Strategic Housing Market Assessment

Volume Two: Objectively Assessed Housing Need

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APPENDICES

1 INTRODUCTION

1.1 This study was commissioned by Redcar & Cleveland Borough Council to provide an objective assessment of housing need for the borough over the period 2015-2032. The study will help inform the housing target in the forthcoming Local Plan, as required by national planning policy.

1.2 Below, in Chapter 2 we briefly set out the policy context for the study. The rest of the report follows the step-by-step method pictured in Figure 1.1 below, which is based on the Planning Practice Guidance (PPG). The diagram is taken from a technical note on objectively assessed need and housing targets published by the Planning Advisory Council (PAS)[1]. The note was written by the authors of this report. It aims to supplement the PPG with more detailed and more specific advice, based on established good practice, Inspectors' verdicts and judicial decisions.

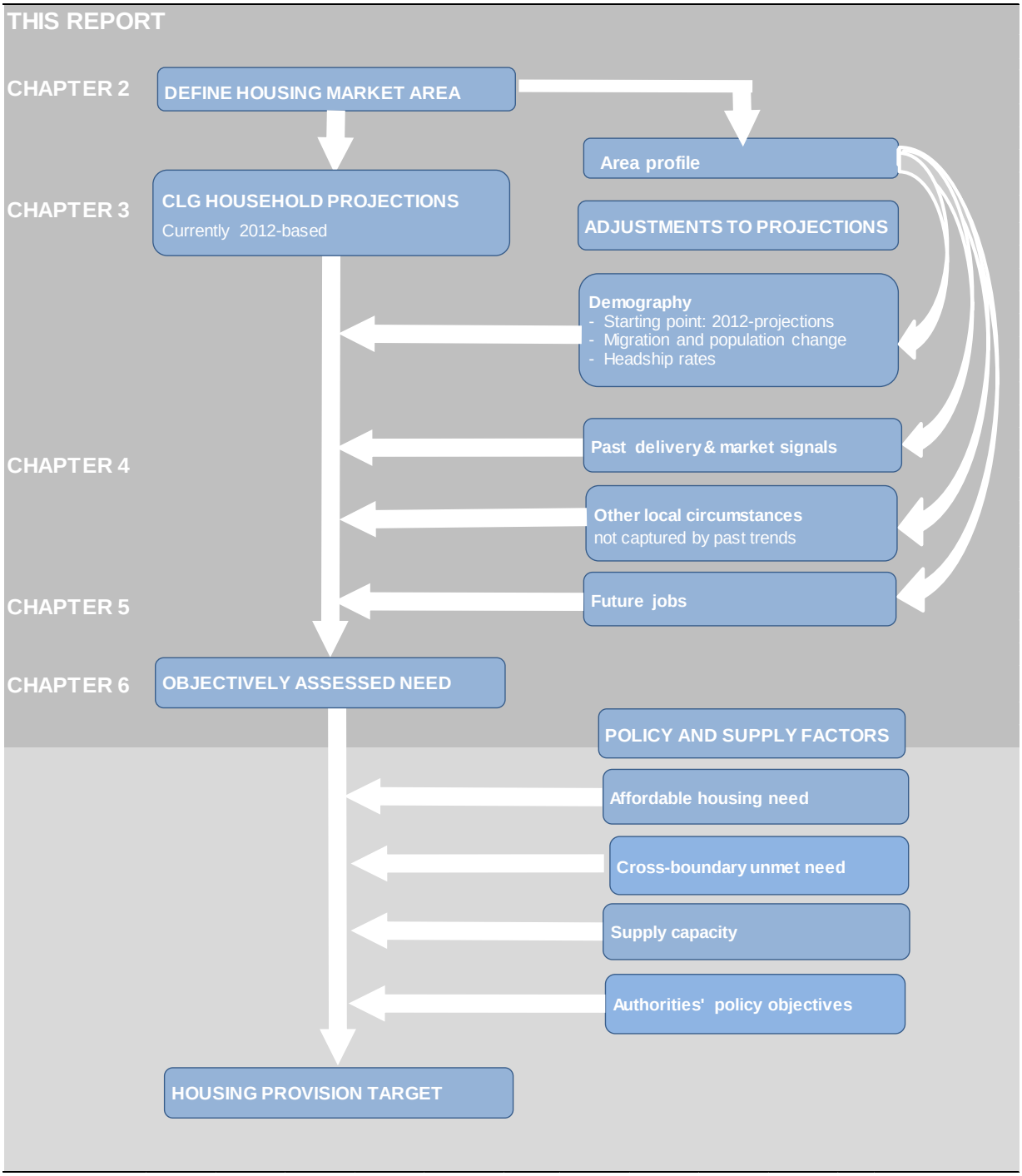
1.3 The National Planning Policy Framework (NPPF) advises that, where housing market areas (HMAs) straddle local authority areas, housing needs assessments should cover these wider areas rather than individual local authorities. Therefore we begin by testing whether Redcar & Cleveland borough qualifies as a standalone HMA (Chapter 3). We conclude that it does and go on in the next three chapters to the needs assessment proper.

1.4 In relation to that assessment, the PPG advises that the starting point should be the official CLG household projections, which carry forward past demographic trends. But these past trends may not be a good measure of future need or demand, for two main reasons. Firstly, past supply may have fallen short of need or demand, in which case the projections will be too low and should be adjusted upwards. Secondly, the factors that drive need or demand may be different in the future from what they were in the past, especially the macroeconomic climate and local job opportunities – in which case the projections should again be adjusted.

1.5 Following this logic, we consider demographic projections in Chapter 4, the past demand-supply relationship ('market signals') in Chapter 5 and future jobs in Chapter 6. Finally Chapter 7 provides our conclusions on objectively assessed housing need and discusses policy implications in relation to the emerging Local Plan.

[1] Planning Advisory Service, *Objectively Assessed Need and Housing Targets, technical advice note*, *second edition*, July 2015

Figure 1.1 Study overview



Source: PAS, op cit

2 POLICY BACKGROUND

Neighbouring boroughs

2.1 This study has considered Redcar & Cleveland's housing need in the wider context of the other Tees Valley local authorities. The table below identifies progress at all five Tees Valley authorities in terms of housing needs assessments and plan-making.

Table 2.1: Tees Valley Authorities - status of emerging plans & housing targets

Local Authority	Emerging Plan	Stage	Date	Housing Target	Plan period
Middlesbrough	Housing Local Plan	Adopted	Nov-14	410	2012-2029
Stockton-on-Tees	Regeneration and Environment Local Plan	Publication Draft	Feb-15	545	2015-2030
Hartlepool	Local Plan	Issues and Options	May-14	-	2014-2029
Redcar & Cleveland	New Local Plan	Consultation on Scoping Report	Jul-15	-	-
Darlington	Making and Growing Places DPD	Preferred Options (plan was withdrawn)	Jun-13	withdrawn	withdrawn

Source: local authorities

2.2 Middlesbrough is the only one of the five Councils to have a post-NPPF adopted Local Plan. The plan proposes a minimum target of 410 dwellings per annum (dpa) – above the 310 dpa implied by the CLG household projection. The Council's purpose in setting this target was to reverse the long-term decline in population and stem outward migration, by providing the type of housing that is attractive to socio-economic groups that would otherwise continue to leave the borough. In the past Middlesbrough Council sought to address population decline by demolishing the poorest quality stock in its regeneration areas and redeveloping the resultant brownfield sites. However, it resolved that a change in strategy was required, because the strategy based on regeneration was failing to deliver housing sites. The EiP Inspector accepted that policy-driven shift, to a strategy that reduced the volume of demolitions and upgrades the quality of housing available through allocations on greenfield sites.

2.3 Stockton issued a draft Local Plan in 2015, proposing a draft housing target of 545 dpa, which was virtually identical to the 557 dpa in the current Core Strategy. But the Council has now paused the process while it gathers further evidence.

2.4 Hartlepool has also started to prepare a Local Plan but has not yet identified a housing target. The future housing target is likely to be a substantial increase on the

current target of 214 dpa, because the 2015 SHMA identifies an OAN of 300-325 dpa (recent delivery has averaged 250 dpa).

2.5 Darlington, the fifth member of the Tees Valley sub-region, recently withdrew its draft plan, *titled Making and Growing Places*, because the recently published Darlington SHMA suggested that considerably more housing was needed than was proposed in the draft plan.

The Redcar & Cleveland Housing Strategy

2.6 The *Redcar & Cleveland Housing Strategy 2012-2017* proposes that the borough should offer a wider choice of types and size of housing to meet modern day requirements to attract and retain the key skilled economic groups who will underpin economic growth in the area.

Conclusion

2.7 Of the Tees Valley authorities, only Middlesbrough has a post-NPPF adopted Local Plan. The Local Plan Inspector supported the plan's approach to provide more housing than the official projections or the need assessed in the SHMA, with the objective of reducing out migration through widening the type of housing provision, including development to stem population decline. Redcar & Cleveland's Housing Strategy articulates a similar approach.

2.8 None of the other local planning authorities in the Tees Valley currently have advanced plans or proposed housing targets. Hartlepool's new target is likely to be substantially higher than its current target. Darlington is considering evidence pointing to a significant uplift in the housing target from earlier draft plans.

3 THE HOUSING MARKET AREA

Introduction

3.1 The NPPF requires that, where a housing market area (HMA) covers more than one local authority, those authorities should work together to assess housing need for the HMA as a whole. Accordingly, the first step in assessing Redcar & Cleveland's OAN is to establish whether the borough constitutes a standalone HMA, or whether it is part of a wider HMA.

3.2 The PPG says that an HMA should be a reasonably self-contained area in terms of migration, so that a high proportion - *'typically 70%*' - of all house moves occur within the area. The 70% threshold should exclude long-distance moves such as those due to a change of lifestyle or retirement. The PPG also identifies other data that can help identify housing market areas including, most notably, commuting patterns – '*which will influence house price and location*'.

3.3 The only nationally consistent study to have assessed housing market areas was that published in 2010 by CLG[2] and prepared by the Centre for Urban and Regional Development Studies (CURDS) and others for the former National Housing and Planning Advice Unit (NHPAU). That study created a consistent set of HMAs across England, based on migration and commuting data from the 2001 Census. Unfortunately, the NHPAU study has not been updated following the 2011 Census. Therefore, whilst it provides a starting point to review HMAs this will need to be referenced against up-to-date migration and commuting data derived from the 2011 Census.

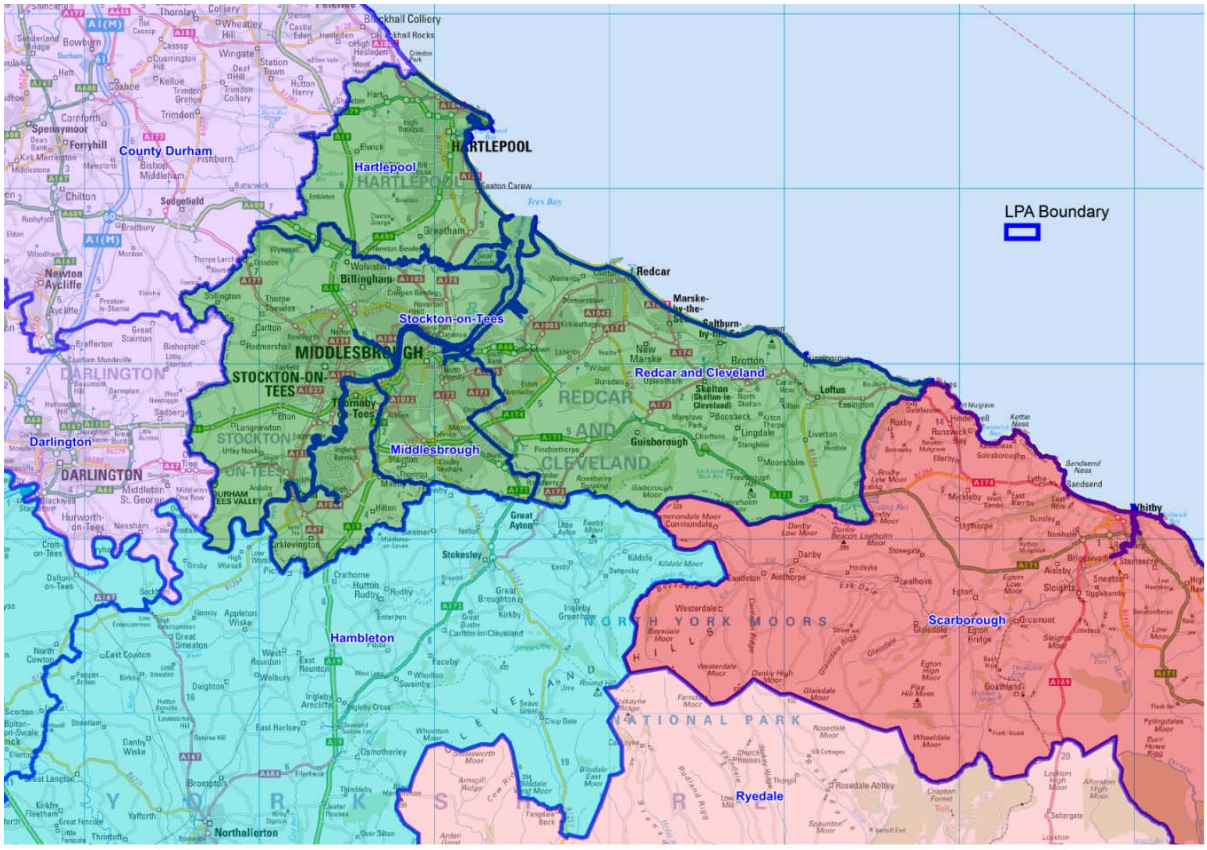
3.4 The CURDS single-tier 'silver standard' geography[3] identified that Redcar & Cleveland was part of an HMA that also included Middlesbrough, Stockton-on-Tees and Hartlepool, but not the fifth member of the Tees Valley authorities, Darlington. This is illustrated in Figure 3.1 below.

3.5 In the next section we test the HMA geography against more recent migration and commuting data, from the 2011 Census.

[2] C Jones, M Coombes and C Wong, Geography of housing market areas, Final report, November 2010, Department for Communities and Local Government

[3] http://www.ncl.ac.uk/curds/assets/documents/6.pdf / http://www.ncl.ac.uk/curds/assets/documents/28.xls

Figure 3.1: CURDS HMAs



Source: CLG, PBA

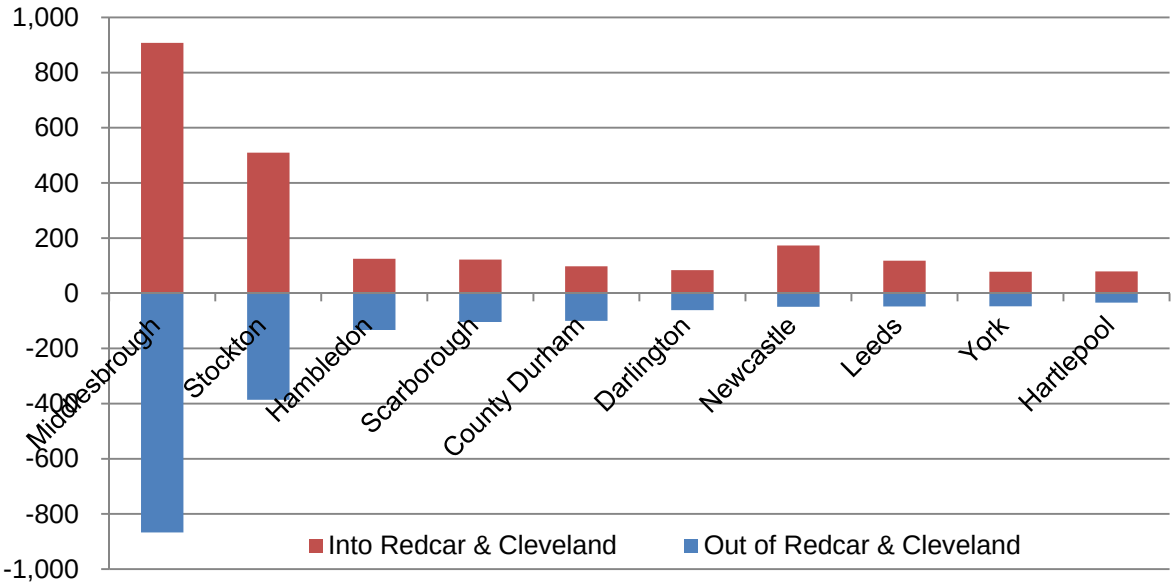
Migration

Main origins and destinations

3.6 House move data (termed migration flows) is an indicator of HMA containment. Figure 3.2 below identifies the 10 largest combined migration flows in and out of Redcar & Cleveland. The data is taken from the 2011 Census and plots migration in the year preceding the Census.

