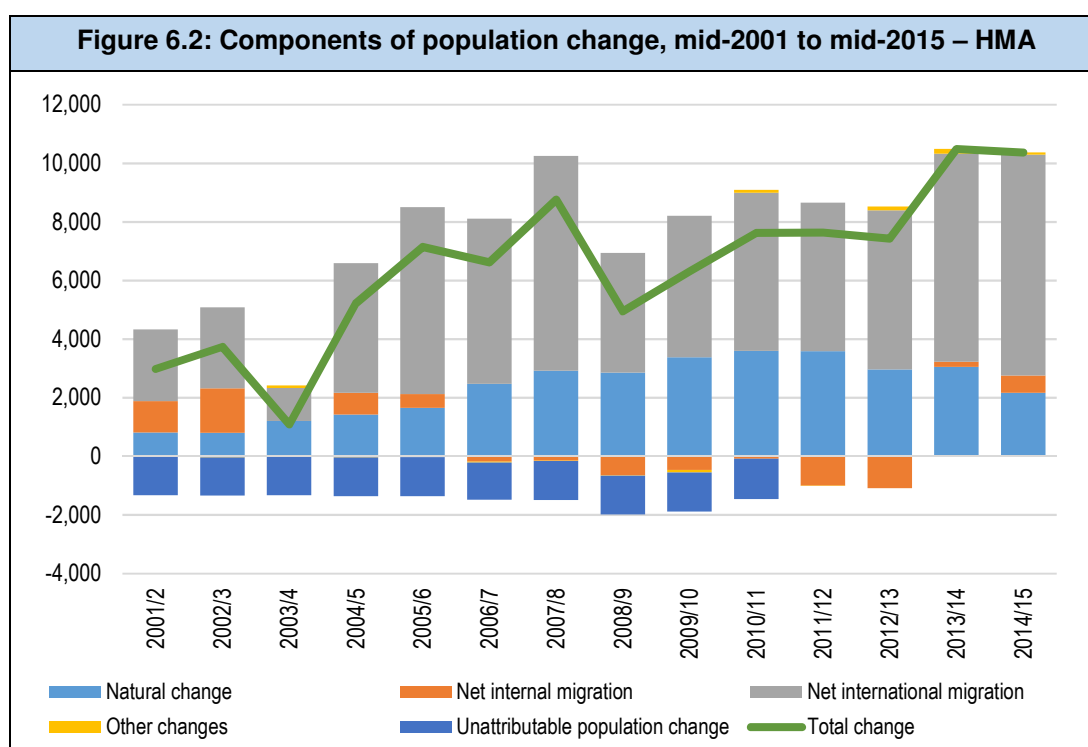
Figure 6.1: Projected and estimated level of population growth 2014-15			
	2015 MYE	2014-based SNPP	Difference
Coventry	7,957	7,233	724
North Warwickshire	319	23	296
Nuneaton & Bedworth	145	322	-177
Rugby	943	857	86
Stratford-on-Avon	466	470	-4
Warwick	535	456	79
HMA	10,365	9,361	1,004

Source: ONS

### Sensitivity projections

6.4 Running sensitivity projections is consistent with the analysis carried out in the 2015 Updated Assessment of Housing Need (UAoHN) – the range of sensitives in this report is similar to, but not exactly the same as in the UAoHN and are essentially based on using ONS MYE data about migration over different time periods. For information, data about past components of population change from 2001-15 is shown in the figure and table below (Figures 6.2 and 6.3) for the whole HMA. Data for each local authority can be found in Appendix 1.





**Figure 6.3: Components of population change, mid-2001 to mid-2015 – HMA**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	814	1,068	2,441	-24	-1,310	2,989
2002/3	796	1,526	2,756	-38	-1,305	3,735
2003/4	1,208	-7	1,126	83	-1,320	1,090
2004/5	1,418	745	4,430	-36	-1,329	5,228
2005/6	1,649	474	6,383	-30	-1,327	7,149
2006/7	2,473	-183	5,634	-27	-1,275	6,622
2007/8	2,914	-146	7,339	-10	-1,337	8,760
2008/9	2,859	-654	4,080	-11	-1,320	4,954
2009/10	3,373	-470	4,829	-79	-1,337	6,316
2010/11	3,600	-84	5,388	102	-1,377	7,629
2011/12	3,591	-998	5,058	-14	0	7,637
2012/13	2,962	-1,084	5,425	130	0	7,433
2013/14	3,052	169	7,109	153	0	10,483
2014/15	2,164	587	7,543	71	0	10,365

Source: ONS

- 6.5 A total of four sensitivity projections have been run (in addition to scenarios based on the 2012- and 2014-based SNPP). The full range of scenarios are described below along with notes about similar projections run in the UAoHN report.

*2012-based SNPP*

- 6.6 This is simply using the population data from the 2012-based SNPP with no adjustments, this means that population figures in 2013, 2014 and 2015 are taken from the projections as published even though ONS has now published estimated figures for each of these time periods.

*2012-based SNPP (+MYE)*

- 6.7 This projection again takes assumptions from the 2012-based SNPP, but overwrites the population projection figures for 2013, 2014 and 2015 by those in the ONS MYE (by age and sex). Moving forward from 2015, this sensitivity uses the same birth and death rates as contained in the 2012-based SNPP and the actual projected migration figures (by age and sex). Due to age structure differences in the MYE compared to the projection, this does mean that population growth from 2015 onwards does not exactly match that in the actual projections as published.

- 6.8 This projection is essentially the same as the core demographic projection used in the UAoHN; the only difference being the inclusion of 2015 MYE data (the UAoHN only had data up to mid-2014 available).

*2014-based SNPP*

- 6.9 This is simply using the population data from the 2014-based SNPP with no adjustments, this means that population figures in 2015 are taken from the projections as published even though ONS has now published estimated figures for this time period.

*2014-based SNPP (+MYE)*

- 6.10 This projection again takes assumptions from the 2014-based SNPP, but overwrites the population projection figures for 2015 by those in the ONS MYE (by age and sex). Moving forward from 2015, this sensitivity uses the same birth and death rates as contained in the 2014-based SNPP and the actual projected migration figures (by age and sex). Due to age structure differences in the MYE compared to the projection, this does mean that population growth from 2015 onwards does not exactly match that in the actual projections as published.

- 6.11 This projection is essentially the updated version of the core demographic projection used in the UAoHN.

*10-year migration*

- 6.12 This projection uses information about migration levels in each local authority in the 10-year period (2005-15). The projection does not just look at the migration figures and roll these forward but recognises that migration can be variable over time as the age structure changes. With international migration, this projection also takes account of the fact that ONS are projecting for international net migration to decrease in the longer-term.

- 6.13 To overcome the issue of variable migration, the methodology employed looks at the share of migration in each area compared to the share in the period feeding into the 2014-based SNPP (which is 2009-14 for internal migration and 2008-14 for international migration). Where the share of migration is higher in the 10-year period, the projection applies an upward adjustment to migration, and vice versa.
- 6.14 This projection is similar to a projection in the UAoHN titled '10-year migration (variable)'; the UAoHN also included a projection titled '10-year migration (constant)' which used actual migration figures from the previous 10-years and rolled these forwards. This is not considered to be a reasonable sensitivity (due to the fact that migration would be expected to vary) and therefore has not been repeated in this report.

#### *10-year migration (+UPC)*

- 6.15 Data presented earlier in this section shows a notable level of Unattributable Population Change (UPC) in the ONS data for 2001-11. In this instance UPC across the HMA is negative, this suggests that the components of change feeding into the SNPP may over-estimate migration and population growth.
- 6.16 Whilst making an adjustment for UPC could be an alternative scenario, it is not considered, on its own, to be a robust alternative to the SNPP (it should be noted that such a scenario was however one of the sensitivities set out in the UAoHN). The main reasons for this are that it is unclear if UPC is related to migration and more importantly, due to changes in the methods used by ONS to measure migration it is most probable that any errors are focussed on earlier periods (notably 2001-6) and therefore a UPC adjustment for more recent data would not be appropriate. On this basis, whilst it is not considered that UPC should be included on its own as a projection to take forward into the modelling of objectively assessed need it is considered that there is merit in looking at UPC when also considering longer-term trends.
- 6.17 Hence, this sensitivity projection takes the outputs from the long-term (10-year) migration scenario and makes a further additional adjustment for UPC (based on the years in which this arises). For the purposes of analysis, it has been assumed that UPC is equally split between international and internal migration.

### **Sensitivity projection outputs**

- 6.18 Figure 6.4 below shows population growth (for the whole HMA) under each of the projection scenarios developed. The 2014-based SNPP (+MYE) shows population growth of 17.9% in the 2011-31 period – this is the equivalent projection to that used in the UAoHN which showed a slightly lower level of population growth (17.3%), although this projection would now be higher if 2015 MYE data is included (a figure shown at 18.0% in the table below).
- 6.19 Of the various projections developed and presented it is clear that the 2014-based SNPP (+MYE) sits in the middle of the range which can be seen as between 16.6% and 18.7%. The main scenario in the UAoHN also sat in the middle of a range of different projections developed. Overall, whilst the different sensitivities do show different outputs, it is the case that the range (at HMA level) is relatively small.

**Figure 6.4: Projected population growth (2011-2031) – range of demographic-based projections – HMA**

	Population 2011	Population 2031	Change in population	% change
2012-based SNPP	863,469	1,006,639	143,170	16.6%
2012-based SNPP (+MYE)	863,469	1,018,621	155,152	18.0%
2014-based SNPP	863,469	1,015,788	152,319	17.6%
2014-based SNPP (+MYE)	863,469	1,017,803	154,334	17.9%
10-year migration	863,469	1,025,296	161,827	18.7%
10-year migration (+UPC)	863,469	1,009,047	145,578	16.9%

Source: Derived from ONS data

- 6.20 When looking at the two 10-year migration based projections it is interesting that these are either above or below the 2014-based scenarios. It is arguable that a 10-year trend is preferable to the SNPP because it is based on longer-term trends (and is therefore more stable); however, when looking at longer-term trends it is important to consider the potential impact of UPC. Therefore, the range shown by the 10-year migration based projections (16.9% to 18.7%) tends to support the level of population growth in the SNPP (17.9% when including MYE) as being broadly sound.