3.7 Middlesbrough accounts for the highest proportion of all moves in and out of Redcar & Cleveland, 28%. Stockton is the next highest at 14%. The inflows from Middlesbrough are marginally higher than the outflows as they are for a number of the top ten locations. Other local authority areas have much weaker links to Redcar & Cleveland.

Figure 3.2: Cross-boundary migration to and from Redcar & Cleveland, top ten origins and destinations, persons, 2010-11



Source: ONS, 2011 Census - Origin and destination of migrants by age (broad grouped) by sex

3.8 Table 3.1 below sets out the self-containment calculation for Redcar & Cleveland. The figures exclude international migration, because the PPG advises that long-distance moves should be excluded.

3.9 The table identifies the percentage of origin and destination migration that is contained within Redcar & Cleveland.

Table 3.1 Migration self-containment, persons, 2010-11, Redcar & Cleveland alone

All figures exclude international migration.

Origin (moves from)	**Destination (moves to)**			
	Redcar & Cleveland	Elsewhere	Total moves from Redcar & C	**Origin containment**
Redcar & Cleveland	8,456	3,542	11,998	**70%**
Elsewhere	2,768			
Total moves to Redcar & Cleveland	11,224			
Destination containment	**75%**			

Source: ONS, PBA

3.10 Both measures of containment equal or exceed the 70% benchmark, suggesting that Redcar & Cleveland borough alone qualifies as an HMA in its own right.

3.11 To test whether containment is improved by extending the HMA, we have tested possible HMAs that combine Redcar and Cleveland first with Middlesbrough and then with all the other Tees Valley authorities except Darlington. Table 3.2 below shows containment for Redcar & Cleveland plus Middlesbrough.

Table 3.2 Migration self-containment, persons 2010-11, Redcar & Cleveland plus Middlesbrough

All figures exclude international migration.

Origin (moves from)	Destination (moves to)			
	Redcar & Cleveland plus M'bro	Elsewhere	Total moves from the area	**Origin containment**
Redcar & Cleveland plus M'bro	20,246	6,784	27,030	**75%**
Elsewhere	6,200			
Total moves to the area	26,446			
Destination containment	**77%**			

Source: ONS, PBA

3.12 Table 3.2 demonstrates that combining the two boroughs does marginally increase containment.

3.13 Table 3.3 below calculates the containment of a combined Tees Valley HMA, incorporating the boroughs of Middlesbrough, Stockton on Tees, Hartlepool and Redcar & Cleveland. The calculation excludes Darlington, because it is not as closely linked to Redcar & Cleveland as the other Tees Valley boroughs.

Table 3.3 Migration self-containment, persons, 2010-11 – Redcar & Cleveland plus Middlesbrough, Stockton on Tees and Hartlepool

All figures exclude international migration.

Origin (moves from)	Destination (moves to)			
	Redcar & Cleveland, M'bro, Stockton plus Hartlepool	Elsewhere	Total moves from the area	**Origin containment**
Redcar & Cleveland, M'bro, Stockton plus Hai	43,704	10,495	54,199	**81%**
Elsewhere	9,953			
Total moves to the area	53,657			
Destination containment	**81%**			

Source: ONS, PBA

3.14 The combined Tees Valley HMA exhibits a high level of containment, exceeding that for Redcar & Cleveland alone or in combination with Middlesbrough.

Commuting

3.15 The PPG does not identify a commuting threshold to help define housing market areas, but a threshold is provided in the ONS definition of Travel to Work Areas:

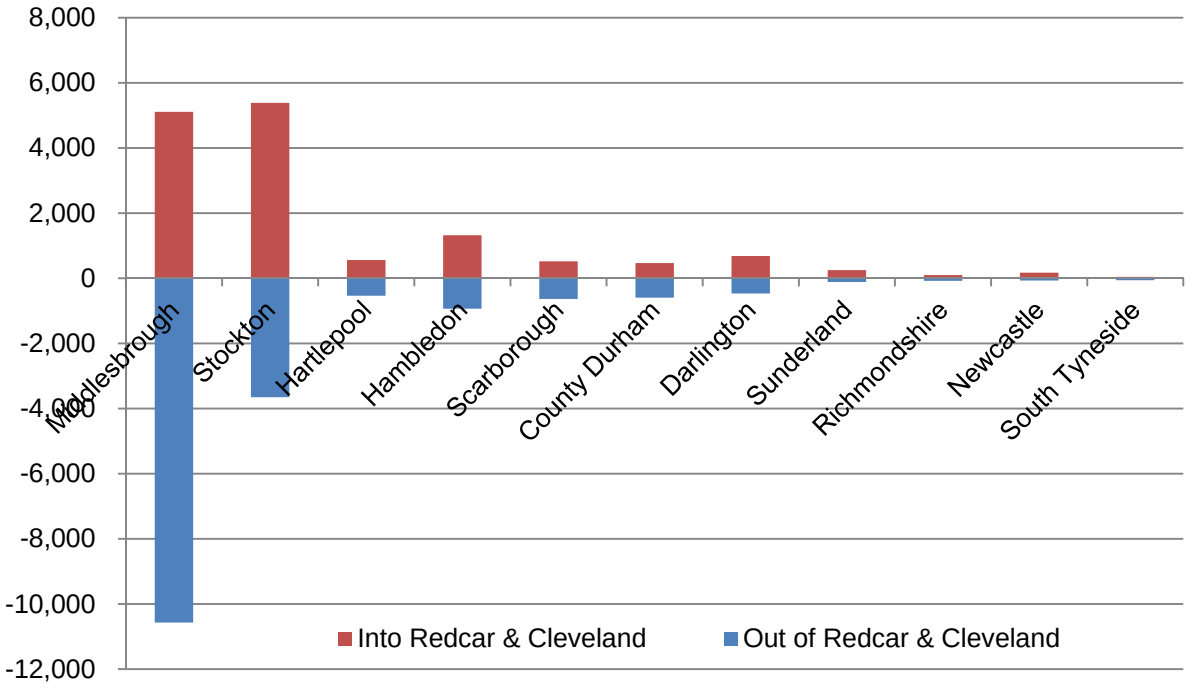
> *'The current criterion for defining TTWAs is that generally at least 75% of an area's resident workforce work in the area and at least 75% of the people who work in the area also live in the area… However, for areas with a working*

population in excess of 25,000, self-containment rates as low as 66.7% are accepted."[4]

3.16 Redcar & Cleveland satisfies this criterion, as its working population is in excess of 25,000.

3.17 Figure 3.3 below identifies the 10 local authority areas with the largest combined flows into and out of Redcar & Cleveland. Again Middlesbrough and Stockton are much more closely linked to Redcar & Cleveland than any other local authority area.

Figure 3.3: Cross-boundary commuting to and from Redcar & Cleveland, top ten origins and destinations, persons, 2011



Source: ONS, 2011 Census - Location of usual residence and place of work by sex (2011)

3.18 Table 3.4 shows containment ratios for commuting, using the same method as the analysis of migration above.

[4] Office for National Statistics, *Guidance and Methodology*, *A Beginner's Guide to UK Geography,* http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/other/travel-to-work-areas/index.html. The TTWA geography was developed by the same team as the NHPAU geography discussed earlier.

Table 3.4 Commuting self-containment, persons 2010-11 - Redcar & Cleveland alone

Origin (trips from)	Destination (trips to)			
	Redcar & Cleveland	Elsewhere	Total trips from Redcar & C	**Origin containment**
Redcar & Cleveland	33,291	22,163	55,454	**60%**
Elsewhere	12,813			
Total trips to Redcar & Cleveland	46,104			
Destination containment	**72%**			

Source: ONS, PBA

3.19 The destination containment is above the TTWA threshold of 66.7% but the origin containment is below the threshold.

3.20 As done earlier for migration, we also tested possible HMAs that combine Redcar first with Middlesbrough and then with Middlesbrough, Stockton and Hartlepool. The results are in the Tables 3.5 and 3.6 below.

Table 3.5: Commuting self-containment, persons - 2010-11 - Redcar & Cleveland plus Middlesbrough

Origin (trips from)	Destination (trips to)			
	Redcar & Cleveland plus M'bro	Elsewhere	Total trips from the area	**Origin containment**
Redcar & Cleveland plus M'bro	81,964	27,363	109,327	**75%**
Elsewhere	27,217			
Total trips to the area	109,181			
Destination containment	**75%**			

Source: ONS, PBA

3.21 Table 3.5 indicates that expanding the HMA by combining Redcar & Cleveland and Middlesbrough increases containment, marginally in respect of destination, but significantly in the case of origin reflecting Middlesbrough's comparative strength as an employment base.

3.22 Table 3.6 below calculates the commuting containment of a combined Tees Valley HMA, incorporating the boroughs of – Middlesbrough, Stockton-on-Tees, Hartlepool and Redcar & Cleveland. As with the migration calculation, the commuting containment calculation excludes Darlington, which is less closely linked to Redcar & Cleveland as the other Tees Valley boroughs.

Table 3.6: Commuting self-containment, persons, 2010-11, Redcar & Cleveland plus Middlesbrough, Stockton on Tees and Hartlepool

Origin (trips from)	Destination (trips to)			
	Redcar & Cleveland, M'bro, Stockton plus Hartlepool	Elsewhere	Total trips from the area	**Origin containment**
Redcar & Cleveland, M'bro, Stockton plus Hartlepool	125,698	29,611	155,309	**81%**
Elsewhere	26,779			
Total trips to the area	152,477			
Destination containment	**82%**			

Source: ONS, PBA

3.23 Again containment is highest for the Tees Valley grouping.

Conclusions

3.24 Based on the criteria set out in the PPG, it is justified to treat Redcar & Cleveland as a standalone HMA. An alternative market geography that includes Redcar & Cleveland in a wider 'Tees Valley HMA' would be equally justified. Such a wider HMA would need to include Middlesbrough, because it is the local authority most closely linked to Redcar & Cleveland through migration and commuting.

3.25 Middlesbrough has a new Local Plan that was adopted last year, and therefore is not currently in a position to progress a review of housing needs. It would not be sensible to define an HMA involving Redcar & Cleveland that involved other boroughs, but excluded Middlesbrough. In these circumstances the pragmatic approach is for Redcar & Cleveland to proceed alone, on the basis that its level of migration self-containment satisfies the benchmark set in the PPG.

4 DEMOGRAPHIC PROJECTIONS

Background

4.1 As required by national policy and guidance, in assessing housing need we start from the latest official household projections published by the Department of Communities and Local Government (CLG). In this chapter we sensitivity-test these projections to see if they correctly carry forward past demographic trends – or alternatively if they have technical weaknesses that should be corrected.

4.2 Our demographic data are taken from the Edge Analytics report titled *Demographic Analysis and Forecasts* (August 2015), which was commissioned separately by the lead consultants for the SHMA and is reproduced in Appendix A below. The Edge report summarises the official projections and provides alternative scenarios that test the impact of altering certain assumptions in the official projections. The scenarios are produced through the nationally recognised PopGroup demographic model, which has been used in many housing needs studies and supported by many planning Inspectors.

4.3 Below, we start with a brief explanation of how demographic projections work and then summarise the results of the latest release, together with the historical data behind those results. We then go on to test the projections, with the help of the alternative scenarios constructed by Edge Analytics.

Recent official releases

4.4 The official demographic projections are released in two separate publications:

- The Office of National Statistics (ONS) produces the Sub-National Population Projections (SNPP), which show future population for the next 25 years. The projections are based on rolling forward past rates of births, deaths and migration for each demographic group[5].
- The Department of Communities and Local Government (CLG) then groups that projected population into households. The number of households, plus a small uplift for vacant and second homes (usually about 3%) is the accepted measure of housing need.

4.5 It is important to understand that what the official statistics mean by 'household'. In the projections, any group of people who share eating, cooking or living space is defined as a single household. Thus, in effect the household is defined by the dwelling. In the great majority of cases, a group of unrelated people occupying the same dwelling counts as one household, albeit in everyday language we would call it several households sharing a house or flat. Hence, in the ONS statistics there are almost exactly as many occupied dwellings as there are households: less than 0.1% of dwellings are shared by more than one household. If more people lived in shared

[5] A demographic group is a combination of age and sex, for example women aged 30.

dwellings due to a shortage of housing, the statistics would not show more multi-household dwellings; they would show fewer households, still occupying one dwelling each.

4.6 At present the latest CLG release is the 2012-based household projection ('CLG 2012'), issued in February 2015. CLG 2012 is derived from the 2012-based Sub-National Population Projection (SNPP 2012), released by ONS in 2014. It supersedes the previous release, which was 2011-based and labelled interim, because it did not fully incorporate the findings of the 2011 Census.(CLG 2012 has the same problem, though to a lesser extent, as we explain later).

4.7 CLG 2012 has been endorsed by the PPG – which, in a new paragraph published on the same day, describes it as 'the most up-to-date estimate of future household growth'[6]. In effect this statement says that for the time being CLG 2012 is the correct starting point for housing needs assessments, and earlier official projections may now be dismissed.

4.8 Below, we summarise and test the 2012-based projections for Redcar & Cleveland. We first consider the SNPP, which provides the future population behind the CLG household projection, and then turn to the household projection itself.

Population projections

Background

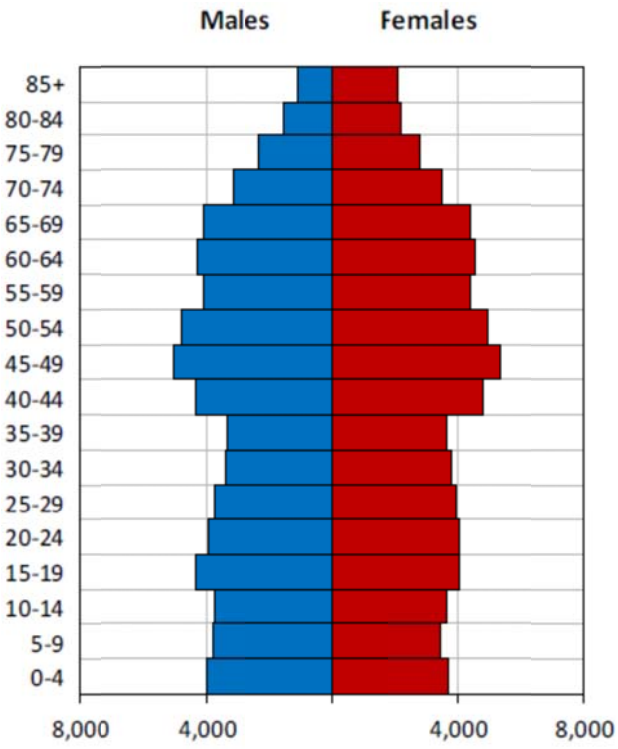
4.9 To make sense of the population projections, it is important to understand two characteristic features of Redcar & Cleveland's demography, which are highlighted in the Edge report.

4.10 Firstly, the population of Redcar & Cleveland is relatively old, as shown in Figure 4.1 below. In 2012 – the base date of the latest official projections – the median age of the borough's residents was four years higher than England and two years higher than the North East region. The old-age dependency ratio – which is the ratio of people aged 65+ to those aged 15-64 – was 32% in the borough, against 26% in England and 28% in the North East.

4.11 Secondly, the population has been falling. Between the 2001 and 2011 Censuses the loss amounted to some 4,000, just short of 3%, mainly due to net out-migration to other parts of the UK. The largest net outflow went to Stockton-on-Tees, followed by Newcastle-upon-Tyne, Hambleton and Leeds. Smaller net outflows went to York, County Durham and Darlington (Figure 4.2).

[6] PPG - Housing and economic development needs assessments, Paragraph: 016 Reference ID: 2a-016-20150227

Figure 4.1 Age profile, Redcar & Cleveland, 2012



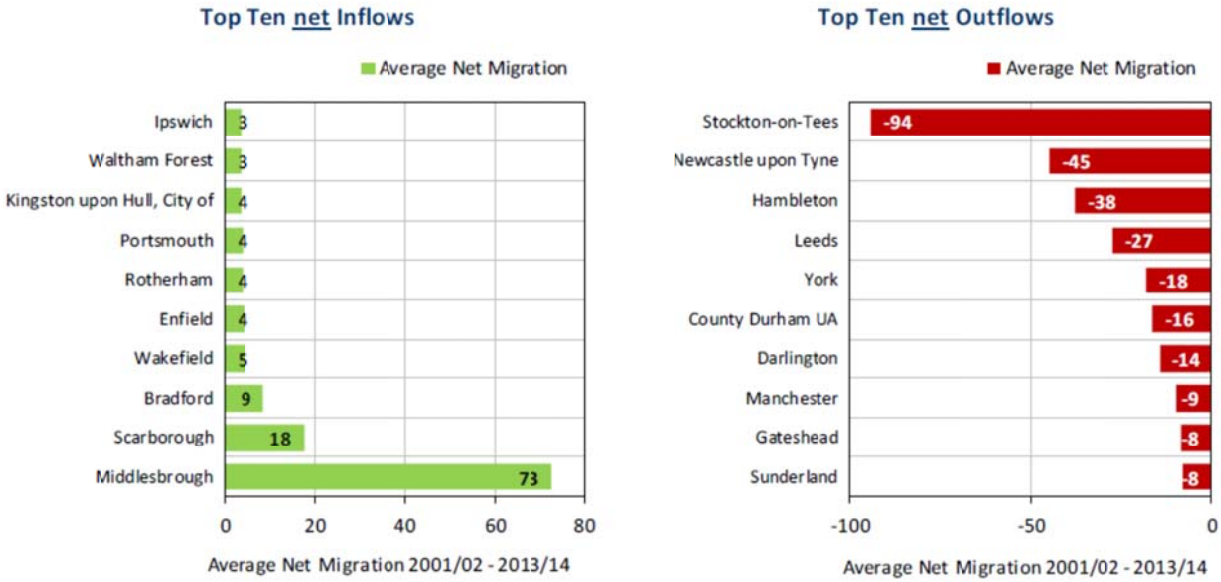
Indicator	Redcar & Cleveland	North East (Region)	England
Age 65+	20%	18%	17%
Age 80+	5%	5%	5%
OAD Ration	32%	28%	26%
Median Age	44	42	40

OAD = Old Age Dependency Ratio

= Population Age 65+ / Population Aged 15-64

Source: Edge Analytics, after ONS

Figure 4.2 Past population change, Redcar & Cleveland



Source: Edge Analytics, after ONS

4.12 In terms of its age profile, net migration has been overwhelmingly concentrated in the 15-19 age group (see Figure 4.3). Much of this outflow may consist of students moving on to university, given that Redcar & Cleveland has no higher education institutions. The data for higher age groups suggest that few of those students come

back: for 20-to-24-year-olds there is an insignificant net inflow of some 10 persons p.a., and for 25-to-29-year-olds net migration is negative, though small.

Figure 4.3 Net migration by age, Redcar & Cleveland, persons p.a., 2001-02 to 2013-14

Source: Edge Analytics, after ONS

The official projections

4.13 Over the whole projection period 2012-37 SNPP 2012 shows the population of Redcar & Cleveland declining very slightly, by 686 persons (27 persons per annum). For the plan period 2015-32 the loss is even smaller, at just 82 persons (five persons per annum)[7]. In other words, the projections show almost constant population. This contrasts sharply with earlier trends: as we have seen, between the 2001 and 2011 Censuses there was a recorded loss of some 400 persons per year.

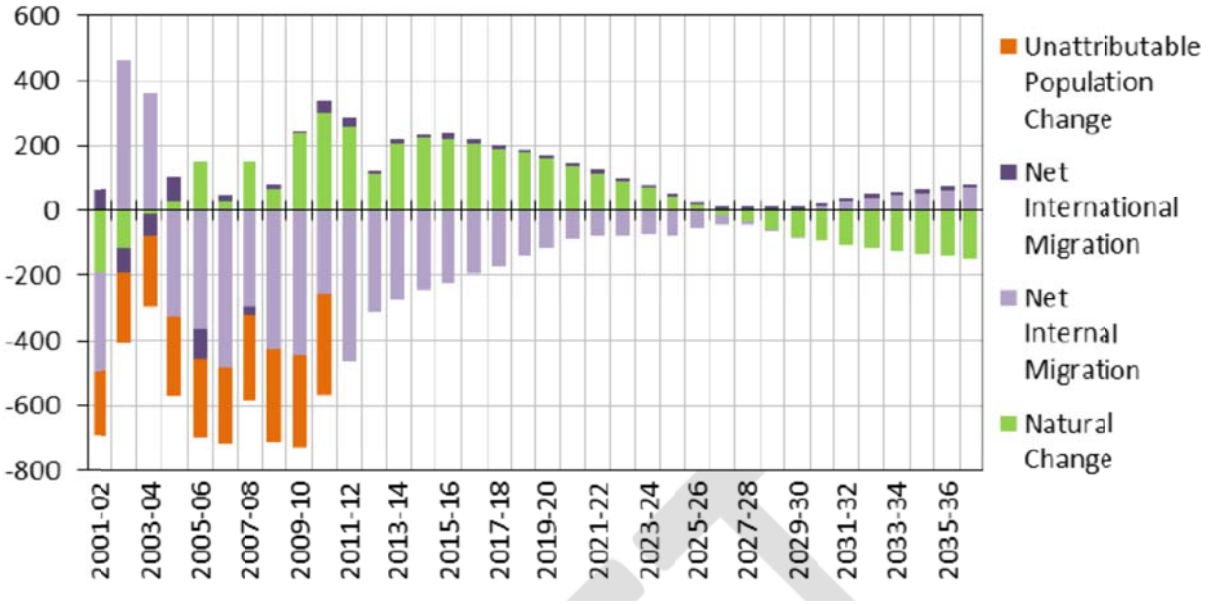
4.14 To understand how this result comes about, we need a more detailed comparison between future and past change. Accordingly, Figure 4.4 below shows the components of population change from 2001 to 2036. Past change is from the ONS Mid-Year Population Estimates (MYEs) and future change from SNPP 2012.

4.15 The population loss from 2001 to 2012 was the net outcome of four components that behaved very differently:

- Natural change, which is the difference between births and deaths, was generally positive but not large enough to offset UK migration.
- Net UK migration, the largest component, as noted earlier was negative and the main reason why the population fell.
- Net international migration was sometimes positive and sometimes negative, but always very small.
- Unattributable Population Change.

[7] For the sake of consistency, we have taken these figures from the Edge report. They vary slightly from the original ONS data, probably due to rounding error in the PopGroup modelling used by Edge. The differences are not significant.

Figure 4.4 Annual population change, Redcar & Cleveland, official estimates and projections



Source: Edge Analytics, after ONS

4.16 The fourth component, Unattributable Population Change (the UPC), calls for more explanation. The UPC is a discrepancy in the official data on population change between the 2001 and 2011 Censuses. It happens when the population change recorded between the Censuses is not consistent with the annual changes estimated by the ONS each year, which are the outcome of three components: births, deaths and migration (both within-UK and international). The error does not relate to natural change, because the recording of births and deaths is near-perfect in this country. Hence there are two possible reasons for the UPC:

- One or both of the Censuses may have miscounted the population, and /or
- The ONS migration estimates may be wrong. It is likely that any error relates largely to numbers of international migrants and their distribution between local authority areas.

4.17 In Redcar & Cleveland the UPC was negative and large, averaging 230 persons per year in 2001-11. If the UPC is due to Census miscounting, the 2001 Census overestimated the borough's population, and / or the 2011 Census underestimated it. If the UPC is due to incorrect migration estimates, the ONS under-estimated outflows from the borough or over-estimated inflows into the borough. The official projections in effect assume the former – the UPC is due to Census miscounting. Accordingly the UPC is not included in the past migration trend that the SNPP rolls forward into the future.

4.18 As mentioned earlier, the projection works by rolling forward past trends in each component of change and for each demographic group. To understand why the previously falling population is expected to stabilise in future, we need to look at these components separately:

- Natural change, which is the difference between births and deaths, falls steadily over the projection period, from a gain of some 200 persons per year in 2012 to a loss of almost 200 per year in 2036. The reason is the ageing of what is already an unusually old population. As fertility rates fall with age and mortality rates rise with age, an ageing population results in falling numbers of births and higher numbers of deaths.
- UK migration is almost a mirror image of natural change. The net outflows recorded in past years diminish gradually in the future; by the mid-to-late 2020s net migration is close to zero, before turning into a small positive. The reason again is the ageing of the population: as noted earlier net out-migration in the past was almost entirely accounted for by the 15-19 age group, and as the age group shrinks in future, net out-migration is predicted to fall. In terms of total population change, the positive effect of this turnaround in domestic migration more than offsets the negative effect of decreasing natural change
- Net international migration remains too small to make a significant impact on total change.
- The UPC as noted earlier is not carried forward in the SNPP. Along with the turnaround in domestic migration, the disappearance of this large negative component explains why the projection shows a virtual end to population decline.

4.19 In summary, the 2012-based official population projection shows virtually unchanged population in the borough until 2037, in contrast to the significant decline recorded since 2001. This contrast is caused by two main factors. The first factor is the turnaround in domestic migration. We see no reason to question this aspect of the SNPP, which is transparently derived from the borough's age profile. The second factor is Unattributable Population Change – or more precisely the way the SNPP deals with Unattributable Population Change. We look at this closely in the next section.

Alternative scenarios

4.20 As mentioned earlier, the Edge report tests the impact of altering certain assumptions in the SNPP and CLG projections. For this, it models two alternative scenarios which replicate the official projection except for these altered assumptions. Both scenarios show population falling in the plan period 2015-32, as follows:

- PG-5yr: –1,140 persons
- PG-10yr: –1,526 persons.

Table 4.1 Alternative demographic scenarios, 2015-32

Change 2015-32	Population	Households	Dwellings
SNPP/CLG 2012	-82	1,975	2,051
Edge PG 5-yr	-1,140	1,675	1,739
Edge PG 10-yr	-1,526	1,490	1,547

Source: Edge Analytics

4.21 In both cases population loss is greater than the 82 persons shown in SNPP 2012. The reason is that, contrary to the SNPP, in these scenarios Edge counts the UPC as part of the international migration that it projects forward. Since the UPC was large and negative, this leads to greater out-migration and hence greater population losses in the future. But for Redcar & Cleveland it looks like an unlikely scenario, because the borough's net international migration, as estimated by the ONS, was so small. As is obvious from Figure 4.4 above, adding the UPC to that estimated international flow would increase that flow several fold.

4.22 The small difference between the two Edge scenarios is due to different choices of base period – the past period from which local trends are rolled forward. PG-5yr uses a five-year base period, similar to the SNPP, while PG-10yr, as its name indicates, substitutes 10 years. The general rationale for this variant is that a longer reference period is more likely to be a good indicator of underlying long-term trends, especially bearing in mind that migration often fluctuates widely from year to year. Specifically at this time, a further argument for using 10 years is that the five-year base period is dominated by the last recession and its aftermath – which in many areas has probably suppressed migration below its long-term trend.

4.23 For Redcar & Cleveland, in deciding which view of future population is more robust the choice of base period makes little difference. The main issue is the UPC.

4.24 On this issue, the ONS in September 2015 published a 'data tool' that provides detailed evidence of the UPC by local authority area[8]. Unfortunately, in the case of Redcar & Cleveland that evidence is inconclusive. The tool suggests that four demographic groups are affected by the UPC, and in different directions: for males aged 20-24 and 25-29 the UPC is negative; whilst for males aged 30-34 and 35-39 it is positive. For all four groups the tool identifies international migration as a factor behind the UPC, but again this operates in different directions. Moreover, there is no attempt to quantify the contribution of that or other factors. In our view, as mentioned earlier, it seems unlikely that international migration accounts for all or most of the UPC, because the UPC is orders of magnitude larger than the recorded levels of international migration.

4.25 This analysis, in our opinion, does not justify setting aside the SNPP in favour of the alternative scenarios modelled by Edge. Given that we have no conclusive evidence on the nature of the UPC, it seems reasonable to stay with the SNPP, which is the official population projection supported by the PPG.

Conclusion

4.26 To summarise the analysis above, there are two alternative views of past and future population change in Redcar & Cleveland:

- In the official view, from SNPP 2012:

[8] Further understanding of the causes of discrepancies between rolled forward and census based local authority mid-year population estimates for 2011, http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-statistics-research-unit--psru-/latest-publications-from-the-population-statistics-research-unit/index.html

- The borough's population in the intercensal period 2001-11 fell by 151 persons p.a. (ppa). (The comparison between Censuses, which shows 400 ppa, is misleading: 249 ppa (the UPC) is due to one or both of the Censuses being miscounted).
- In 2015-32, assuming that past demographic trends continue, the borough's population will fall by 5 ppa.

- In the alternative view, from the Edge scenarios:
  - The borough's population in 2011-21 fell by 400 persons per annum. (Both Censuses counted the population correctly, but the ONS estimates of migration between the Censuses are wrong.)
  - In 2015-32, assuming that past demographic trends continue, the borough's population will fall by 67-90 persons per annum

4.27 The truth may lie between these two extremes, or one of the extremes may be true. We have no evidence on which to make a decision. We conclude that the SNPP view, which takes no account of the UPC, is preferable for the purpose of housing needs assessment, for two reasons. The first reason is that the SNPP is the default option recommended by national planning guidance. The second reason for preferring the SNPP is that it will result in a slightly higher assessment of housing need, as shown in Table 4.1 above. Given that national policy supports positive planning it seems right to err on the side of generosity.

4.28 As discussed above, the SNPP has another potential weakness: it is based on a reference period of only five years, which may be untypical of longer-term underlying trends, and in particular may be affected by the recession. But this seems not to be a major issue for Redcar & Cleveland, because 5yr and 10yr Edge projections (Table 4.1) are very similar: the difference between them is just 11 dwellings p.a. Nor does the time profile of past migration (see Figure 4.4 above) suggest that the five-year base period (2007/8-2011/12) was untypical due to the effect of the recession.