## 7. Economic-led Population Projections

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### Introduction

- 7.1 Moving on from population projections, this report now considers the link between jobs and population growth (which ultimately feeds into household growth and housing need). Two analyses have been carried out; firstly, to look at the number of jobs that might be supported by projected demographic change and secondly, to consider the population growth needed to see a sufficient growth in the resident labour-force for a given number of jobs to be supported. The methodology in this report is identical to that in the 2015 Updated Assessment of Housing Need (UAoHN) in translating jobs into resident workforce (see Section 4 of the UAoHN).
- 7.2 The difference between the analyses is that this report applies assumptions aligned to the latest (2014-based) population projections and mid-year population estimates – because these have slightly different age structures and projected changes, the overall level of population growth and housing need will be different, even for a given level of labour-force growth.
- 7.3 The analysis in the UAoHN translated jobs into resident labour-force by taking account of commuting patterns and double jobbing (i.e. the proportion of people with more than one job). The analysis also made a series of assumptions about how age and sex specific employment rates might change in the future. All of the assumptions modelled this assessment are unchanged from the UAoHN. It should be noted that the economic forecasts are for the period 2014-31 although population outputs are shown for the full projection period from 2011 to 2031.

### Jobs Supported by Demographic Change

- 7.4 First of all, it is possible to consider what growth in workforce might be expected to result from the 2014-based SNPP (+MYE) scenario. This analysis estimates changes to the resident labour-force and then considers how many jobs this will equate to (taking account of commuting patterns) – essentially, how many jobs does the SNPP support?
- 7.5 Such an analysis has been carried out in Figure 7.1 below and it should be noted that this analysis is similar to that carried out in the UAoHN (Table 26) – the difference being that this is based on the 2014-based (+MYE) scenario, rather than 2012-based data. As well as changes to the resident workforce, assumptions about commuting and double jobbing have been worked backwards to estimate the number of jobs the resident workforce might support.
- 7.6 Across the HMA, the analysis shows growth in the resident workforce of around 61,600 in the 2014-31 period, which would support around 67,000 additional jobs. The vast majority of the resident workforce increase is projected to be in Coventry (70% of the total), with this supporting 72% of the potential increase in jobs. Therefore, if population growth were to be in-line with the latest projections, then growth in the labour force would be sufficient to support 67,000 additional jobs (2014-31).

<b>Figure 7.1: Jobs Growth and Change in Resident Workforce (2014-31) – linked to 2014-based SNPP (+MYE)</b>			
	Change in resident workforce	Adjustment factor	Change in jobs
Coventry	43,405	1.11	48,286
North Warwickshire	334	1.33	445
Nuneaton & Bedworth	2,952	0.77	2,276
Rugby	6,084	0.98	5,964
Stratford-on-Avon	2,300	1.09	2,505
Warwick	6,554	1.15	7,564
HMA	61,629	-	67,040

Source: Derived from ONS data

- 7.7 The figure of 67,000 additional jobs is about 9% higher than the equivalent figure calculated in the UAoHN (this estimated that the 2012-based SNPP would support in the region of 61,300 additional jobs (see Table 26 of UAoHN)). The latest SNPP would thus support a higher level of job growth; this is due to a different age structure projected by the 2014-based SNPP, in particular driven by higher projected population growth in Coventry.

### Linking Demographic Change to Job Growth Forecasts

- 7.8 The initial analysis above looks at how many jobs could be supported by demographic change. The alternative way to look at this is to ask what level of demographic change is needed to support a given level of job growth – a consistent approach to that in the UAoHN.
- 7.9 The UAoHN Report sought to draw together a range of information to draw conclusions on expected economic performance. It considered econometric forecasts from Experian and Cambridge Econometrics, past trends, and local demand evidence contained within Employment Land Studies including regarding commercial market dynamics. This informed the conclusions drawn regarding expected future economic performance.
- 7.10 Figure 7.2 below shows the forecast level of employment (job) growth and the implied change to the resident workforce (taking account of commuting patterns and double jobbing) the job figures can be seen in Table 28 of the UAoHN. This scenario shows job growth of 48,200 in the 2014-31 period and this equates to a labour-force growth of some 45,200 people. Around 33% of the resident workforce change is shown to be in Coventry, compared with about 70% as shown from demographic projections.

<b>Figure 7.2: Jobs Growth and Change in Resident Workforce (2014-31) – economic-driven scenario (from UAoHN)</b>		
	Employment Growth 2014-31	Change in resident workforce
Coventry	16,700	15,012
North Warwickshire	3,000	2,251
Nuneaton & Bedworth	4,800	6,225
Rugby	4,800	4,896
Stratford-on-Avon	9,000	8,266
Warwick	9,900	8,578
HMA	48,200	45,228

Source: Updated Assessment of Housing Need (2015) – Table 28

- 7.11 Figure 7.3 below shows the level of population growth needed to support economic growth (for the full 2011-31 projection period) for the HMA as a whole and individual local authorities. Overall, for population growth to match expected economic performance, it is estimated that there would need to be 120,700 additional people, a 14% increase from 2011; this figure is consistent with the equivalent outputs when modelling against the economic forecasts. It is notable that this scenario shows a more equitable split of population growth when compared with the SNPP (2014-based (+MYE)) with the range of population growth being between 10.8% in North Warwickshire, up to 16.8% in Stratford-on-Avon. The SNPP showed a range from 5.2% (North Warwickshire) to 32.1% in Coventry.

<b>Figure 7.3: Projected population growth (2011-2031) – additional economic scenario in UAoHN</b>				
	Population 2011	Population 2031	Change in population	% change
Coventry	316,915	363,764	46,849	14.8%
North Warwickshire	62,089	68,772	6,683	10.8%
Nuneaton & Bedworth	125,409	140,996	15,587	12.4%
Rugby	100,496	114,458	13,962	13.9%
Stratford-on-Avon	120,824	141,076	20,252	16.8%
Warwick	137,736	155,066	17,330	12.6%
HMA	863,469	984,133	120,664	14.0%

Source: Derived from ONS data

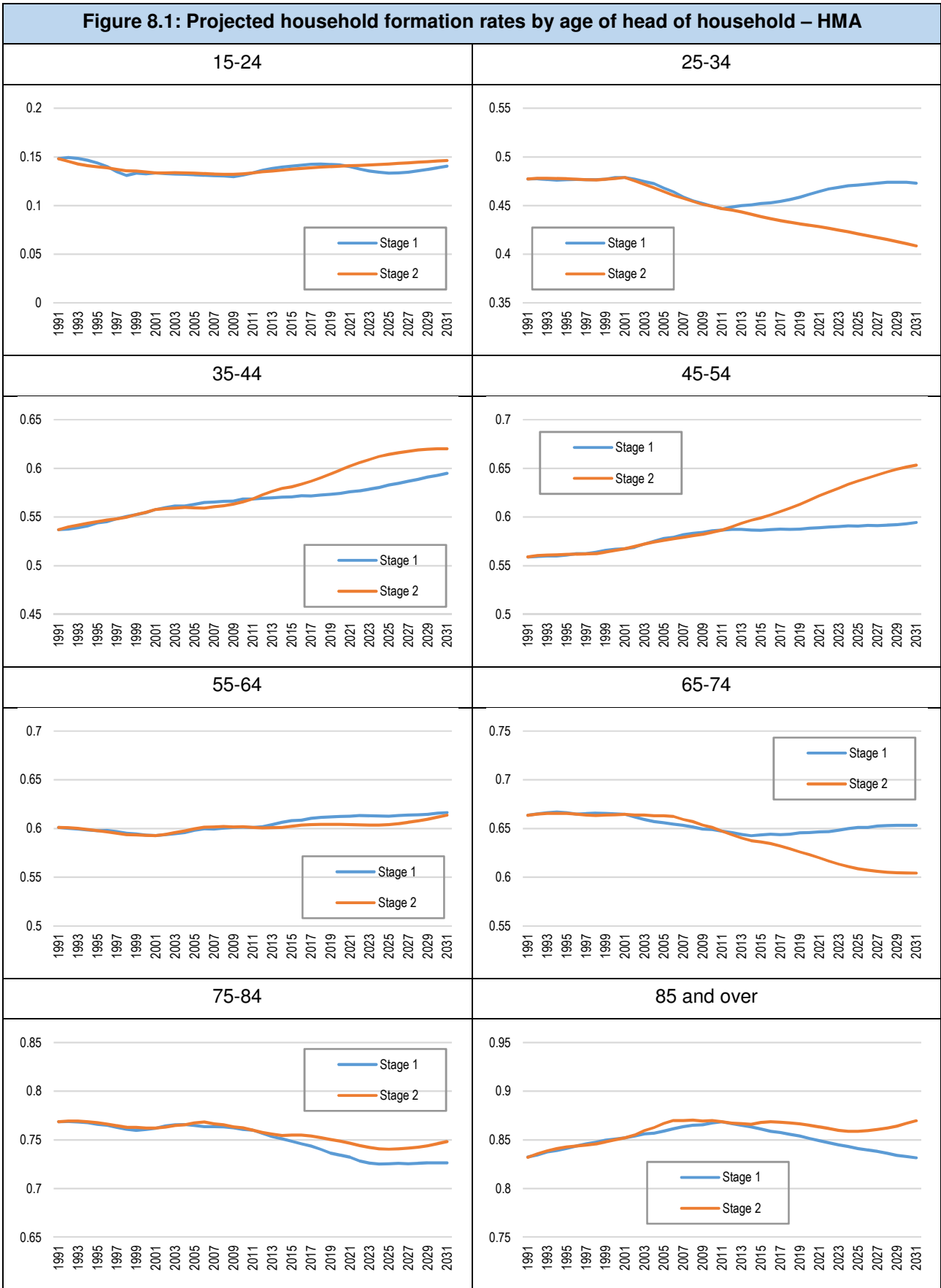
- 7.12 At an HMA level it is clear that higher overall population growth is not needed to support growth in the economy. However, a potential alternative distribution of population growth and housing provision should be considered, to support local living and working. The report returns to this in drawing conclusions.