4.29 We conclude that the SNPP figure, which shows virtually unchanged population over the plan period – more precisely a loss of 82 persons – is the most robust trend-based view of future population currently available.

Household projections

The official projection

4.30 Over the projection period 2012-37 CLG 2012 shows numbers of households in Redcar & Cleveland increasing by 2,530 (101 households p.a.). For the plan period 2015-32 the number increases by 1,975 households (116 households p.a.). This contrasts with the projected population change, which as we have seen is negative, though insignificant. In the Edge scenarios population falls faster, as we have seen, but household growth is still positive, though smaller.

4.31 As noted earlier, these household numbers are derived from the population shown in the SNPP 2012. To translate that population into households, the CLG uses factors known as household representative rates (HRRs, headship rates, housing formation

rates). An HRR is the proportion of the household population in a given demographic group who are household representatives (formerly known as heads of household). Since each household has exactly one representative, the number of heads of household equals the number of households.

4.32 The HRR is the inverse of average household size. Thus, HRRs impact on housing need: for a given population higher HRRs mean more households, more dwellings, and a lower average household size.

Alternative views

4.33 In the CLG projections, future HRRs are based on rolling forward past trends for each demographic group. The base period being rolled forward in this case is very long, starting at the 1971 Census. There are two issues around the CLG HRRs.

4.34 The first issue is that CLG 2012 has a technical weakness. Due to difficulties in processing Census data, it takes only partial account of the actual formation rates found by the 2011 Census. This problem has no solution at present. Until new projections are published in 2016, we must accept that the historical estimates behind CLG 2012 are the best available at this time.

4.35 The second issue is that across England CLG 2012 shows lower HRRs, and hence fewer households and smaller housing need, than the previous full version, CLG 2008 (2011-based projections were published in between but were badged 'interim'). This is because the Census found considerably lower HRRs, and hence fewer households than the 2008 projections expected, and CLG 2012 rolls forward this more subdued household formation into the future. Some parties consider that these lower rates are permanent. Others maintain that they are due to the last recession and its aftermath, and household formation in the long term will return towards the higher rates projected in 2008, either fully or partially.

4.36 The issue is discussed at length in two recent academic articles, respectively by Prof Ludi Simpson[9] and by Neil MacDonald and Prof Christine Whitehead[10]. Both articles provide in depth analysis of the 2008 and 2012 projections. The first article finds that

'[The] causes of reduced household formation [in the 2012 projections against the 2008 ones] are varied, began before the recession, and mostly are likely to continue with or without recession.'

4.37 The causes referred to include:

- *'a sustained increase among young people not leaving home' which began at the turn of the century and accelerated after 2008;*
- *the introduction of student fees from 1998;*
- *the increase in precarious employment, including the rapid growth of part-time work;*

[9] L Simpson, *Whither household projections?* in *Town and Country Planning,* December 2014, Vol 83,
[10] N McDonald and C Whitehead, *New estimates of housing requirements in England, 2012 to 2037*

- *the long-term increase in the number of childless women, ... which increased the number of smaller households, [and which] stopped and has fallen since 2000'; and*
- *the increasingly older formation of couples or families, which had increased the number of single-person households in the 1980s and 1990s, [and] has levelled out since 2001'.*

4.38 Prof Simpson concludes that some of these factors may be reversed, but the first three *'appear at the moment as fixed circumstances of the policy and economic environment'. Consequently 'we are not in a position to expect further increases in household formation rates of the same kind [as suggested in the 2008-based projections]. ... The future in the UK is likely to be a continuation of precarious household formation. It will probably be lower than once projected and carry more uncertainty...'*

4.39 In the second article listed above, Neil McDonald and Prof Whitehead endorse these conclusions. They add that there are further factors to suggest that household formation could be even lower than the 2012 official projections show – including welfare reforms and rising student debt that had not yet occurred at the time of the 2011 Census and are not taken into account by the 2012 projections.

4.40 It is also important to note that, although the CLG 2012 shows lower HRRs than CLG 2008, it still shows improving HRRs overall. The authors show that, while rates increase for some groups and fall for others, '*there will be more "winners" than "losers" by a ratio of 3:1, so overall housing formation rates will improve'.* This means that, on balance, more people will have *'an increased chance of setting up their own home'.*

4.41 McDonald and Whitehead conclude that the 2012 projections:

'can be taken as a reasonable indication of what is likely to happen to household formation rates if recent trends continue. This is because, although economic growth might be expected to increase the household formation rate, there are both longer-term structural changes and other factors still in the pipeline (such as welfare reforms) that could offset any such increase.'

4.42 The research quoted above reinforces the view of the PPG: at national level the headship rates shown in CLG 2012 are the best information available at present, and the rates in CLG 2008 are superseded by subsequent evidence. In the next section we consider whether there is any evidence to suggest that this conclusion does not apply to Redcar & Cleveland.

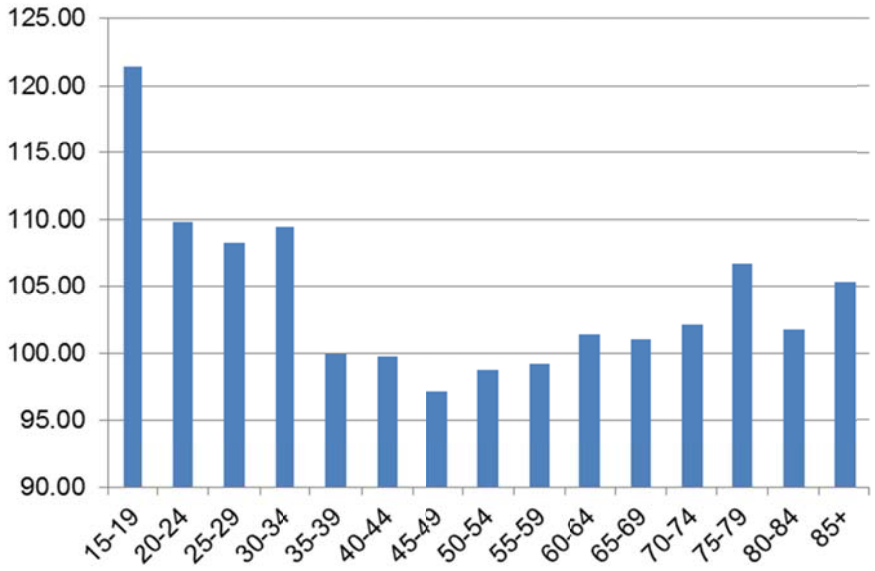
HRRs for Redcar & Cleveland

4.43 Figure 4.5 below compares headship rates for Redcar & Cleveland with England, for 2011 and for 2031, as estimated in the CLG 2012 projection[11]. The figure plots the ratio of the Redcar & Cleveland rate to the England rate. A figure higher than 100

[11] We combine male and female rates to avoid unnecessary complication.

says that the rate for the borough is higher than England, and conversely a figure below 100 says the rate for the borough is lower than England. The figure for the 15-19 age group should be ignored, because the number of heads of household in that age group is extremely small.

Figure 4.5 Ratio of Redcar & Cleveland HRRs to England HRRs by age, persons, 2011

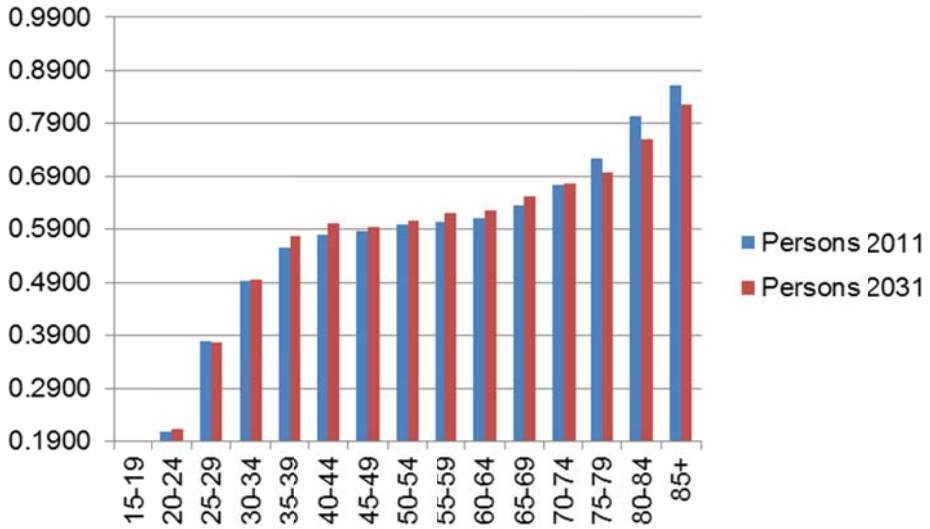


Source: CLG, PBA

4.44 At 2011, for most age groups rates in Redcar & Cleveland are slightly higher than, or equal to, the national average. The exceptions are the age groups from 45 to 59, where rates for Redcar & Cleveland are lower. In areas where housing land is constrained we find that the younger age groups have lower than average headship rates. This is not the case in Redcar & Cleveland where headship rates for the younger groups are well above national average. Therefore there is nothing in this mixed picture to suggest that local housing supply constraints are suppressing household representative rates in the borough.

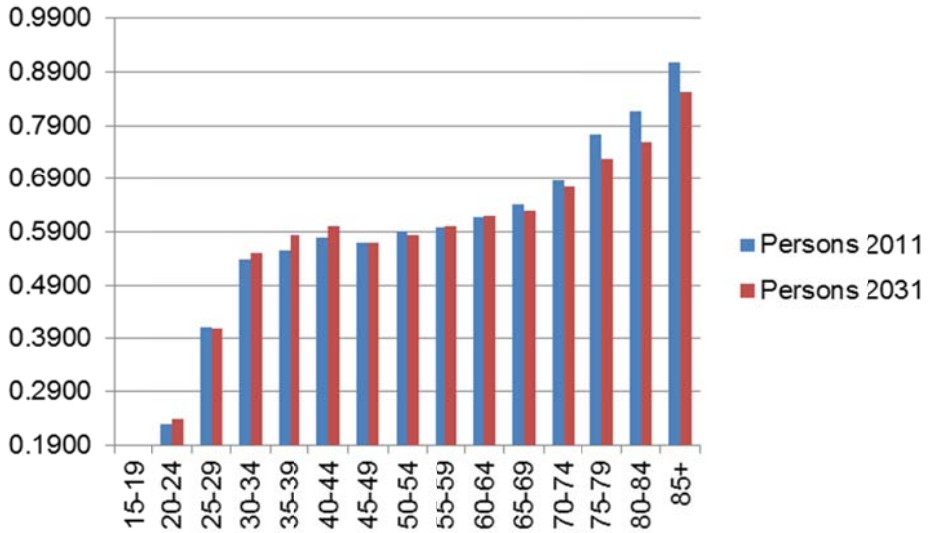
4.45 The next two charts (Figures 4.6 and 4.7) show future change in HRRs in England and Redcar & Cleveland between 2011 and 2031, as predicted by the CLG 2012 projection. (We have chosen 2011 because it is the latest date for which there is real-life evidence of HRRs, and a 20-year projection period for convenience.)

Figure 4.6 HRRs in England, 2011 and 2031



Source: CLG 2012 household projection

Figure 4.7 HRRs in Redcar & Cleveland, 2011 and 2031



Source: CLG 2012 household projection. Rates for 2011 are estimates and rates for 2031 are projections.

4.46 In England HRRs stay the same or increase over the period for all age groups up to age 74. For age groups from 75 years upwards rates fall over the period. This probably results from the narrowing of the gap in life expectancy between men and women. As men live longer, in the older age groups there are more couples (two-person households) and fewer widows (one-person households).

4.47 For Redcar & Cleveland the pattern is very similar, except that the tipping point between increasing and falling HRRs occurs at age 65, against 75 for England. There is no visible explanation for this small difference. We suspect that it is due to demand-side factors such as life expectancies or the mix of household types, rather than housing supply. This is because in these older age groups virtually every male, and virtually every female who is not part of a couple, is a head of household (by

convention, when a household is a mixed-sex couple the male member is the household representative or head). People for whom housing difficulties may impact on housing formation are in the younger age groups, mainly from 25 to 39 – where many are forced to live in the parental home or share with peers rather than form their own household in their own dwelling. For these age groups, projected HRRs in Redcar & Cleveland stay the same or increase slightly, just as they do in England.

4.48 In summary, therefore, there is no reason to believe that the CLG 2012 HRRs understate future housing need in Redcar & Cleveland

Conclusion

4.49 We have examined and tested first the latest Sub-National Population Projection (SNPP 2012), and then the CLG household projection (CLG 2012), which groups that population into households.

4.50 In relation to population, the picture is confused by an error in the official statistics, Unattributable Population Change. We have looked at the issue closely and conclude that, despite this error, there is no justification for departing from the SNPP. We have also tested the CLG's translation of population into households and dwellings and again have found no reason to depart from the official view.

4.51 We conclude that, on the information available at present, the CLG 2012 household projection provides the best available reflection of past demographic trends. The projection implies a housing need of 2,051 net new dwellings over the plan period 2015-32, or 120 dpa.

4.52 In the chapters that follow we test this demographic starting point against market signals and future jobs, as recommended by the PPG.

5 PAST DELIVERY AND MARKET SIGNALS

Introduction

5.1 The starting point of our 'market signals' analysis is provided by paragraphs 2a 015, 019 and 020 of the PPG:

'*The household projection-based estimate of housing need may require adjustment to reflect factors affecting local demography and household formation rates which are not captured in past trends. For example, formation rates may have been suppressed historically by under-supply and worsening affordability of housing. The assessment will therefore need to reflect the consequences of past under delivery of housing. As household projections do not reflect unmet housing need, local planning authorities should take a view based on available evidence of the extent to which household formation rates are or have been constrained by supply.*'[12]

'The housing need number suggested by household projections (the starting point) should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings. Prices or rents rising faster than the national/local average may well indicate particular market undersupply relative to demand …'[13]

Appropriate comparisons of indicators should be made. This includes comparison with longer term trends (both in absolute levels and rates of change) in the: housing market area; similar demographic and economic areas; and nationally. A worsening trend in any of these indicators will require upward adjustment to planned housing numbers compared to ones based solely on household projections.'[14]

5.2 Considered together, the above passages explain why market signals are relevant and how they should be used in relation to housing needs assessments. In summary:

- Demographic projections roll forward past reality – the amount of housing that has been provided in the reference period on which they are based.
- If this past supply met demand (need) in full then, other things being equal, the projection should be an accurate reflection of future demand.
- But if past supply under delivered against demand, then the projections will carry forward that under delivery; therefore they understate demand and should be adjusted upwards.
- To determine whether past supply has indeed under-delivered against demand, the PPG suggests two kinds of evidence: a series of specified 'market signals' such as prices or rents, and 'other indicators' which are not specified.

5.3 Below, we use two kinds of evidence to assess the balance of demand and supply in line with the PPG. Firstly, we interrogate the history of past delivery to see if there is

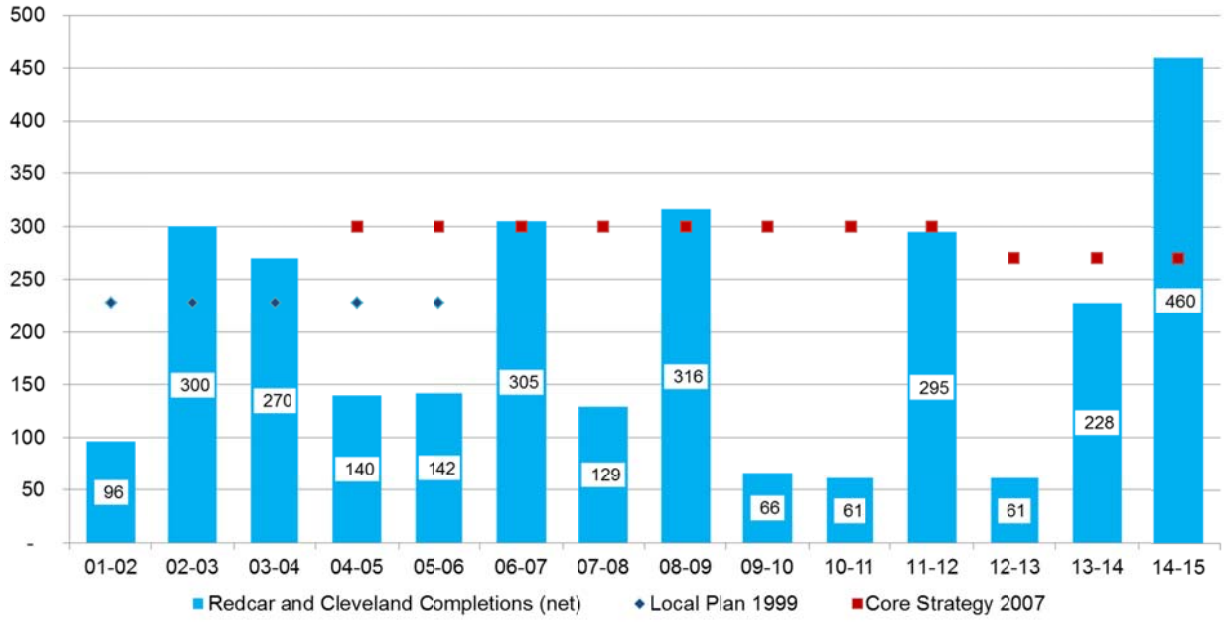
[12] Reference ID: 2a-015-20150227
[13] Reference ID: 2a-019-20150227
[14] Reference ID: 2a-020-20150227

any direct evidence that the supply of housing land has underprovided against demand. Secondly, we analyse the specific market signals listed in the PPG.

Past supply

5.4 The chart below shows housing delivery (net completions) in Redcar & Cleveland since 2001/02 and compares it with the development plan targets applicable at different times.

Figure 5.1: Net housing completions, Redcar & Cleveland



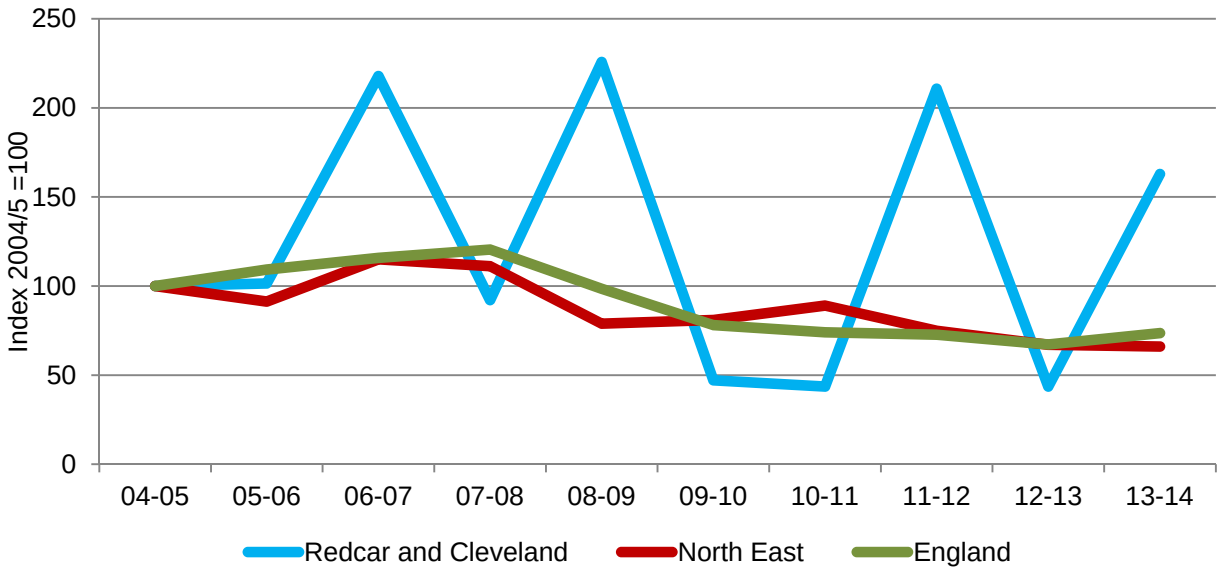
Source: Redcar & Cleveland AMRs

5.5 Net completions varied widely from year to year, and in most years the targets were not met - although in the latest year has the target been substantially exceeded. But to answer the question asked in the PPG we need to focus on housing demand and need, rather than previous plan targets. Specifically, we need to consider whether housing delivery was constrained by insufficient land supply; or alternatively whether the effective constraint was deficient demand.

5.6 To help answer this question, Figure 5.2 below compares net completions in the borough with those in the North East region and England. The chart starts in 2004/5 because for England as a whole earlier data are not available. For England, completions clearly follow the economic cycle – with numbers on a high plateau until 2007-08, followed by an abrupt fall in the recession and the beginnings of a recovery in 2013-14.

5.7 For many local authority areas, housing completions follow a similar course, suggesting that the time profile of delivery is nothing to do with land supply. Rather, it reflects low housing demand in the recession and its aftermath, as real incomes were falling and mortgages difficult to access.

Figure 5.2: Indexed net housing completions



Source: CLG Table 122, Redcar & Cleveland AMRs

5.8 For Redcar & Cleveland the time profile of delivery is more difficult to interpret, due to large fluctuations from year to year. Nevertheless there is a clear recession effect, with completions on a declining trend in the recession and its aftermath, from 2006-7 until 2010-11.The last three years of the series show particularly large fluctuations from year to year: there was a sharp recovery in 2011-12 ahead of the national trend, followed by large fall in 2012-13 and a further rise in 2013-14. The stock losses resulting from the clearance programmes were the single biggest component of these changes. Gross completions in 2012/13 were lower than in the years preceding and following, which exaggerated the variation.

5.9 These year-to-year fluctuations do not tell us anything about the underlying balance of demand and supply in the borough. More useful evidence on this question is found in the Council's Annual Monitoring Reports (AMRs).

5.10 However there is evidence on this question in the Council's Annual Monitoring Reports (AMRs). The AMRs show that, of the 2,257 gross completions recorded in the borough in 2004-2010, 1,623 (72%) were delivered on windfall sites. They also note the reason for this high windfall number: most of the housing land allocations in the 1999 Local Plan had been built-out, and the few remaining – such as Low Grange, Derwentwater Road and Tennyson Avenue - were located in areas of low demand. Recognising the threat to its five-year land supply position, the Council from 2011 onwards has been granting windfall permissions on sites outside development limits, which it did not do previously.

5.11 This evidence suggests that in recent years planned land supply may have constrained housing development – not necessarily because the quantity of land identified for development was too low, but due to a qualitative mismatch between demand and supply.

5.12 Before drawing the practical conclusions from this analysis, in the next section we examine the market signals listed in the PPG.

Market signals

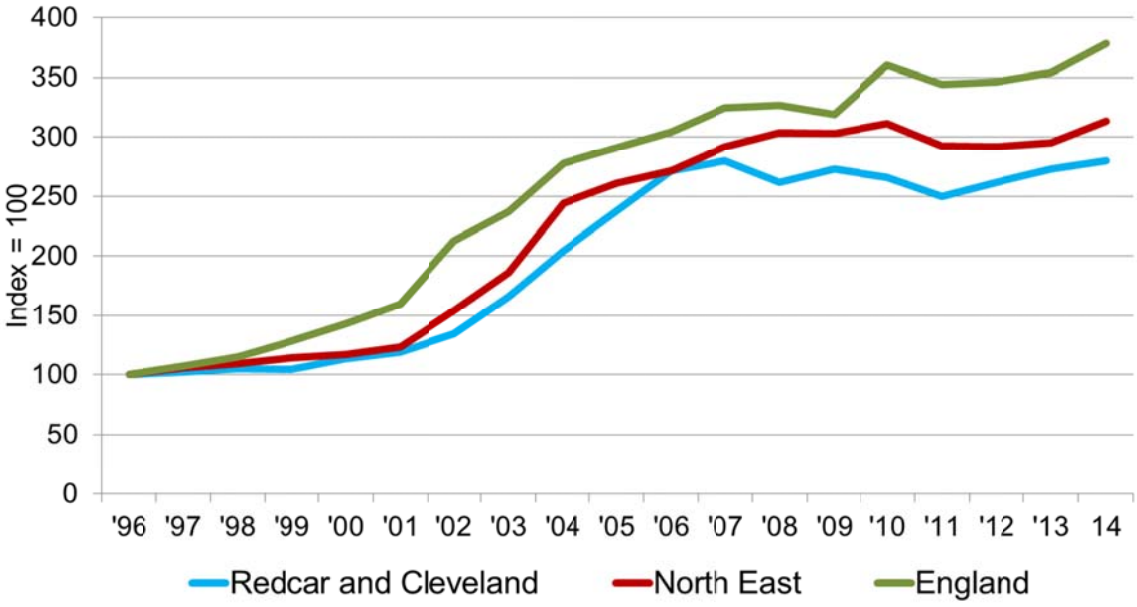
House prices

5.13 The PPG advises that house prices be monitored to identify if longer term changes indicate an imbalance between the demand for and the supply of housing.

5.14 Land Registry data published by the ONS[15] shows that the average house price in 2014 for Redcar & Cleveland was £123,000 compared to £129,289 for the North East and £217,250 for England, just 57% of the national average.

5.15 Figure 5.4 below shows change in median house prices indexed from 1996 against the comparator regional and national figures over a 20 year period.

Figure 5.4: Median house prices



Source: CLG Table 582, ONS House Price Statistics for Small Areas, House Price Index

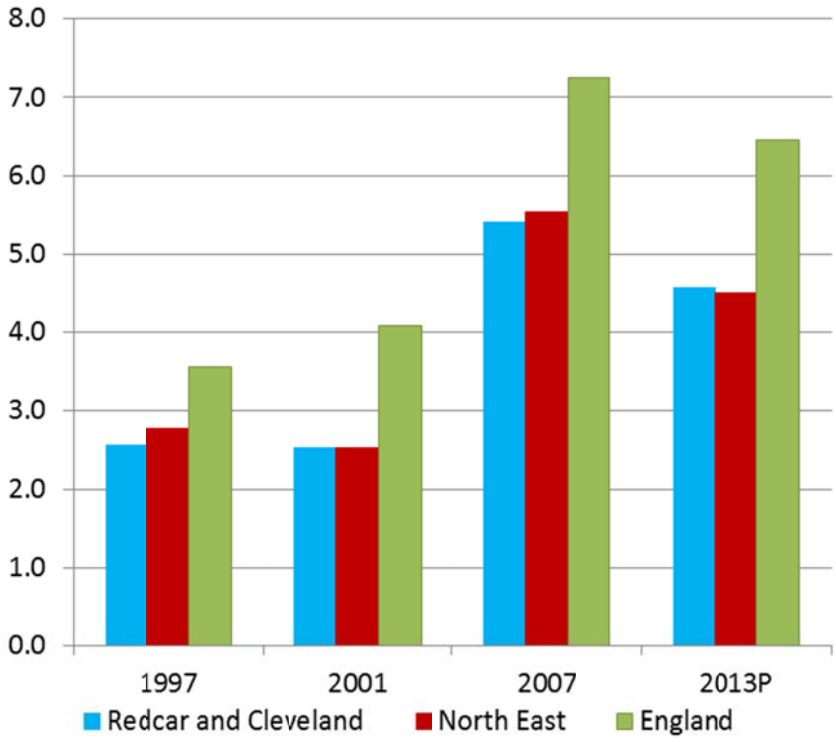
5.16 There is a widening gap between house prices in the region and nationally, with faster increases nationally. House price change in Redcar & Cleveland was close to the regional median until 2005/6, but over the past decade house price change has been slower than the region, which in turn has been slower than the national benchmark. Thus, there is nothing in the house price evidence to suggest that local housing supply in Redcar & Cleveland has fallen short of demand over the last 15-20 years.

[15] *House Price Statistics for Small Areas,* ONS available at: http://www.ons.gov.uk/ons/rel/regional-analysis/house-price-statistics-for-small-areas/1995-2014/rft1.xls

Affordability

5.17 Affordability, as defined by CLG, is the ratio of lower-quartile house prices to lower-quartile earnings. A high ratio indicates low affordability, where the cheapest dwellings are less financially accessible to people on the lowest incomes.

Figure 5.5: Ratio of lower quartile house prices to lower quartile earnings



Source: CLG table 576. "P" denotes provisional data.

5.18 Figure 5.5 above demonstrates affordability in Redcar & Cleveland has closely matched the regional position, and has consistently been better than the national position.

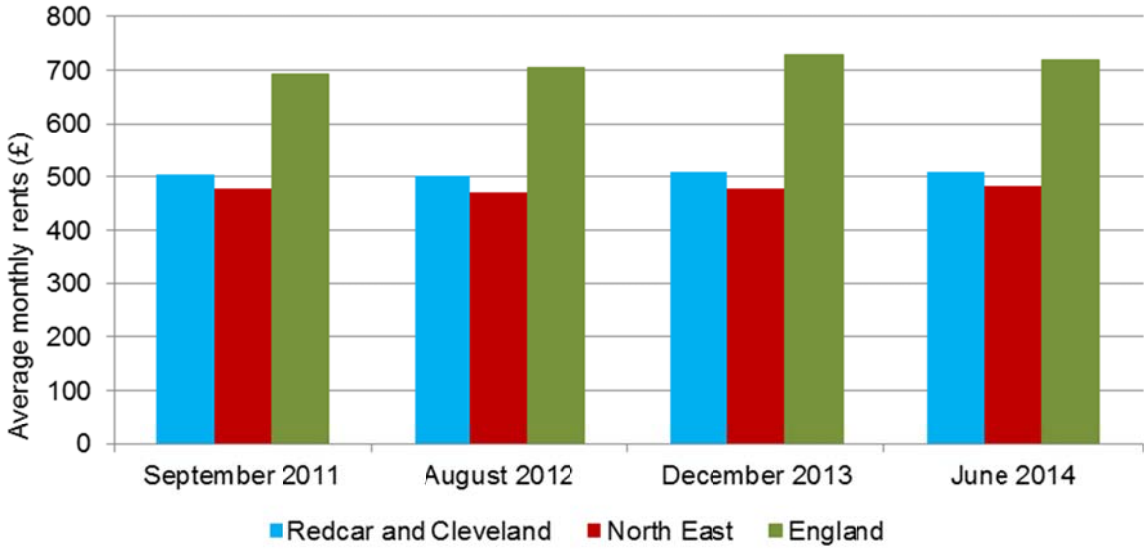
5.19 Affordability worsened in all areas during the boom years and improved in the recession. Whilst the ratios have changed, the comparable relationship between the different areas has not. Redcar & Cleveland's affordability has not changed relative to the national figure. Again, there is nothing in this evidence to suggest that t local housing supply in Redcar & Cleveland has fallen short of demand over the last 15-20 years.