## 8. Household Growth Projections

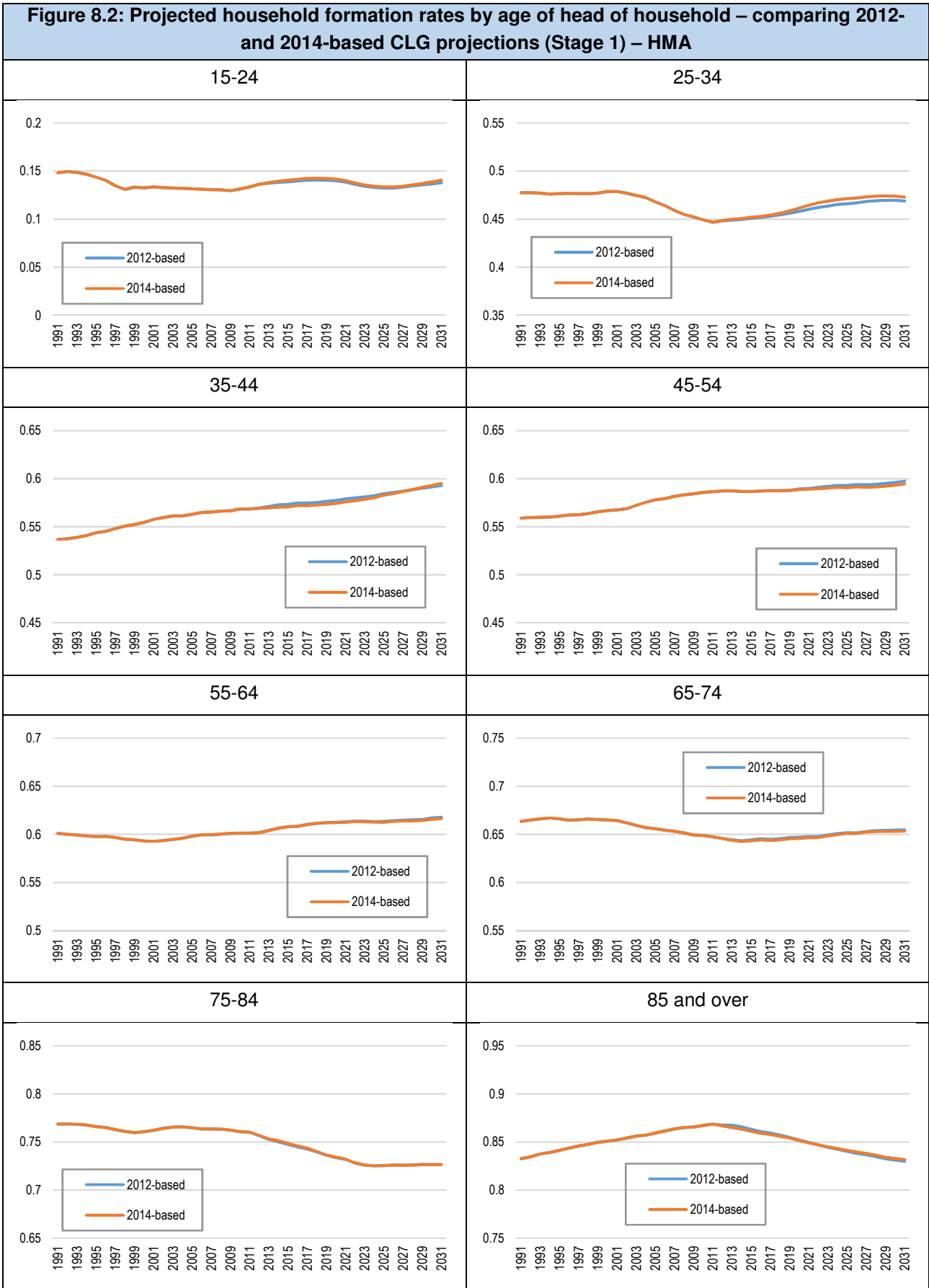
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- 8.1 Having studied the population size and the age/sex profile of the population the next step in the process is to convert this information into estimates of the number of households in the area. To do this the concept of headship rates is used. Headship rates can be described in their most simple terms as the number of people who are counted as heads of households (or in this case the more widely used Household Reference Person (HRP)).
- 8.2 On the 12<sup>th</sup> June 2016, CLG published a new set of (2014-based) household projections – the projections contain two core analyses. The Stage 1 household projections project household formation based on data from the 1971, 1981, 1991, 2001 and 2011 Censuses with outputs for age, sex and marital status.
- 8.3 The Stage 2 household projections consider household types and the methodology report accompanying the projections is clear that these projections are based on just two data points – from the 2001 and 2011 Census. Overall outputs on total household growth are constrained to the totals from the Stage 1 Projections. This means that both sets of projections show the same level of overall household growth (when set against the last set of SNPP) but some of the age specific assumptions differ. Differences can however occur between the Stage 1 and 2 headship rates when modelled against different population projections (due to differences in the age structure).
- 8.4 It is useful initially to interrogate how Stage 1 and Stage 2 figures differ for different age groups and Figure 8.1 below shows the headship rates used in each of the two stages (data for individual local authorities can be found in Appendix 2). It is evident from the analysis that household formation amongst households in their late 20s and early 30s fell over the 2001-11 decade. Whilst the Stage 1 projections show some slowing down of this falling rate, it is the case that household formation amongst this age group is projected to continue to fall. The Stage 2 figure (for the 25-34 age group) are projected to continue to fall notably – consistent with the trends seen in the 2001-11 period.
- 8.5 The 2014-based household projections also expect household formation rates amongst older age groups to fall over time. Given improving life expectancy this 'trend' looks to be reasonable (as it would be expected that more people would remain living as couples).
- 8.6 Overall, it is considered that the Stage 1 projections should be favoured over the Stage 2 figures for the purposes of considering overall household growth; this is for two key reasons: a) the Stage 1 figures are based on a long-term time series (dating back to 1971 and using 5 Census data points) whereas the Stage 2 figures only look at two data points (2001 and 2011) and b) the Stage 2 figures are constrained back to Stage 1 values, essentially meaning that it is the Stage 1 figures that drive overall estimates of household growth in the CLG household projections themselves. The analysis to follow therefore focuses on Stage 1 figures. These provide a more stable basis for future projections, and make more positive assumptions on household formation for younger persons.
- 8.7 As well as comparing the Stage 1 and Stage 2 figures, it is of interest to compare the figures from the 2012- and 2014-based household projection releases. This is shown in the second figure below (Figure 8.2) for the equivalent Stage 1 figures. As can be seen there is very little difference between the figures in each of the releases (equivalent data for local authorities can be found in Appendix 2).





Source: Derived from CLG data



Source: Derived from CLG data

- 8.8 By applying the above headship rates, it is possible to estimate the projected household growth and this is shown in Figure 8.3 below. The analysis shows a growth in households of around 80,400 over the 20-year period (4,000 per annum) – over half of this is projected to be in Coventry.

<b>Figure 8.3: Projected Household Growth 2011-31 – 2014-based SNPP</b>				
	Households 2011	Households 2031	Change in households	Per annum
Coventry	128,469	173,726	45,256	2,263
North Warwickshire	25,854	28,612	2,757	138
Nuneaton & Bedworth	52,797	59,686	6,889	344
Rugby	42,086	50,542	8,456	423
Stratford-on-Avon	52,096	60,078	7,982	399
Warwick	58,711	67,740	9,029	451
HMA	360,013	440,383	80,370	4,018

Derived from ONS and CLG data

- 8.9 A similar analysis has been carried out using the 2014-based SNPP with data for 2015 being overwritten by the MYE figures – outputs for household growth are shown in Figure 8.4 below. This shows a slightly higher level of household growth across the HMA although figures are not substantially different from the SNPP as published.

<b>Figure 8.4: Projected Household Growth 2011-31 – 2014-based SNPP (+MYE)</b>				
	Households 2011	Households 2031	Change in households	Per annum
Coventry	128,469	174,365	45,896	2,295
North Warwickshire	25,854	28,742	2,887	144
Nuneaton & Bedworth	52,797	59,549	6,753	338
Rugby	42,086	50,551	8,465	423
Stratford-on-Avon	52,096	60,041	7,945	397
Warwick	58,711	67,680	8,969	448
HMA	360,013	440,928	80,915	4,046

Derived from ONS and CLG data

- 8.10 A range of other scenarios have been run in this report and Figure 8.5 below summarises the per annum household growth from each of these. Additionally, a row has been added to include the figures from the 2012-based SNPP as provided in the 2015 Updated Assessment of Housing Need – this is similar to the 2012-based SNPP (+MYE) scenario apart from the scenario in this report has drawn on more recent MYE data. Where figures are taken from the 2012-based projections, this includes other parts of those projections (e.g. data about headship rates).
- 8.11 Compared with the UAoHN, the household growth projections show an increase in Coventry and decreases across the rest of Warwickshire. This is expected as it reflects the demographic analysis (which shows higher population growth in Coventry and lower growth across the County) – the differences in projected population growth reflect more recent population data (notably about migration, which has been recorded as being higher in Coventry and lower across Warwickshire generally).

**Figure 8.5: Projected Household Growth 2011-31 – full range of scenarios – per annum**

	Coventry	North Warwick- shire	Nuneaton & Bedworth	Rugby	Stratford- on-Avon	Warwick	HMA
2012-based SNPP	1,879	160	432	450	451	573	3,946
2012-based SNPP (+MYE)	2,162	163	399	452	436	573	4,185
2014-based SNPP	2,263	138	344	423	399	451	4,018
2014-based SNPP (+MYE)	2,295	144	338	423	397	448	4,046
10-year migration	2,072	157	400	498	544	539	4,211
10-year migration (+UPC)	1,712	151	430	551	511	536	3,890
Economic-Driven Scenario	1,259	207	452	384	593	515	3,410
UAoHN (2015)	2,037	159	411	450	436	582	4,074

Derived from ONS and CLG data

## 9. Housing Need

- 9.1 As well as providing estimates of household growth under different scenarios, it is also possible to make estimates of the number of additional homes to which this might equate. To do this a vacancy allowance is included in the data. For consistency with previous work, a vacancy allowance of 3% has been applied to the household growth estimates – this reflects the uplift from occupied homes that should be applied to the data. It is assumed that such a level of vacant homes will allow for movement within the housing stock and includes an allowance for second homes.
- 9.2 The analysis shows an annual need for 4,167 dwellings in the HMA when using the 2014-based SNPP (+MYE) (see Figure 9.1) – this is very slightly below the figure in the 2015 Updated Assessment of Housing Need report, which showed an annual need for 4,197 dwellings. Other scenarios are either higher or lower, with the economic based scenario being notably lower than demographic based figures. The full range of outputs from the projections is 3,512 to 4,337 – the 2014-based SNPP (+MYE) scenario therefore sits towards the top of this range. The second table below (Figure 9.2) shows the same information for the full 20-year projection period.

**Figure 9.1: Projected Housing Need 2011-31 – full range of scenarios – per annum**

	Coventry	North Warwickshire	Nuneaton & Bedworth	Rugby	Stratford-on-Avon	Warwick	HMA
2012-based SNPP	1,936	165	445	463	465	591	4,065
2012-based SNPP (+MYE)	2,227	168	411	466	449	590	4,310
2014-based SNPP	2,331	142	355	435	411	465	4,139
2014-based SNPP (+MYE)	2,364	149	348	436	409	462	4,167
10-year migration	2,135	162	412	513	561	555	4,337
10-year migration (+UPC)	1,763	155	443	567	527	552	4,007
Economic-Driven Scenario	1,297	213	465	396	611	530	3,512
UAoHN (2015)	2,099	163	423	464	449	600	4,197

Derived from ONS and CLG data

**Figure 9.2: Projected Housing Need 2011-31 – full range of scenarios – total**

	Coventry	North Warwickshire	Nuneaton & Bedworth	Rugby	Stratford-on-Avon	Warwick	HMA
2012-based SNPP	38,717	3,300	8,903	9,260	9,301	11,811	81,291
2012-based SNPP (+MYE)	44,530	3,366	8,219	9,319	8,980	11,795	86,209
2014-based SNPP	46,614	2,840	7,096	8,710	8,222	9,299	82,781
2014-based SNPP (+MYE)	47,273	2,974	6,955	8,719	8,184	9,238	83,342
10-year migration	42,693	3,233	8,245	10,254	11,214	11,099	86,737
10-year migration (+UPC)	35,265	3,100	8,863	11,346	10,530	11,037	80,141
Economic-Driven Scenario	25,942	4,266	9,310	7,911	12,215	10,602	70,246
UAoHN (2015)	41,980	3,260	8,460	9,280	8,980	12,000	83,940

Derived from ONS and CLG data

## 10. Adjustments to Improve Affordability

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- 10.1 Consistent with analysis in the UAoHN; an adjustment has been made to household formation rates when moving through to conclusions about OAN. In the UAoHN, this analysis followed a discussion of market signals and affordable housing need.
- 10.2 Section 5 of the UAoHN concluded (in para 5.39) that the *'evidence from market signals does not justify any substantial adjustments to overall housing provision'*. However, it is noted that it would be appropriate to look at the extent to which household formation has been suppressed and that improving affordability would manifest itself in an improvement or recovery in household formation rates.
- 10.3 Section 6 of the UAoHN updated the analysis of affordable housing need and concluded (Table 45) that the affordable need represents 35% of the total need implied by demographic projections. The assessment of affordable housing concluded that *'in considering the overall need for housing, only those who are concealed or homeless would result in potentially an additional need for housing... Addressing needs of concealed and homeless households would be manifest, in demographic terms, in an increase in household formation rates'*.
- 10.4 Hence both the market signals and affordable need analysis identified the potential for household formation/headship rates to be increased.
- 10.5 National research undertaken for the RTPi by the Neil McDonald and Peter Williams at Cambridge University indicates a particular effect of the decline in affordability between 2001 and 2011 and the economic recession has been young adults living within a parental home for longer or living in shared accommodation rather than separate accommodation. The impact of this, their research shows, has been most significant for the 25-34 age group.
- 10.6 A detailed interrogation of the 2014-based CLG household projections indicates that in demographic terms, the deterioration in affordability of market housing and the economic recession over the 2001-11 decade is likely to have influenced – at least in part – a decline in household formation rates in younger people, particularly amongst those aged between 25 and 34. This is the one age group identified earlier as showing notable decreases in headship/household formation rates since 2001.
- 10.7 An improvement in affordability would be manifest, in demographic terms, in an improved ability of younger households to form (all other factors being equal). However, it is notable that for some areas, the household projections already assume increased household formation amongst younger households – and thus “build in” improvements in affordability.
- 10.8 The analysis below therefore runs a sensitivity analysis which considers and seeks to quantify the implication of returning the household formation rates of the 25-34 age group back to 2001 levels (i.e. before the rate started to decrease) by 2031. This is a consistent approach to that taken in the 2015 Updated Assessment of Housing Need.

- 10.9 Figure 10.1 below shows the number of dwellings that would be required to achieve this improvement in headship rates when considering the 2014-based SNPP (+MYE). This results in a need for 4,237 dwellings per annum across the HMA; this is 70 dwellings per annum more than identified in the 2014-based projection and represents an uplift of 2%. It is only really in North Warwickshire that any notable uplift is shown as for the other authorities the demographic projections are already assuming notable improvements to affordability.

<b>Figure 10.1: Estimated housing need including vacancy allowance – per annum (returning 25-34 headship rates back to 2001 levels) – dwellings per annum (2014-based SNPP (+MYE))</b>				
	2014-based SNPP (+MYE) - with no uplift)	Returning 25-34 headship rates back to 2001 levels	Difference	Uplift %
Coventry	2,364	2,366	2	0%
North Warwickshire	149	174	25	17%
Nuneaton & Bedworth	348	352	5	1%
Rugby	436	448	12	3%
Stratford-on-Avon	409	421	12	3%
Warwick	462	477	15	3%
HMA	4,167	4,237	70	2%

Source: Derived from ONS and CLG data

- 10.10 As noted previously, the 2014-based household projections already build in some improvements to the household formation rates of the 25-34 population in some areas and hence the 2% shown in Figure 10.1 is a 2% uplift from an already uplifted position. Figure 10.2 below seeks to identify how much uplift is already included within the 2014-based projections. This done by holding headship rates (for the 25-34 population) constant at 2014 levels and then comparing this output with the uplifted one shown in Figure 10.1.
- 10.11 For the whole HMA, this analysis shows with no improvements to household formation (25-34 population) that the level of need in the projections would be 4,093 dwellings per annum – some 74 (or 2%) lower than the actual projections as published. Hence the uplift suggested is a total of 4%, comprised of 2% due to improvements already in the CLG projections, and a further 2% due to additional potential increases.

**Figure 10.2: Estimated housing need including vacancy allowance – per annum (returning 25-34 headship rates back to 2001 levels) – dwellings per annum (2014-based SNPP (+MYE))**

	2014-based SNPP (+MYE) – constant headship (25-34))	Returning 25-34 headship rates back to 2001 levels	Difference	Uplift %
Coventry	2,319	2,366	47	2%
North Warwickshire	152	174	22	14%
Nuneaton & Bedworth	335	352	17	5%
Rugby	430	448	18	4%
Stratford-on-Avon	405	421	16	4%
Warwick	451	477	26	6%
HMA	4,093	4,237	145	4%

Source: Derived from ONS and CLG data

10.12 Figure 10.3 below shows the same analysis for the other scenarios considered in this report – only annual housing need figures are provided.

**Figure 10.3: Projected Housing Need 2011-31 – full range of scenarios (returning 25-34 headship rates back to 2001 levels) – dwellings per annum**

	Coventry	North Warwickshire	Nuneaton & Bedworth	Rugby	Stratford-on-Avon	Warwick	HMA
2012-based SNPP	1,933	188	449	474	475	602	4,122
2012-based SNPP (+MYE)	2,224	191	414	477	460	601	4,368
2014-based SNPP	2,332	167	359	447	423	480	4,209
2014-based SNPP (+MYE)	2,366	174	352	448	421	477	4,237
10-year migration	2,137	187	417	525	574	570	4,411
10-year migration (+UPC)	1,767	180	448	580	539	567	4,082
Economic-Driven Scenario	1,303	240	470	407	624	545	3,589
UAoHN (2015)	2,119	188	429	479	457	599	4,272

Source: Derived from ONS and CLG data



## 11. Conclusions

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- 11.1 Having worked through the analysis of headship rate adjustments, and all other analysis in the report, it is possible to draw conclusions in a consistent manner to the 2015 Updated Assessment of Housing Need (UAoHN). Within the UAoHN the key concluding analysis can be found in Table 53; this table has been replicated (at Figure 11.1) with equivalent figures from analysis in this report. The figures in brackets are the figures from Table 53 (see also Appendix 3).
- 11.2 In the first column of the table, the demographic need is shown (as can be seen in Figure 9.1); the second column then shows how much additional housing would be needed for the workforce to grow in line the Economic-Driven scenario. This is only a positive figure where the demographic need does not provide a sufficient labour force (figures can also be calculated from Figure 9.1 by subtracting 'Economic-Driven Scenario' data from the '2014-based SNPP (+MYE)' data. One interesting difference between this analysis and that in the UAoHN is that Warwick now has a figure for Supporting Economic Growth; this finding is due to Warwick showing a lower level of demographic need in this assessment and hence a lower potential labour-force growth. Interestingly, despite this additional uplift, the total assessed need for Warwick is actually lower than in the UAoHN.
- 11.3 Finally, the table shows an uplift for 'Improving Affordability' – this is based on returning the headship rates of the 25-34 population back to levels seen in 2001. The data is taken directly from Figure 10.1.
- 11.4 The analysis shows across the HMA that the more up-to-date information suggests a virtually identical level of housing need (4,237 per annum compared with 4,272 previously). There are however differences for individual areas, with Coventry showing a notably higher level of OAN – this is due to higher need within the demographic projections. The affordability uplift is also virtually identical but with a slightly different distribution.
- 11.5 Planning Practice Guidance indicates that wherever possible local housing needs assessments should be informed by the latest information; but does outline that this does not automatically mean that housing assessments (and by implication OAN figures) are rendered out-of-date every time new projections are issued. **Overall, this updated analysis, taking account of more recent published data, does not suggest any fundamental differences from the analysis and conclusions as set out in the UAoHN of September 2015. These therefore remain a robust basis for forward planning.**

**Figure 11.1: Components of OAN, Homes per Annum 2011-31 (conclusions consistent with UAoHN)**

	Demographic-based Need		Supporting Economic Growth		Improving Affordability		Total	
	Update	UAoHN	Update	UAoHN	Update	UAoHN	Update	UAoHN
Coventry	2,364	(2,099)	0	(0)	2	(21)	2,366	(2,120)
North Warwickshire	149	(163)	65	(47)	25	(27)	238	(237)
Nuneaton & Bedworth	348	(423)	118	(73)	5	(6)	470	(502)
Rugby	436	(464)	0	(0)	12	(16)	448	(480)
Stratford-on-Avon	409	(449)	202	(201)	12	(9)	623	(659)
Warwick	462	(600)	68	(0)	15	(0)	545	(600)
Coventry/Warwickshire	4,167	(4,197)	-	-	70	(75)	4,237	(4,272)

Source: Derived from ONS and CLG data and Updated Assessment of Housing Need (2015) – Table 53

- 11.6 As the UAoHN set out, economic growth within the HMA can be supported by adjusting the distribution of housing provision between the authorities in Coventry and Warwickshire. Given an unmet housing need in Coventry, there is also an imperative to do this. Greater weight should therefore be given in Figure 11.1 to the conclusions on objectively assessed housing need at a Housing Market Area level. In considering the figures for individual authorities, it should be recognised that meeting unmet need from Coventry (or other locations) will support workforce growth in the recipient local authority and thus contribute to supporting its own economy. This is an important consideration to recognise in deriving housing targets, in order to avoid double counting.