Market rents

5.20 The PPG explains that rents provide an indication of the cost of consuming housing in a market area. Mixed adjusted rent information (adjusted to allow for the different types of properties) shows changes in housing costs over time. Longer term changes may indicate an imbalance between demand for and supply of housing.

5.21 Data for market rents on a statistically consistent and comparable basis has only been available since 2011. Figure 5.6 below provides a regional and national rents comparison for Redcar & Cleveland.

Figure 5.6 Markets rents, £ per month



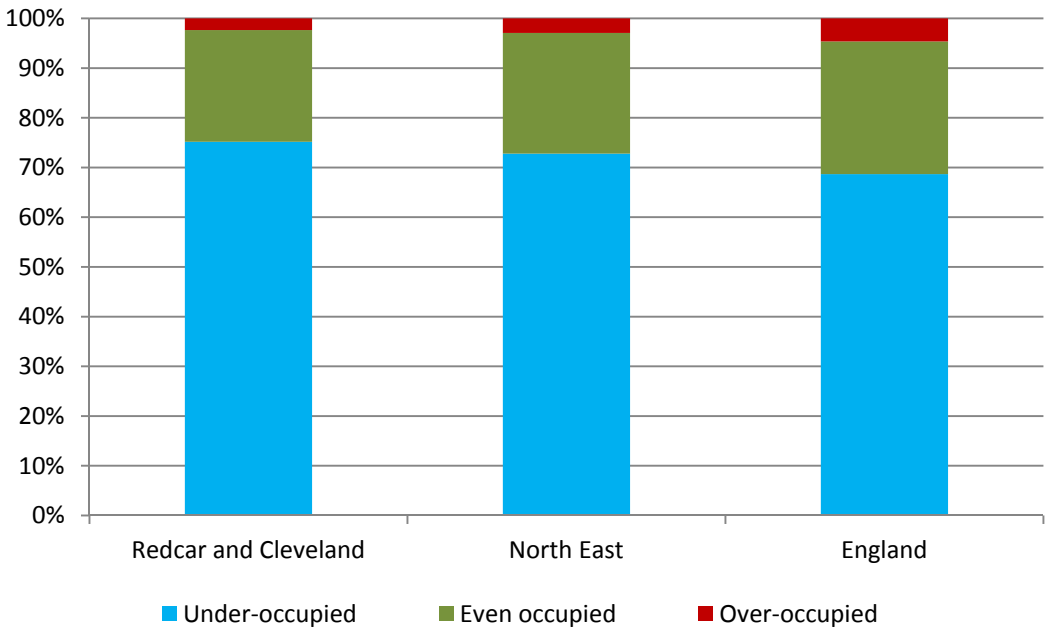
Source: VOA Private Rental Market Statistics

5.22 Average rents in Redcar & Cleveland are significantly lower than the national average (by about £200/month) though marginally higher than the regional average. Again there is no indication here that housing supply in the borough has failed to meet demand in recent years.

Overcrowding

5.23 Figure 5.7 below uses 2011 Census data to show occupancy rates, as defined by the ONS. The ONS base the categorisation on numbers of bedrooms occupied.

Figure 5.7: Housing occupation



Source: Nomis

5.24 The vast majority of dwellings in Redcar & Cleveland and indeed regionally and nationally are considered to be under-occupied, with the proportion of over-occupied dwellings in Redcar & Cleveland (2.3%) lower than the regional (2.9%) and national (4.6%) proportions.

5.25 The proportion of concealed families is another indicator recommended by the PPG. In Redcar & Cleveland the proportion of concealed families is just 1.19%, less than the regional (1.27%) and national rates (1.85%)[16] . Like the market signals reviewed earlier, this suggests that there has been no shortage of supply against demand in the borough.

Conclusions

5.26 In this chapter we have looked for evidence to show if planned land supply has constrained housing development in recent years. We conclude that in recent years planned land supply may have constrained housing development – not necessarily because the quantity of land identified for development was too low, but due to a qualitative mismatch between demand of supply, where the remaining allocated sites were in unpopular, low-demand locations.

5.27 In contrast, all the other evidence we have reviewed indicates that the pressure of demand against supply in the borough has been low. Our analysis of house prices (level and change), affordability, rents and overcrowding all points to this conclusion. It may be that the frustrated demand for housing in the borough was translated into out-migration rather than rising house prices, as households who did not find the

[16] Source: Nomis

housing they wanted in Redcar & Cleveland moved to places that did offer higher-quality sites.

5.28 How far does this evidence justify a 'market signals uplift' to the demographic projections? This question is difficult to answer, because the PPG does not specify what criteria would trigger an adjustment, or how the size of any adjustment should be:

'*Market signals are affected by a number of economic factors, and plan makers should not attempt to estimate the precise impact of an increase in housing supply. Rather they should increase planned supply by an amount that, on reasonable assumptions and consistent with principles of sustainable development, could be expected to improve affordability, and monitor the response of the market over the plan period.'*[17]

5.29 To our knowledge three planning Inspectors have applied this advice in practice. In the absence of clear guidance, they have approached the matter as an exercise of judgment.

- In Eastleigh, the Inspector noted that affordability had worsened more than the national average and rents had risen more than the average. On this basis he concluded that 'a cautious approach is reasonable bearing in mind that any practical benefit is likely to be very limited because Eastleigh is only a part of a much larger HMA… Exploration of an uplift [to the demographic projections] of, say, 10% would be compatible with the "modest" pressure of market signals'.
- In Uttlesford, the Inspector mentioned that house price increases had been slightly less than for Essex and England but from a very much higher base; median rents were higher than these comparators and had risen faster; and affordability had risen to a much higher peak prior to the recession. 'Taking in the round' these market signals as well as affordable need, the Inspector advised an uplift of 10%. He did not apportion the uplift between these two factors.
- In Canterbury, the Inspector focused on three main market signals: median house prices, house price growth and affordability ratio consistently above the national benchmark -.He recommended an uplift of 30% to take account of these market signals, together with future jobs, affordable housing need and a post-recession recovery in household formation rates. The Inspector noted that these four factors overlapped and did not apportion the uplift between them.

5.30 From these cases we cannot draw definite conclusions about Redcar & Cleveland, because the evidence relating to the borough is quite different. Whether a market signals uplift is justified for Redcar & Cleveland, and if so how large this uplift should be, is a matter of judgment. Our judgment is that a 10% uplift would be justified, because the evidence is mixed and suggests modest market pressure, similar to Eastleigh and Uttlesford. Based on this judgment, the 'demographic starting point' of 120 dpa rises by 10% to a housing need of 132 dpa over the assessment period 2015-32.

[17] Reference ID: 2a-020-20140306

5.31 In the next section, we test this emerging OAN of 132 dpa against future demand for labour.

6 FUTURE JOBS

Introduction

6.1 The NPPF at paragraph 70 says that planning should integrate the location of housing, economic activity and community facilities and services. The PPG discusses the relationship between housing need and employment at paragraph 018[18]. It advises that plan-makers should make an assessment of future job growth and notes that, if future labour supply is less than this projected job growth, this could

'… *result in unsustainable commuting… or reduce the resilience of local businesses'. In such circumstances, plan-makers will need to consider how the location of new housing and infrastructure development could help address these problems.'*

6.2 Planning Inspectors have interpreted this to mean that demographic projections should be tested against expected future jobs, to see if housing supply in line with the projections would be enough to support those future jobs. If that is not the case, the demographically projected need should be adjusted upwards accordingly; such adjustments overlap with the adjustments for past supply and market signals discussed in Chapter 7. An alternative solution may be changes in commuting, whereby a labour deficit in one area is balanced by a labour surplus in neighbouring areas, provided that the planning authorities concerned are in agreement and the resulting travel is sustainable.

6.3 Inspectors' advice also suggests that future jobs cannot be used to cap demographic projections. In other words, if the demographic projections provide more workers than are required to fill the expected jobs, they should not be adjusted downwards. One reason for this, as explained by the Bath & North East Somerset Inspector amongst others, is that much of the demand for housing is not driven by job opportunities, and people who do not work also need somewhere to live.

6.4 To provide an integrated view of future jobs, population and housing, we have used the local economic forecasts produced by Experian Economics, together with additional analysis specially commissioned from Experian. The Experian results are discussed in the next section and shown in full at Appendix B.

The Experian forecast

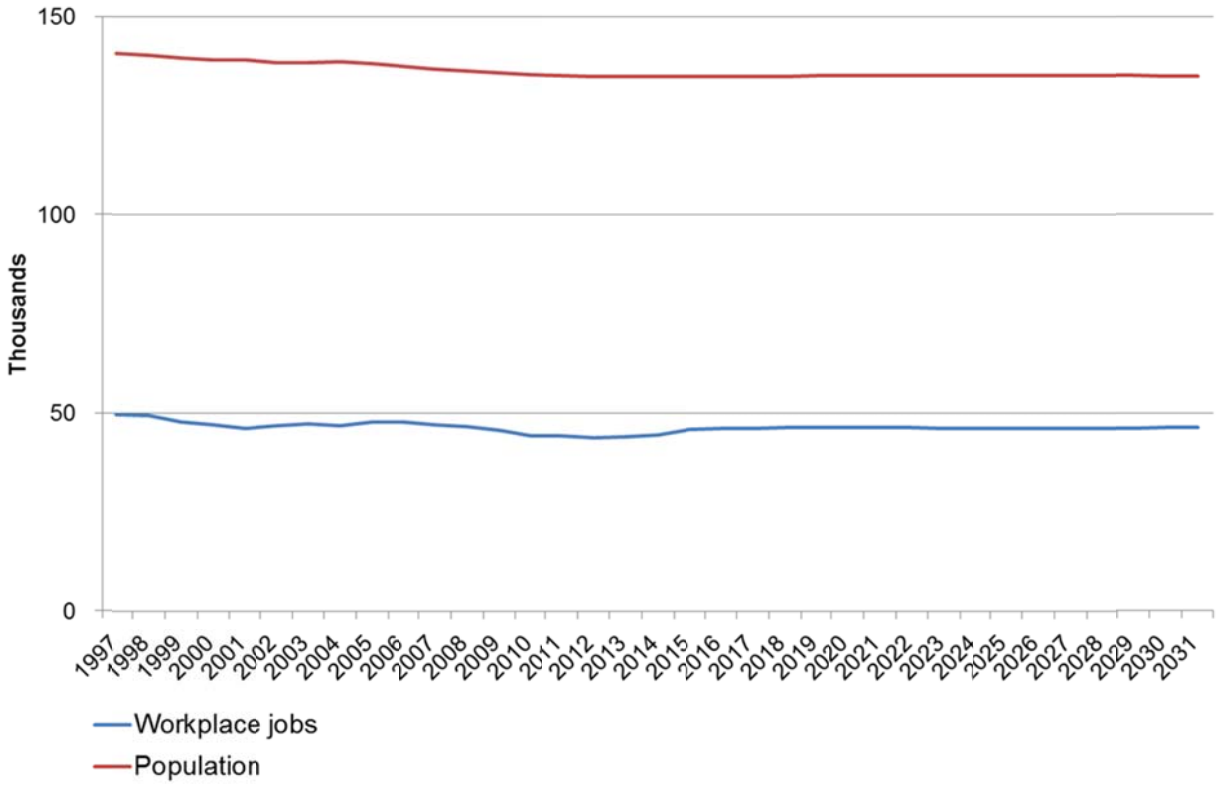
6.5 Experian's latest local forecast (September 2015) shows job numbers virtually unchanged in Redcar & Cleveland. Over the period 2015-32 the number of workplace jobs[19] in the borough increases by just 510, from 45,870 to 46,380 jobs. This is the

[18] Reference ID: 2a-018-20140306

[19] Workplace jobs are jobs located in the borough. There are slightly more workplace jobs than people who work in the borough, because some people have more than one job. Also the number of people working in the borough is not the same as the number of working residents, because many people do not work in the local authority area in which they live. Redcar & Cleveland at the 2011 Census had 56,354 working residents (aged 16-74) against 45,871 workplace jobs – a negative commuting balance of some 11,000, of which around half was accounted for by net out-commuting to Middlesbrough.

lowest growth rate of any local authority area in the region. As shown in Figure 6.1 below, the Experian forecast is in line with historical experience, at least since the late 1990s.

Figure 6.1 Jobs and population in Redcar & Cleveland



Source: Experian Local Economic Forecast, September 2015

6.6 In the local forecasting model, the main factors that determine future jobs are macroeconomic conditions and each area's industrial mix and past performance. (However the latest forecast does not factor in the closure of the SSI steelworks in Redcar, because it occurred too recently.) Another important input to the forecast is the level and age profile of future population in the borough and surrounding areas. Experian's forecast assumes future population in line with the SNPP 2012, which is our preferred demographic projection as discussed in Chapter 3 above.

6.7 An obvious reason for the low forecast job growth is the area's industry mix, with jobs concentrated in manufacturing, which is forecast to decline in the future, and public services – which are expected to grow slowly in the future. Thus, in 2015, 13.5% of jobs in the borough are in manufacturing and 28.8% are in the public sector. The equivalent shares for the UK are 7.7% and 25.6% respectively.

6.8 Another reason for the low expected job growth in Redcar & Cleveland is the static population – which as noted earlier is an assumption taken from SNPP 2012. The lack of population growth is reflected in the labour demand that local residents generate through their consumption of local services, such as retail.

6.9 One of the outputs produced by the Experian model is a view on the balance of the labour market. For each local authority area, the model shows whether the labour

supply that would result from the SNPP projection is expected to constrain the growth in the area's workplace jobs. For Redcar & Cleveland over the plan period, labour supply is not a constraint.

6.10 In other words, the Experian model suggest that the population shown in SNPP 2012, and hence housing development of 120 dpa, will be enough or more than enough to match expected job growth in the borough, and hence to ensure that the demand for labour is met in full and the borough fulfils its economic potential. Hence the 'market-signals-uplifted' housing number of 132 dpa suggested in the last chapter provides more labour to match expected job growth.

6.11 However, it is important to note that this conclusion depends on Experian's assumptions about future economic activity rates – the proportion of people in each age group which is part of the labour force. In the Experian forecast activity rates increase over the plan period, partly because the local labour market tightens as the population ages, but mainly because national activity rates are expected to rise sharply, due to increases in the State Pension age and to rising life expectancy. (Appendix B below summarises and justifies these national assumptions.) Consequently the forecast shows activity rates in Redcar & Cleveland over the plan period increasing from 75.2% to 80.3% for people aged 16-64, and from 5.1% to 8.3% for those aged 65 and older.

The Strategic Economic Plan

6.12 The Strategic Economic Plan published by the Local Economic Partnership (LEP), Tees Valley Unlimited, in May 2014 aims for 25,000 new jobs – a 10% increase – across the sub-area over the decade 2015-25.

6.13 The Tees Valley Unlimited Management Group has considered the geographical distribution of these new jobs. It estimates that the share of new jobs in Redcar & Cleveland will be 215 jobs per annum.

6.14 At first sight, one might expect that this aspirational growth would require more workers, and hence more population and more housing, than our preferred scenario – which shows moderate job growth and no population growth. But this view would be misguided, because the rationale of the job target is to improve the balance of the labour market and hence job opportunities for the existing population:

'*Indeed, this economic restructuring has fundamentally changed the profile of our labour market, leading to an imbalanced economy, a productivity deficit and an increasing socio-economic challenge. In fact, our economy now supports just 281,000 jobs, serving a working age population of 421,000. Furthermore, our employment rate is 6.6% below the national average, meaning that to close the gap and achieve national levels of employment we would need an additional 28,000 jobs.*

We have therefore set ambitious targets for growth in the Tees Valley. Our headline target is to achieve 25,000 new jobs (a 10% increase) in the Tees Valley over the next decade… closing the gap between national employment rates…'

6.15 The Strategic Economic Plan aims to create more jobs so that the existing population sees higher activity rates and lower unemployment – which means a more balanced labour market and hence better job opportunities. Logically it cannot be the case that these additional jobs would require additional population. Indeed if the new jobs did attract additional population, and the analysis behind the Strategic Economic Plan is correct, the existing population would not enjoy the benefits that the plan aims for.