## Appendix 1: Past Components of Population Change by Local Authority

**Figure A1.1: Components of population change, mid-2001 to mid-2015 – Coventry**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	707	-2,566	1,887	-23	-1,514	-1,509
2002/3	672	-1,899	2,109	-14	-1,498	-630
2003/4	847	-2,861	1,005	28	-1,510	-2,491
2004/5	910	-2,280	3,093	-13	-1,498	212
2005/6	1,153	-1,732	3,825	-19	-1,484	1,743
2006/7	1,388	-2,775	4,206	-25	-1,494	1,300
2007/8	1,735	-1,487	4,994	-4	-1,481	3,757
2008/9	1,691	-1,355	3,376	-16	-1,489	2,207
2009/10	2,079	-946	4,668	-33	-1,487	4,281
2010/11	2,252	-774	5,206	48	-1,491	5,241
2011/12	2,078	-992	5,116	15	0	6,217
2012/13	1,872	-596	5,359	43	0	6,678
2013/14	1,929	-264	5,953	0	0	7,618
2014/15	1,737	-379	6,601	-2	0	7,957

Source: ONS

**Figure A1.2: Components of population change, mid-2001 to mid-2015 – North Warwickshire**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	11	30	31	6	-41	37
2002/3	-50	5	11	-5	-37	-76
2003/4	-11	63	-14	8	-26	20
2004/5	26	142	6	-3	-46	125
2005/6	-9	-5	81	-2	-39	26
2006/7	22	-110	43	-2	-34	-81
2007/8	21	91	47	-2	-28	129
2008/9	83	134	-14	-3	-44	156
2009/10	50	-80	-4	-5	-19	-58
2010/11	66	-57	37	6	-29	23
2011/12	19	67	39	-14	0	111
2012/13	69	-172	23	4	0	-76
2013/14	32	223	78	11	0	344
2014/15	-85	337	76	-9	0	319

Source: ONS

**Figure A1.3: Components of population change, mid-2001 to mid-2015 – Nuneaton & Bedworth**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	135	143	-48	-2	158	386
2002/3	151	578	43	-17	161	916
2003/4	193	-165	-62	10	151	127
2004/5	274	-24	-14	-4	148	380
2005/6	170	215	204	-3	153	739
2006/7	456	238	29	-13	164	874
2007/8	460	385	241	-3	124	1,207
2008/9	388	-161	87	1	147	462
2009/10	499	-252	43	-1	140	429
2010/11	538	46	-19	-1	86	650
2011/12	512	-12	-76	-28	0	396
2012/13	416	-173	-83	38	0	198
2013/14	450	-303	2	22	0	171
2014/15	214	-87	-17	35	0	145

Source: ONS

**Figure A1.4: Components of population change, mid-2001 to mid-2015 – Rugby**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	12	787	98	23	213	1,133
2002/3	36	50	114	1	196	397
2003/4	77	499	164	-2	210	948
2004/5	122	654	347	-10	210	1,323
2005/6	140	486	873	14	217	1,730
2006/7	306	606	531	7	247	1,697
2007/8	346	386	724	-2	232	1,686
2008/9	336	206	401	20	265	1,228
2009/10	317	597	244	-15	230	1,373
2010/11	370	640	192	19	240	1,461
2011/12	473	-119	-89	-10	0	255
2012/13	322	138	151	11	0	622
2013/14	461	425	163	78	0	1,127
2014/15	243	376	237	87	0	943

Source: ONS

**Figure A1.5: Components of population change, mid-2001 to mid-2015 – Stratford-on-Avon**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	-140	1,040	-122	-4	-67	707
2002/3	-95	933	-24	4	-84	734
2003/4	-103	755	-98	28	-91	491
2004/5	-142	1,202	387	2	-109	1,340
2005/6	-101	1,140	972	-13	-113	1,885
2006/7	-74	1,337	621	7	-121	1,770
2007/8	17	546	778	4	-157	1,188
2008/9	-34	134	248	-8	-180	160
2009/10	-47	533	94	-8	-207	365
2010/11	-52	803	111	12	-241	633
2011/12	-26	-244	0	24	0	-246
2012/13	-79	316	-75	27	0	189
2013/14	-223	387	99	26	0	289
2014/15	-346	644	181	-13	0	466

Source: ONS

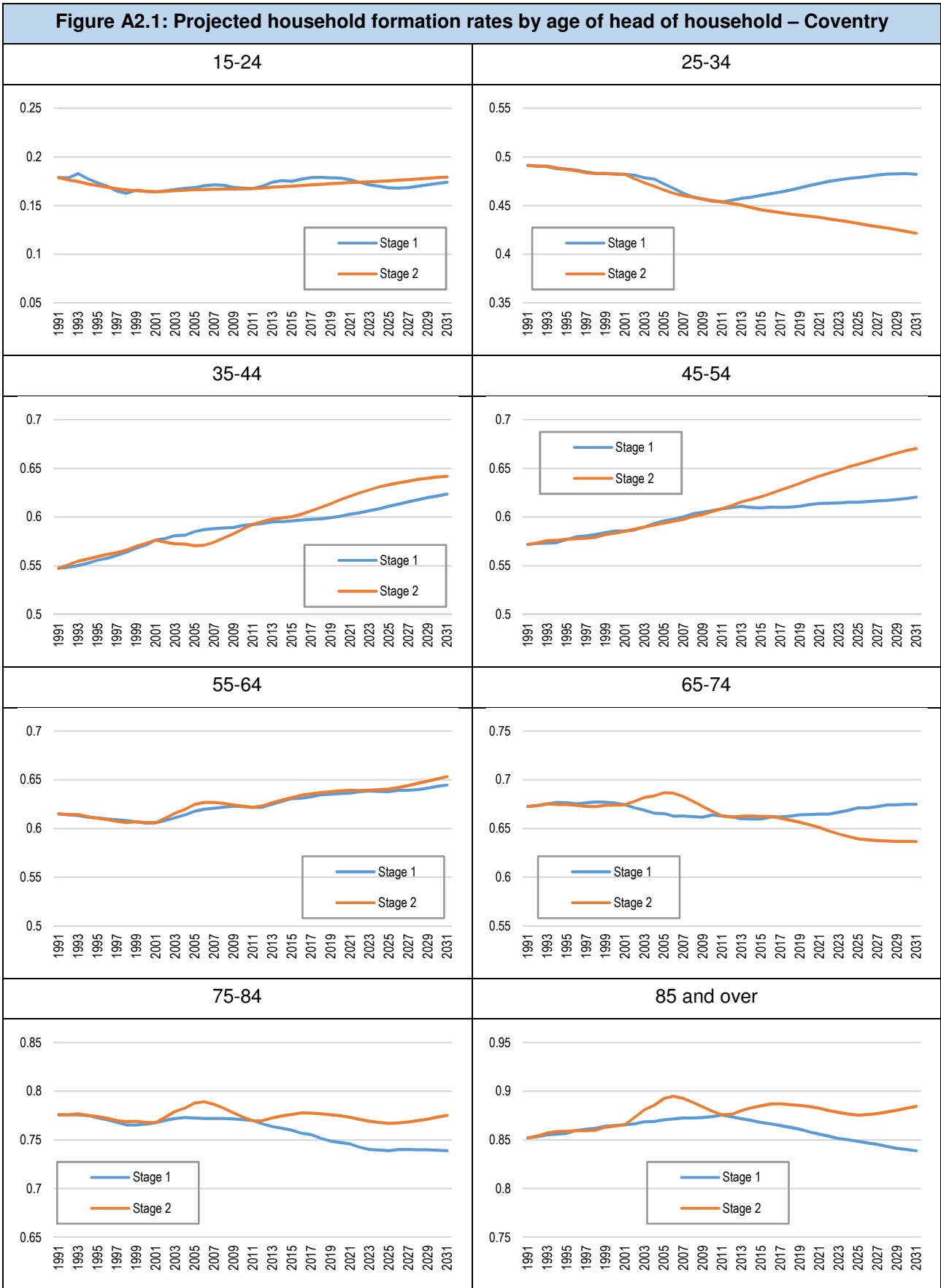
**Figure A1.6: Components of population change, mid-2001 to mid-2015 – Warwick**

Year	Natural change	Net internal migration	Net international migration	Other changes	Other (unattributable)	Total change
2001/2	89	1,634	595	-24	-59	2,235
2002/3	82	1,859	503	-7	-43	2,394
2003/4	205	1,702	131	11	-54	1,995
2004/5	228	1,051	611	-8	-34	1,848
2005/6	296	370	428	-7	-61	1,026
2006/7	375	521	204	-1	-37	1,062
2007/8	335	-67	555	-3	-27	793
2008/9	395	388	-18	-5	-19	741
2009/10	475	-322	-216	-17	6	-74
2010/11	426	-742	-139	18	58	-379
2011/12	535	302	68	-1	0	904
2012/13	362	-597	50	7	0	-178
2013/14	403	-299	814	16	0	934
2014/15	401	-304	465	-27	0	535

Source: ONS

## Appendix 2: Household Formation Rates by Local Authority

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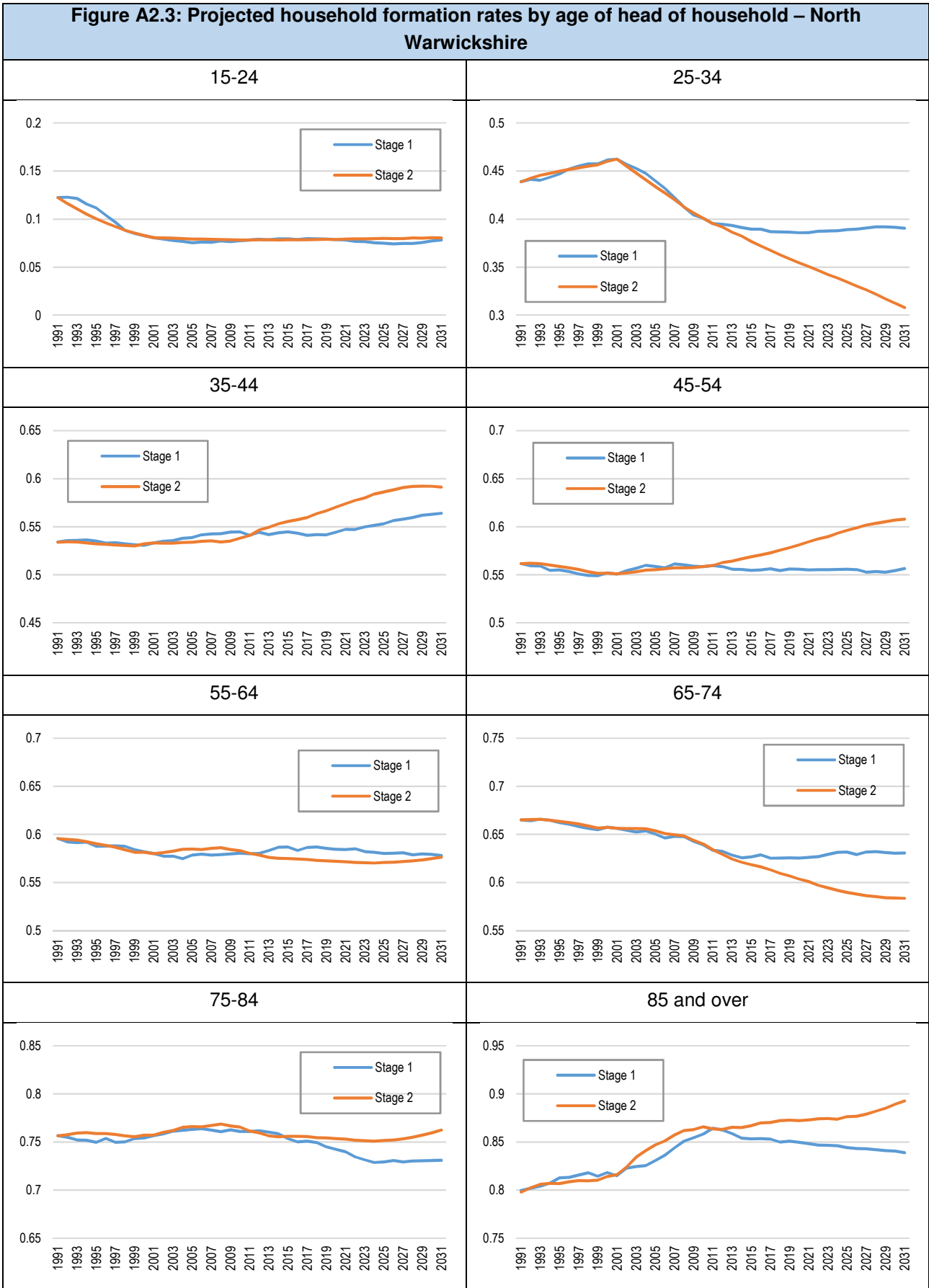
Source: Derived from CLG data