6.16 In summary, the job target in the Strategic Economic Plan does not require population growth and housing development over and above our preferred scenario. If the SEP's job target is fulfilled, and the analysis behind it is correct, the new jobs will be filled by the existing population, through lower unemployment and increased activity rates. (If that analysis were not correct, then the job target based on that analysis would be spurious).

Conclusion

6.17 Our analysis suggests that there is no justification for a 'future jobs' uplift to the housing need figure of 132 dpa from 2015 to 2032. This conclusion is based on a 'business-as-usual' economic scenario. It also assumes that economic activity rates for the older age groups increase in future, in line with Experian's view at September 2015.

7 CONCLUSIONS

Objectively assessed housing need

7.1 Our analysis suggests that the objectively assessed need for Redcar & Cleveland in 2015-32 equals 132 dpa, equal to 2,256 net additional dwellings during the plan period. This number is based on the CLG 2012 household forecast plus a 10% 'market signals uplift'. The evidence suggests that there is no justification for a 'future jobs' uplift to the above housing need figure, using a business-as-usual economic scenario and assuming that economic activity rates for the older age groups increase in future, in line with Experian's current view (September 2015).

7.2 As well as the average annual need over the whole assessment period, the Council should consider the phasing of that need over the period. That is because for Redcar and Cleveland, unlike many other areas, the demographic projections show a very uneven rate of change, reflecting the demographic transformations discussed in Chapter 4 above. The table below breaks down the objectively assessed need into three shorter periods. For each of these shorter period, as for the whole assessment period 2015-32, the assessed need equals is derived from the CLG 2012 household projection plus a 10% market signals uplift.

Table 7.1 Phasing of OAN

	2015-20	2020-25	2025-32	2015-32
GLG 2012 households p.a. -	187	131	54	116
Dwelings p.a. CLG 2012	194	136	56	120
Dwellings p.a. objectively assessed need	213	150	62	132

Source: CLG, PBA

Policy targets

7.3 In line with the NPPF, the assessed need for 132 net new dwellings per annum should form the basis of housing provision targets in the emerging Local Plan. But in setting those targets the Council should also have regard to other considerations. Targets should only be below the OAN if there are exceptional circumstances to justify this, for example where it can be demonstrated that the area does not have a deliverable and sustainable supply of land to meet its needs in full. Alternatively targets could be set above the OAN, in order to meet cross-boundary unmet need from more constrained areas, provide more affordable housing or promote other policy objectives, such as planning for a different future population from that currently projected.

7.4 Thus, in line with the approach of some neighbouring authorities, the Council could opt for a higher aspirational housing number, above the OAN, to support social,

economic and physical regeneration. But there may be a danger that housing land across the wider area will be oversupplied against demand. If so much of the allocated land may not be developed, viability may suffer, and it may be difficult to demonstrate a deliverable five-year supply of housing land.

7.5 To avert these problems the Tees Valley authorities should assess their overall targets against the likely demand, working together under the Duty to Cooperate. As an alternative to a housing target that may be too high the Council might also consider a flexible approach, which reduces risk without abandoning ambition. For this, a minimum target would be set that is equal or close to the OAN. But the Council could identify 'reserve' sites over and above the target. Policy could say that the take-up of land against the minimum target would be monitored, and if demand proved higher than the assessed need this would trigger additional land releases, and in the final instance a review of the plan.

APPENDIX A
EDGE ANALYTICS REPORT

Redcar & Cleveland

Demographic Analysis & Forecasts

August 2015

For the attention of:
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Acknowledgements

Demographic statistics used in this report have been derived from data from the Office for National Statistics licensed under the Open Government Licence v.3.0.

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

Table of Contents

1 Introduction

Requirements

1.1 Redcar & Cleveland Borough Council has commissioned arc4 to lead on the production of an updated Strategic Housing Market Assessment (SHMA) for the borough of Redcar & Cleveland. Population and household forecasts, which give due consideration to a range of demographic, economic and policy factors, are a critical input to the derivation of the SHMA housing target.

1.2 Edge Analytics has been commissioned by arc4 to produce a suite of population, household and housing forecasts for Redcar & Cleveland, underpinned by the latest demographic inputs. This includes the latest official population and household projections from the Office for National Statistics (ONS) and the Department for Communities and Local Government (DCLG) respectively.

Approach

Official Guidelines

1.3 The development and presentation of demographic evidence to support local housing plans is subject to an increasing degree of public scrutiny. The National Planning Policy Framework (NPPF)[1] and Planning Practice Guidance (PPG)[2] provide guidance on the appropriate approach to the objective assessment of housing need.

1.4 The PPG states that the DCLG household projections should provide the *"starting point estimate of overall housing need"* (PPG paragraph 2a-015). Local circumstances, alternative assumptions

[1] http://planningguidance.planningportal.gov.uk/blog/policy/
[2] http://planningguidance.planningportal.gov.uk/blog/guidance/

and the most recent demographic evidence, including ONS population estimates, should also be considered (PPG paragraph 2a-017).

1.5 The use of demographic models, which enable a range of growth scenarios to be evaluated, is now a key component of the objective assessment process. The POPGROUP suite of demographic models, which is widely used by local authorities and planners across the UK, provides a robust and appropriate forecasting methodology (for information on POPGROUP, refer to Appendix A).

1.6 The choice of assumptions used within POPGROUP has an important bearing on scenario outcomes. The scrutiny of demographic assumptions is now a critical component of the public inspection process, providing much of the debate around the appropriateness of a particular objective assessment of housing need.

Edge Analytics' Approach

1.7 Edge Analytics has used POPGROUP v.4 technology to develop a range of demographic scenarios for the borough of Redcar & Cleveland. As the 'starting point' of this assessment, the most recent official population and household projections are considered. The 2012-based sub-national population projection (SNPP) for Redcar & Cleveland is presented, together with an analysis of the 'components of change' underlying this projection. These statistics are compared to previous estimates and to the historical data on births, deaths and migration. The most recent 2012-based DCLG household projection model is also considered, with commentary provided on the differences between this and the earlier, 2008-based, household projection model.

1.8 In line with the PPG, Edge Analytics has developed a range of demographic scenarios for Redcar & Cleveland using POPGROUP v.4 technology, for comparison with the official population and household projections. Alternative migration assumptions have been considered, as have alternative household growth assumptions.

1.9 In line with the PPG, the household growth implications of each scenario have been assessed using assumptions from the latest 2012-based DCLG household projection model. For comparison, each scenario has also been run using household-growth assumptions from the earlier, 2008-based, DCLG household projection model.

1.10 All scenarios have been run with historical data defined for the 2001–2014 period, with the forecast period extending to 2032. Scenario results are presented for Redcar & Cleveland Borough Council's 2015–2032 plan period.

Report Structure

1.11 The report is structured in the following way:

- In **Section 2**, a profile of Redcar & Cleveland is presented. This includes an historical perspective on population change since the 2001 Census, analysis of the 'components of change' from the 2012-based SNPP and commentary on the 2012-based DCLG household projection model.
- In **Section 3**, a definition of each scenario is presented and details of the demographic scenario outputs are provided.
- **Section 4** summarises the analysis and identifies a number of key issues for arc4 and Redcar & Cleveland Borough Council to consider.
- **Appendix A** provides an overview of the POPGROUP methodology.
- **Appendix B** provides detail on the data inputs and assumptions used in the development of the scenarios.

2 Area Profile

Geography

2.1 The borough of Redcar & Cleveland is located within the Tees Valley Local Enterprise Partnership (LEP), with the districts of Hartlepool, Stockton-On-Tees and Middlesbrough to the west and Hambleton and Scarborough to the south (Figure 1). The largest towns within Redcar & Cleveland are Guisborough and Redcar. Major road routes cross north-south and east-west and a rail route runs east-west.

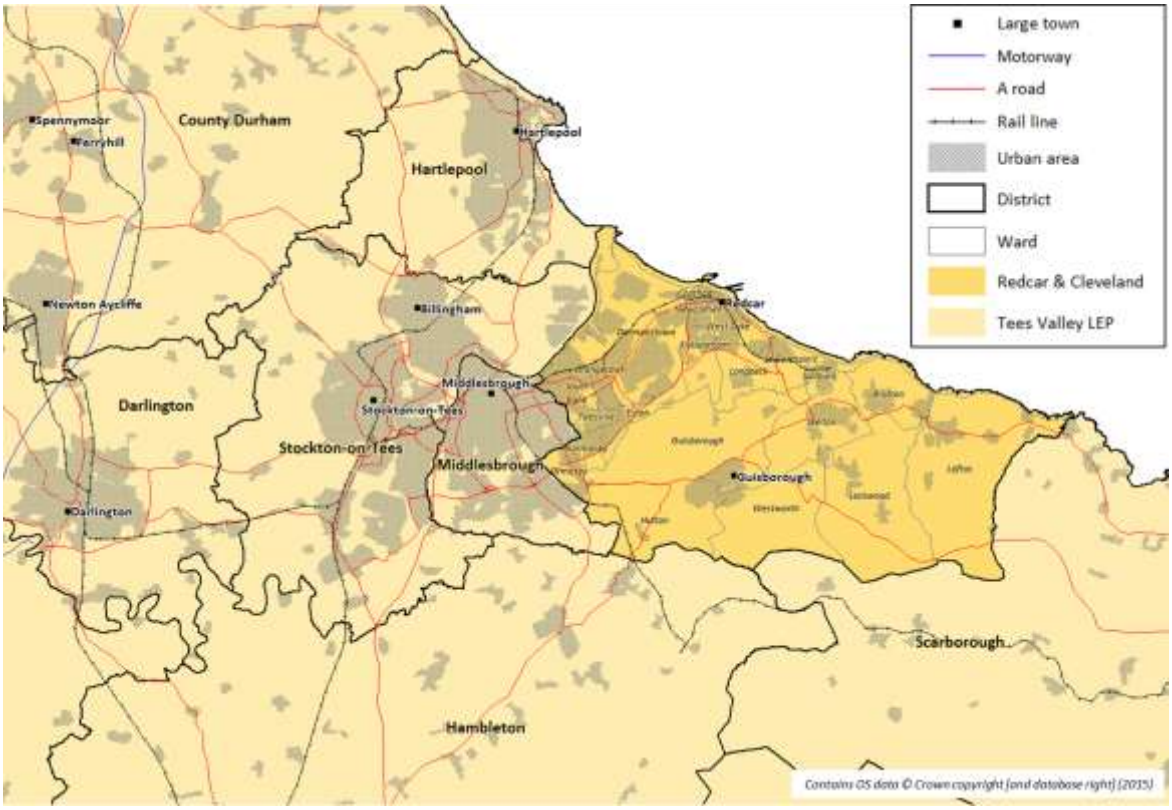


Figure 1: The borough of Redcar & Cleveland and its wider geographical context

Commuting Flows

2.2 In terms of travel-to-work commuting flows, the 2011 Census recorded 56,354 workers (ages 16–74) living in Redcar & Cleveland (Table 1) and 45,871 workers (ages 16–74) taking up jobs in Redcar & Cleveland (Table 2).

2.3 The majority of workers who live in Redcar & Cleveland (58.8%) have jobs within the district. Most of the remaining resident workers travel to jobs in the neighbouring districts of Middlesbrough (18.7%), Stockton-On-Tees (9.5%) and Hambleton (2.3%), whilst the remaining 10.7% of resident workers travel to jobs elsewhere (Table 1).

2.4 The majority of jobs in Redcar & Cleveland (72.2%) are taken by the district's resident workers. Many of the remaining jobs (11.1%) are taken by workers who live in the neighbouring district of Middlesbrough, whilst the remaining 16.7% of jobs are taken by workers who live in other districts (Table 2).

Table 1: Redcar & Cleveland 2011 Census commuting flows: workers, ages 16–74 (source: ONS)

Where do people who live in Redcar & Cleveland work?			
Live	**Work**	**Flow**	**%**
Redcar & Cleveland	Redcar & Cleveland	33,110	58.8%
Redcar & Cleveland	Middlesbrough	10,534	18.7%
Redcar & Cleveland	Stockton-on-Tees	5,374	9.5%
Redcar & Cleveland	Hambleton	1,319	2.3%
Redcar & Cleveland	Other	6,017	10.7%
	Total Workers	**56,354**	**100.0%**

Table 2: Redcar & Cleveland 2011 Census commuting flows: jobs, ages 16–74 (source: ONS)

Where do people who work in Redcar & Cleveland live?			
Live	**Work**	**Flow**	**%**
Redcar & Cleveland	Redcar & Cleveland	33,110	72.2%
Middlesbrough	Redcar & Cleveland	5,099	11.1%
Other	Redcar & Cleveland	7,662	16.7%
	Total Jobs	**45,871**	**100.0%**

2.5 Data from successive censuses reveals that the number of available jobs in Redcar & Cleveland is exceeded by the number of resident workers, resulting in a net out-commute. This imbalance has increased over the 2001–2011 decade, as the number of jobs available has increased at a slower rate than the number of resident workers (Table 3).

Table 3: Redcar & Cleveland Census travel-to-work commuting ratios, ages 16–74 (source: ONS)

Redcar & Cleveland UA		2001 Census	2011 Census
Workers	*a*	54,302	56,354
Jobs	*b*	45,659	45,871
Commuting Ratio	*a/b*	**1.19**	**1.23**

Internal Migration Flows

2.6 In terms of more permanent migration linkages between Redcar & Cleveland and surrounding areas, the largest positive average annual net exchange (higher inflow than outflow) has historically been with Middlesbrough. In terms of a net outflow exchange, the largest concentration has been between Redcar & Cleveland and neighbouring Stockton-On-Tees (Figure 2). All statistics are based upon an annual average for the 2001/02–2013/2014 time-period

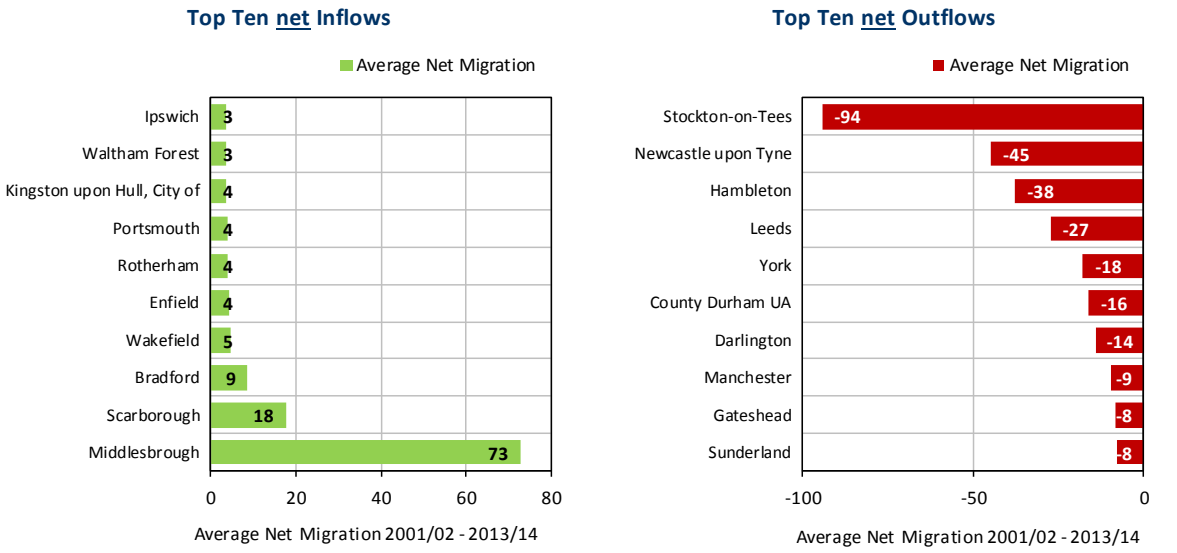
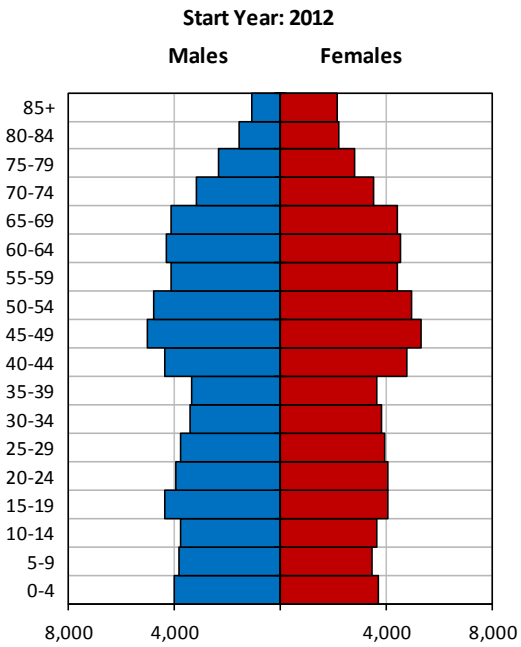


Figure 2: Redcar & Cleveland top-10 internal migration net inflows and outflows (source: ONS)

Age-structure

2.7 Using the 2012 base year of the latest ONS sub-national population projections, the age profile of Redcar & Cleveland is compared to that of the North East region and England (Figure 3).