**Figure A2.2: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – Coventry**



Source: Derived from CLG data



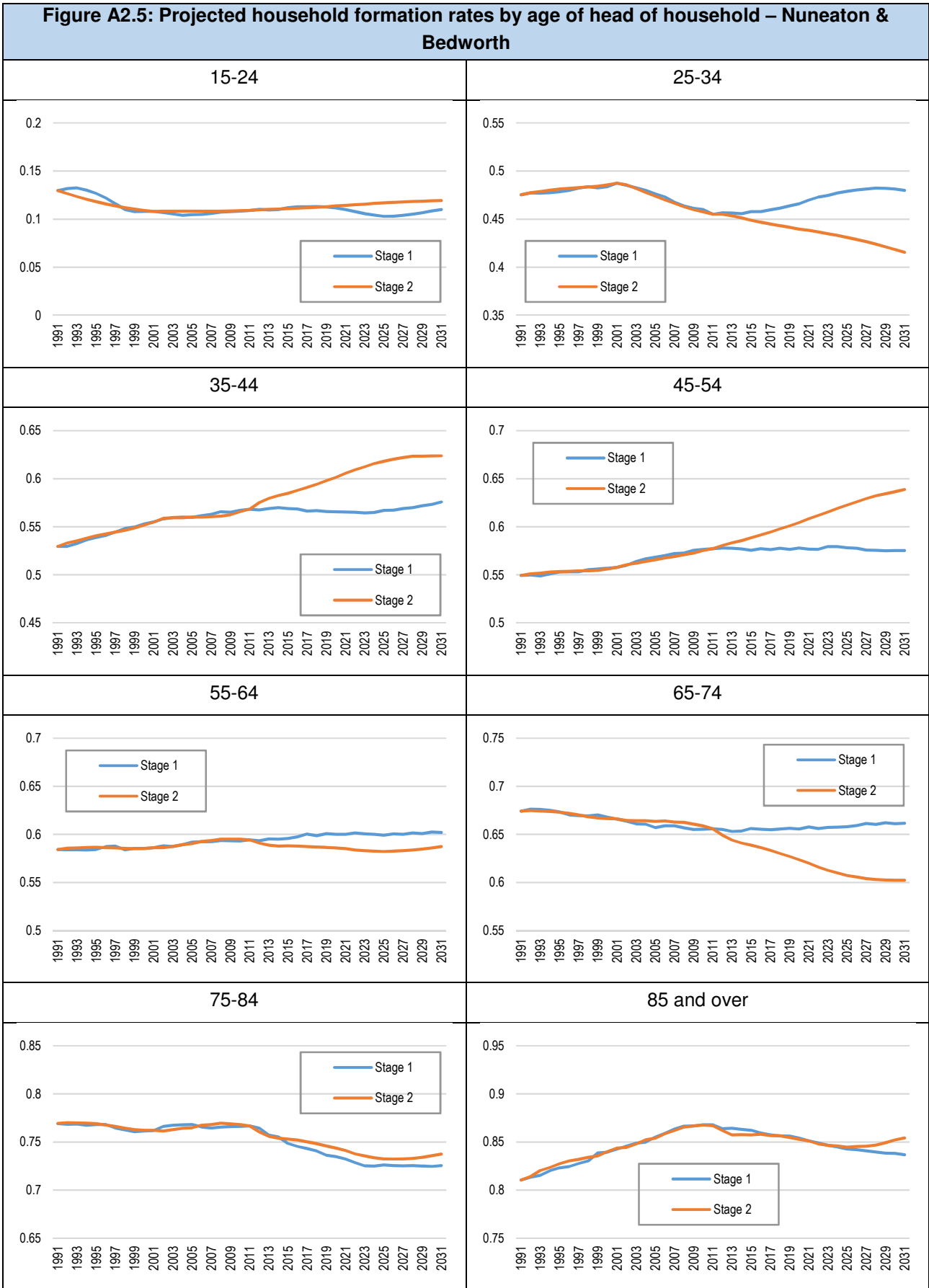


Source: Derived from CLG data

**Figure A2.4: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – North Warwickshire**

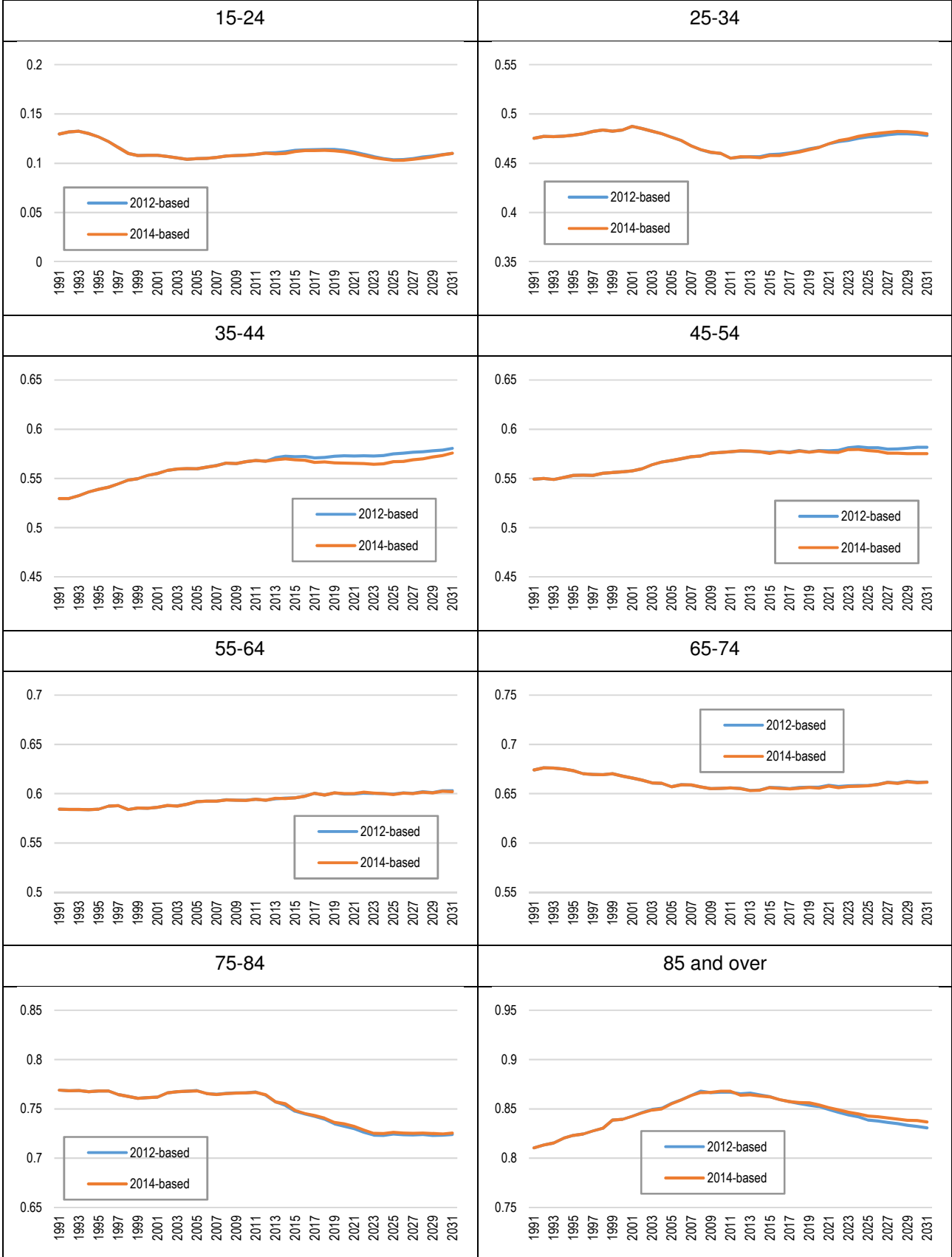


Source: Derived from CLG data

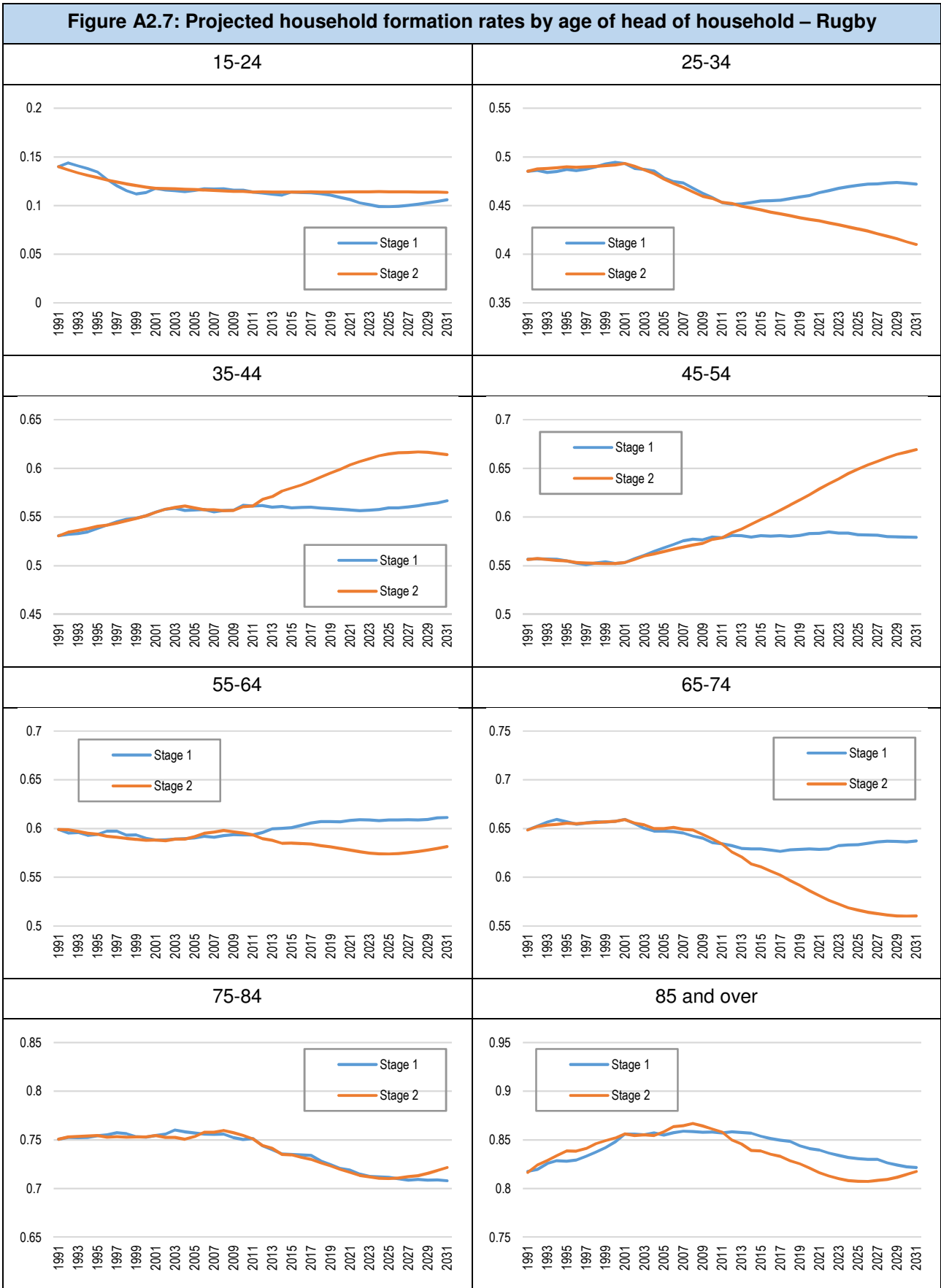


Source: Derived from CLG data

**Figure A2.6: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – Nuneaton & Bedworth**

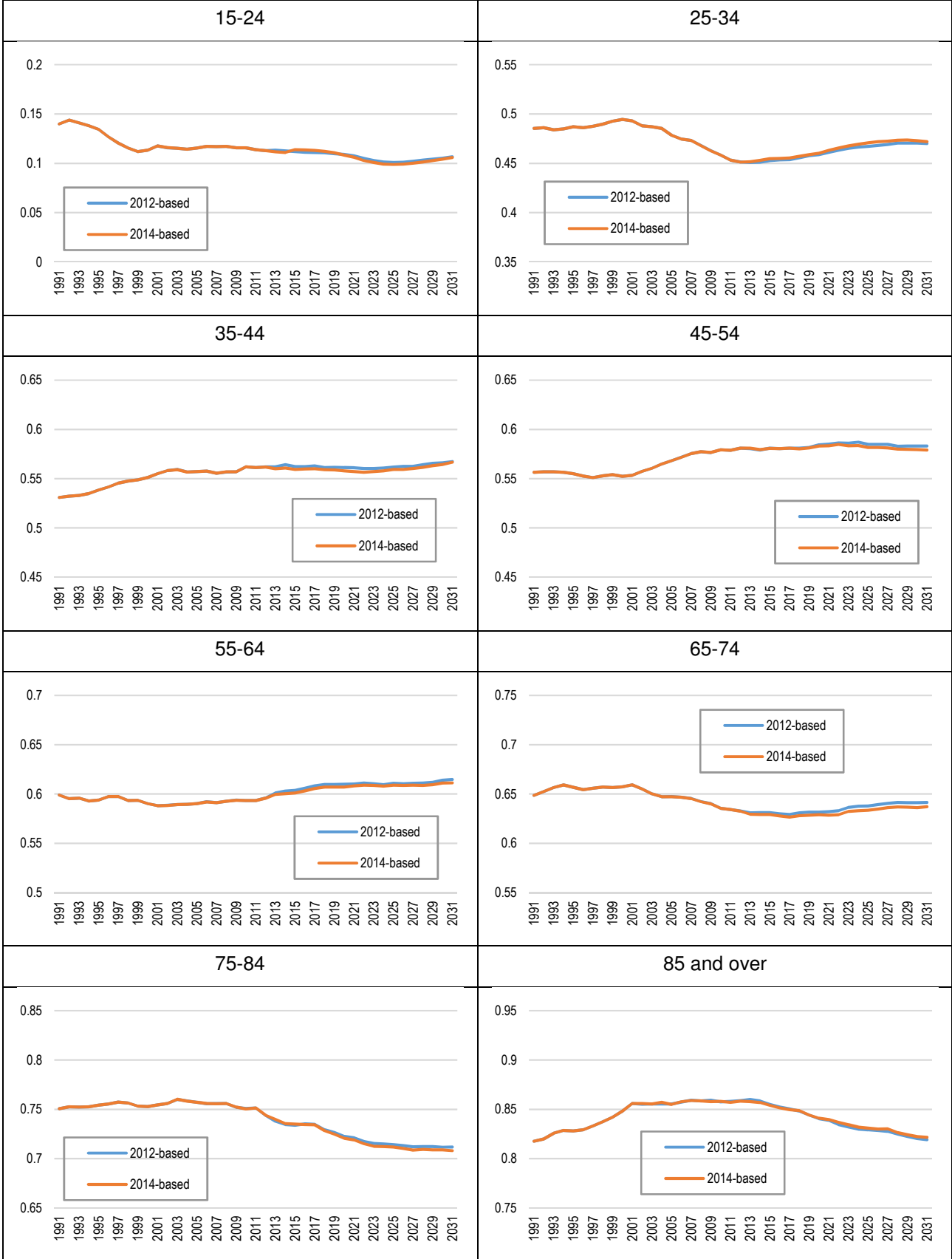


Source: Derived from CLG data

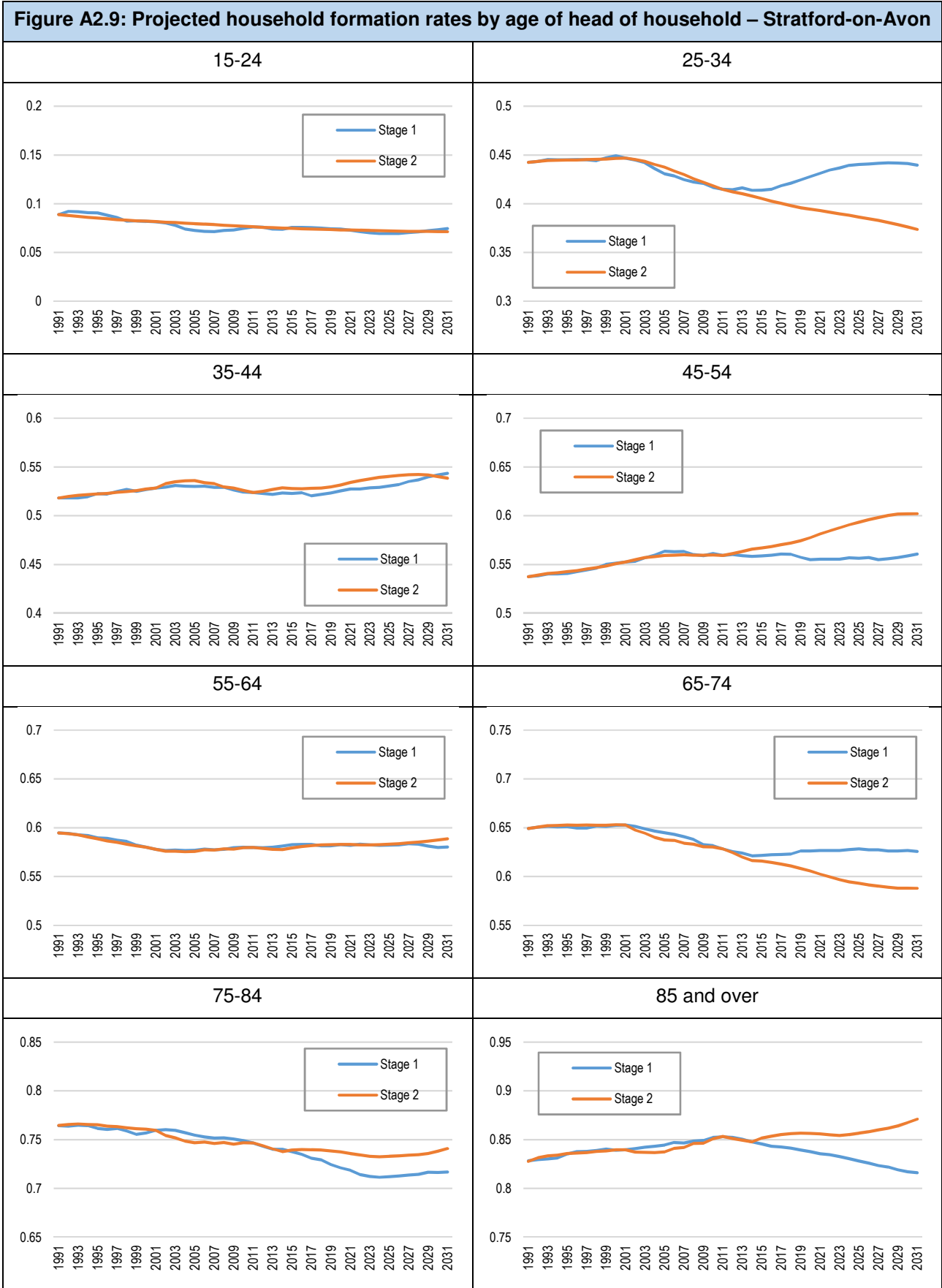


Source: Derived from CLG data

**Figure A2.8: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – Rugby**



Source: Derived from CLG data



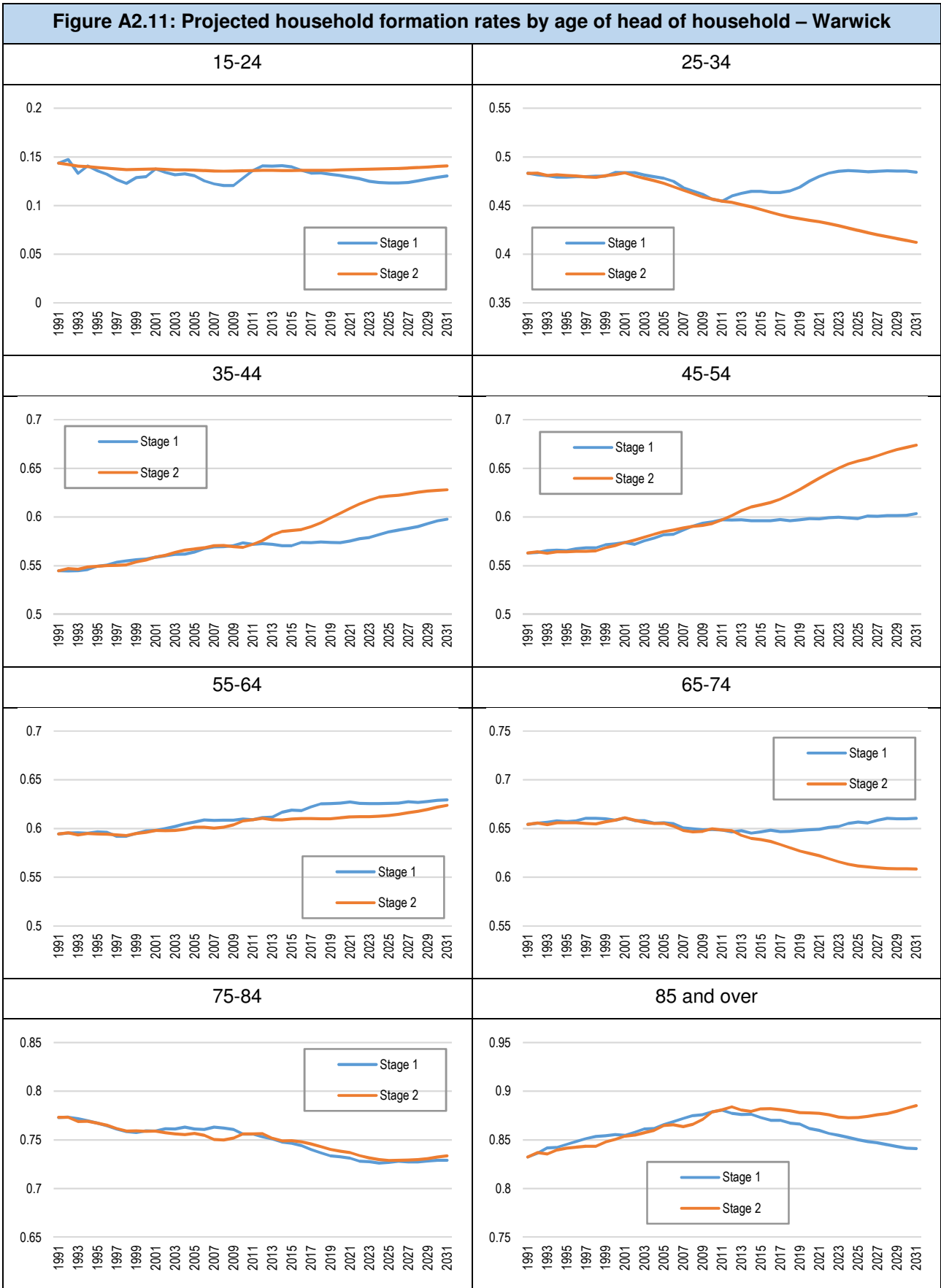
Source: Derived from CLG data

**Figure A2.10: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – Stratford-on-Avon**



Source: Derived from CLG data





Source: Derived from CLG data

**Figure A2.12: Projected household formation rates by age of head of household – comparing 2012- and 2014-based CLG projections (Stage 1) – Warwick**



Source: Derived from CLG data

## Appendix 3: Relevant Tables from UAoHN

This appendix contains copies of the tables and figures in the Updated Assessment of Housing Need (GL Hearn, September 2015) that have been referred to in this report.

Figure 1: Overview of PPG Approach to defining OAN

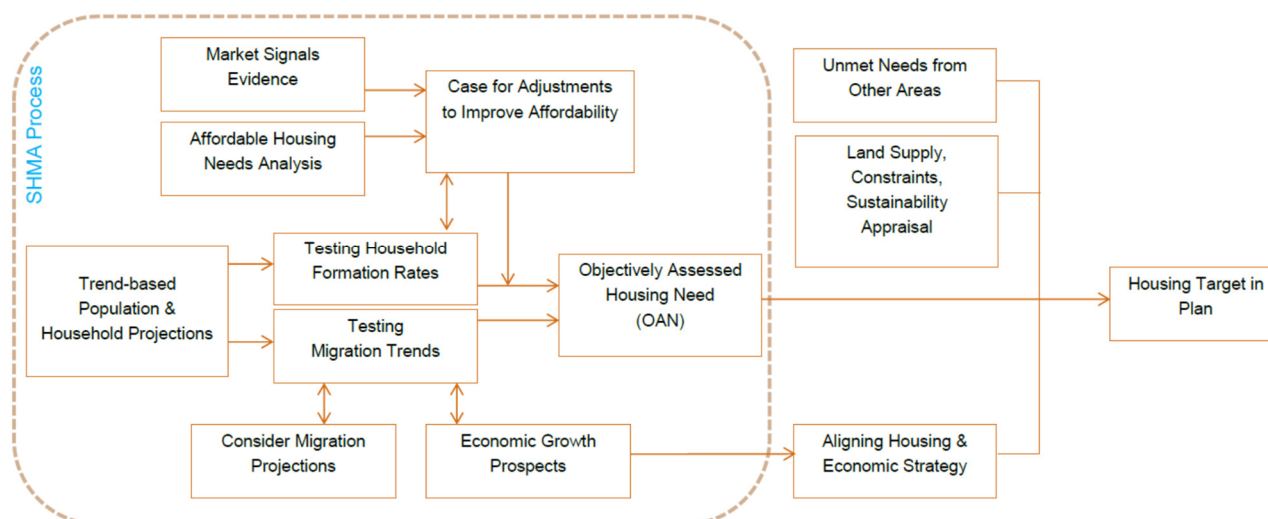


Table 11: Projected Population Growth (2011-2031) – Sensitivity Analysis, HMA

	Population 2011	Population 2031	Change in population	% change
2012-based SNPP	863,469	1,012,652	149,183	17.3%
2014 updated	863,469	1,008,863	145,394	16.8%
UPC adjustment	863,469	984,135	120,666	14.0%
10-year migration (constant)	863,469	1,054,247	190,778	22.1%
10-year migration (variable)	863,469	1,020,527	157,058	18.2%

Source: Demographic Projections

Figure 30: Projected Housing Need 2011-31 – 2012-based SNPP and 2012-based headship rates

	Households 2011	Households 2031	Change in households	Per annum	Dwellings (per annum)
Coventry	128,441	169,190	40,749	2,037	2,099
North Warwickshire	25,860	29,032	3,172	159	163
Nuneaton & Bedworth	52,809	61,021	8,212	411	423
Rugby	42,087	51,087	9,000	450	464
Stratford-on-Avon	52,102	60,813	8,711	436	449
Warwick	58,712	70,357	11,644	582	600
Coventry/Warwickshire	360,011	441,500	81,489	4,074	4,197

**Table 26: Jobs Growth and Change in Resident Workforce (2014-31) – linked to the 2012-based SNPP**

	Change in resident workforce	Adjustment factor	Change in jobs
Coventry	34,792	1.11	38,705
North Warwickshire	804	1.33	1,072
Nuneaton & Bedworth	4,212	0.77	3,247
Rugby	6,030	0.98	5,912
Stratford-on-Avon	2,304	1.09	2,509
Warwick	8,552	1.15	9,870
Coventry/Warwickshire	56,695		61,315

Source: Derived from demographic projections

**Table 28: Conclusions on Economic-Driven Housing Need**

	Employment Growth 2014-31	Economic-Driven Housing Need, per Annum 2011-31
Coventry	16,700	1,350
North Warwickshire	3,000	210
Nuneaton & Bedworth	4,800	495
Rugby	4,800	425
Stratford-on-Avon	9,000	650
Warwick	9,900	600
Coventry/Warwickshire	48,200	3,730

**Table 43: Estimated level of Affordable Housing Need per annum – by location**

Area	Current need	Newly forming households	Existing households falling into need	Total Need	Supply	Net Need
Coventry	190	1,312	1,237	2,739	2,140	600
North Warwickshire	20	160	60	240	148	92
Nuneaton & Bedworth	40	321	206	566	481	85
Rugby	34	286	159	478	307	171
Stratford-on-Avon	41	326	183	549	316	233
Warwick	58	436	178	672	392	280
Coventry/Warwickshire	383	2,841	2,021	5,245	3,783	1,462

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

**Table 45: Affordable Need as % Demographic-based Projections**

	Demographic-based Need	Affordable Need	Affordable Need as % Demographic Need
Coventry	2099	600	29%
North Warwickshire	163	92	56%
Nuneaton & Bedworth	423	85	20%
Rugby	464	171	37%
Stratford-on-Avon	449	233	52%
Warwick	600	280	47%
HMA	4197	1462	35%

**Table 53: Components of OAN, Homes per Annum 2011-31**

	Demographic-based Need	Supporting Economic Growth	Improving Affordability	Total
Coventry	2,099	0	21	2,120
North Warwickshire	163	47	27	237
Nuneaton & Bedworth	423	73	6	502
Rugby	464	0	16	480
Stratford-on-Avon	449	201	9	659
Warwick	600	0	0	600
Coventry/Warwickshire	4,197	-	75	4,272