Indicator	Redcar & Cleveland	North East (Region)	England
Aged 65+	20%	18%	17%
Aged 80+	5%	5%	5%
OAD Ratio	32	28	26
Median Age	44	42	40

OAD = Old Age Dependency Ratio
= Population Aged 65+ / Population Aged 15-64

Figure 3: Redcar & Cleveland, population age structure (source: ONS)

2.8 The resident population of Redcar & Cleveland comprises a smaller proportion of young adults (ages 15–39), compared to a more substantial proportion of older labour force age-groups (ages 40–74). The old age profile of Redcar & Cleveland is similar to that of the North East region, with 20% of the district's population aged 65+ and 5% of the district's population aged 80+. Redcar & Cleveland's old age dependency (OAD) ratio and median age statistics are higher than those of the North East and England.

2.9 The annual net impact of internal and international migration will alter the age profile of Redcar & Cleveland's population. Taking an average for the 2001/02–2013/14 time period, Redcar & Cleveland has experienced substantial net *internal* outflows in the younger 15–19 age-group, with smaller net outflows in the 10–14, 25–34 and 75+ age-groups. All other age-groups have experienced small net internal inflows.

Figure 4: Redcar & Cleveland, net internal migration flows by age, 2001/02–2013/14 (source: ONS)

2.10 Population change statistics suggest that, over the same time period (2001/02–2013/14) the net loss through internal migration has been *accentuated* by a net outflow due to international migration.

Population Change 2001–2014

Mid-Year Population Estimates

2.11 Between successive Censuses, population estimation is necessary. These mid-year population estimates (MYEs) are derived by applying the 'components of change' (i.e. counts of births and deaths and estimates of internal and international migration) to the previous year's MYE.

2.12 Following the 2011 Census, the 2002–2010 MYEs were 'rebased' to align them with the 2011 MYE and to ensure the correct transition of the age profile of the population over the 2001–2011 decade. At the 2011 Census, the resident population of Redcar & Cleveland was 135,177, a -2.9% decline over the 2001–2011 decade. The 2011 Census population total proved to be *lower* than that suggested by the trajectory of growth from the previous MYEs. For this reason, the revised final MYEs are *lower* than the previous MYEs (Figure 1).

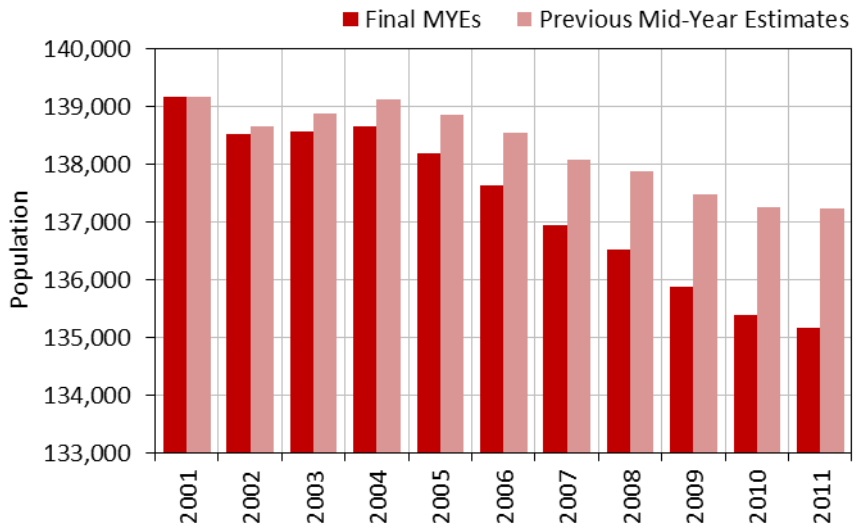


Figure 5: Redcar & Cleveland mid-year population estimates, 2001–2011 (Source: ONS)

Components of Change

2.13 The rebasing of the MYEs involved the recalibration of the components of change for 2001/02–2010/11. Between Censuses, births and deaths are accurately recorded in vital statistics registers and provide a robust measure of 'natural change' (the difference between births and deaths) in a geographical area. Given that births and deaths are robustly recorded, and assuming that the 2001 Census provided a robust population count, the 'error' in the MYEs is due to the difficulties associated with the estimation of migration.

2.14 Internal migration (i.e. migration flows to and from other areas in the UK) is adequately measured using data from the Patient Register (PR), the National Health Service Central Register (NHSCR) and Higher Education Statistics Agency (HESA), although data robustness may be lower where there is under-registration in certain age-groups (young males in particular). It is therefore most likely that the 'error' in the previous MYEs is associated with the mis-estimation of international migration, i.e. the balance between immigration and emigration flows to and from Redcar & Cleveland.

2.15 However, ONS has not explicitly assigned the MYE adjustment to international migration. Instead it has identified an additional 'unattributable population change' (UPC) component, suggesting it has not been able to accurately identify the source of the 2001–2011 over-count (Figure 6). The effect of the UPC adjustment depends upon the scale of population recalibration that has been required following the 2011 Census results. For Redcar & Cleveland, the population estimates

have been subject to a consistent annual *decrease* due to the *over*-count over the 2001–2011 decade.

2.16 For demographic analysis, the classification of UPC is unhelpful, but given the robustness of births, deaths and internal migration statistics compared to international migration estimates, it is assumed that it is most likely to be associated with the latter, unless there were issues with the robustness of the 2001 Census figure. With the assumption that the UPC element is assigned to international migration (for estimates up to 2011), and with the inclusion of statistics from the 2012–2014 MYEs from ONS, a thirteen-year profile of the 'components of change' is presented for Redcar & Cleveland (Figure 7).

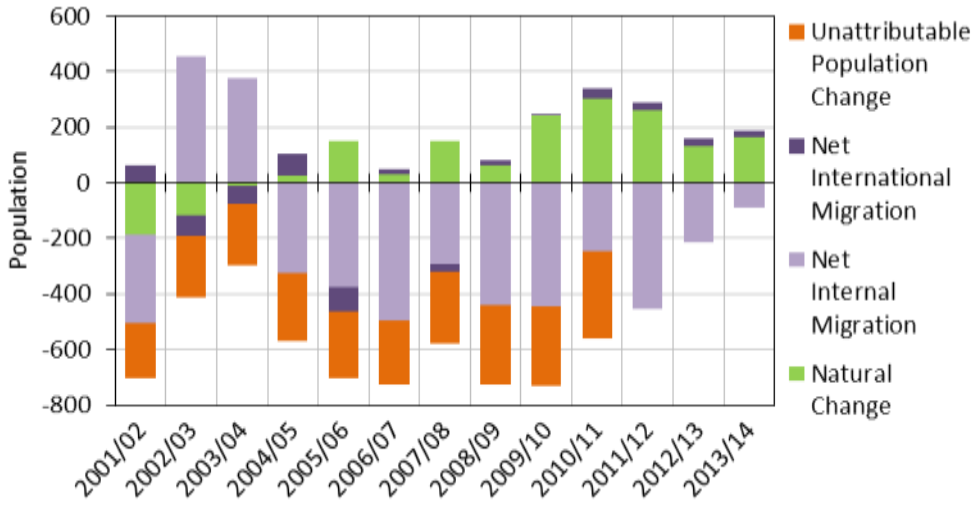


Figure 6: Redcar & Cleveland components of change, 2001/02–2013/14 (Source: ONS)

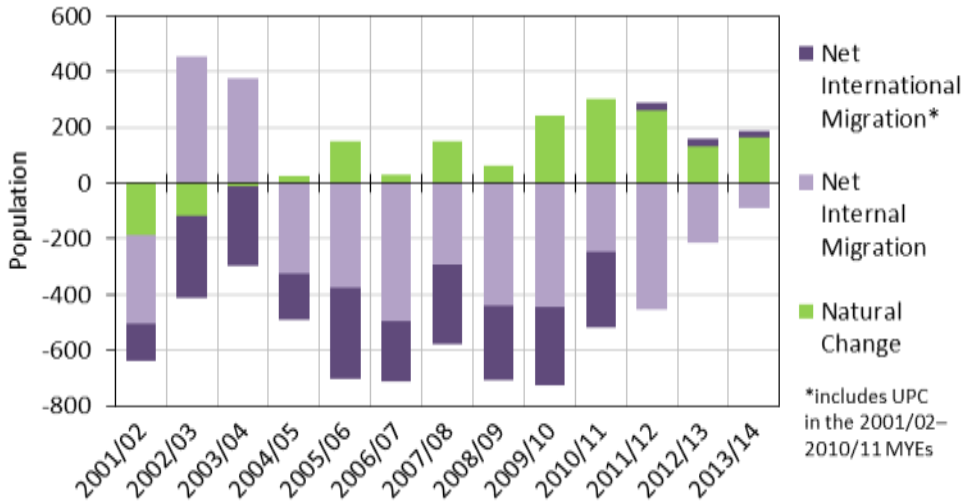


Figure 7: Redcar & Cleveland components of change, 2001/02–2013/14, including the UPC component in the 2001/02–2010/11 international migration component. (Source: ONS).

2.17 For Redcar & Cleveland, population change over the 2001/02–2013/14 period has been predominantly driven by net out-migration to elsewhere in the UK, with the number of internal out-migrants exceeding the number of internal in-migrants in all years except 2002/03–2003/04. With the exception of 2001/02–2003/04, natural change has had a positive impact upon population change in Redcar & Cleveland, with the number of births exceeding the number of deaths. Between 2001/02–2010/11, net international migration (including UPC) is estimated to have had a negative impact upon population change in Redcar & Cleveland. Since 2011/12 however, international migration is estimated to have had a small positive impact upon population change in the borough.

2.18 Population change estimates since 2011 present a slightly different picture. With no UPC adjustments to consider, annual growth has been driven by natural change and a small net immigration total. Net out-migration to elsewhere in the UK continues to counter these growth components.

Official Projections

Official Population Projections

2.19 In the development and analysis of population forecasts, it is important to benchmark any growth alternatives against the latest 'official' population projection. The most recent official subnational population projection is the ONS 2012-based SNPP, released in May 2014. These projections are based upon the 2012 MYE and use underlying demographic assumptions based on a 5-year historical period[3].

2.20 Figure 8 presents the most recent population projections for Redcar & Cleveland. Under the latest, 2012-based SNPP, the borough's population is expected to decrease by -686 over the full 2012–2037 projection period, a reduction of -0.5%[4]. This is a less substantial decline than projected under the earlier 2010-based SNPP, at -2.9% over the equivalent 2010–2035 projection period.

[3] http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2012-based-projections/stb-2012-based-snpp.html#tab-Introduction

[4] The 2012-based SNPP figures presented here are those provided by ONS in whole numbers, by single year of age, to three decimal places.

2.21 The 2012-based SNPP components of change are presented in Figure 9, with the historical components of change for 2001/02–2011/12 included for comparison. The annual average natural change, net migration (internal and international) and population change for the 2012-based SNPP are compared to the historical 5-year and 10-year averages in Table 4.

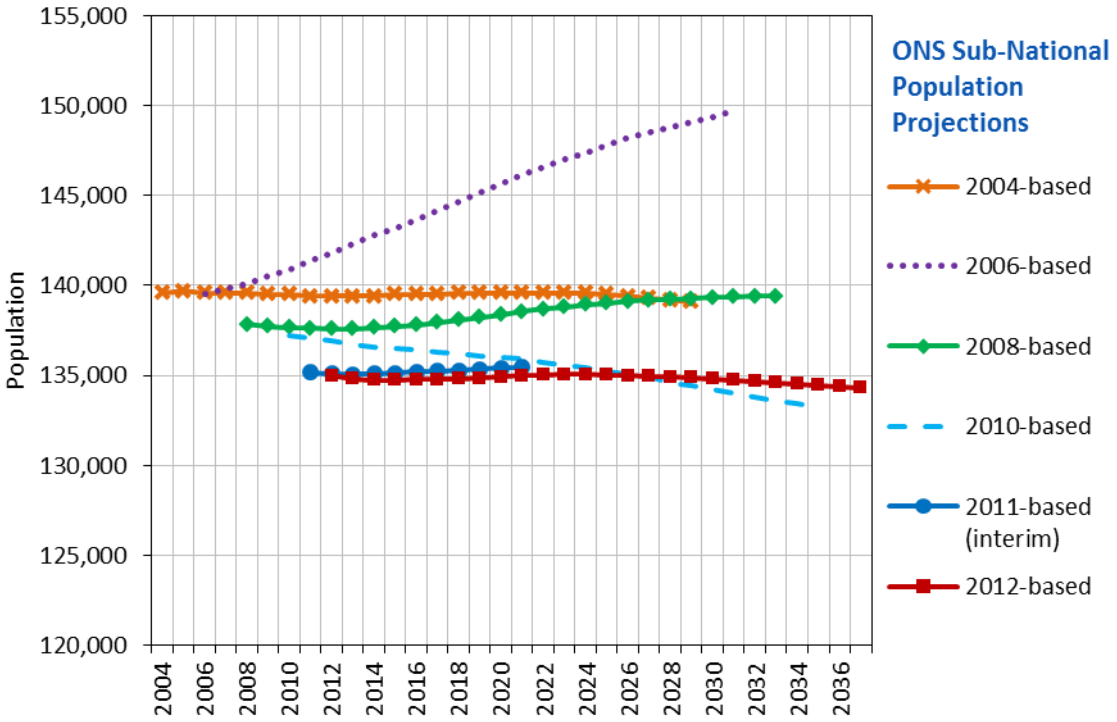


Figure 8: Redcar & Cleveland official ONS population projections (source: ONS)[5]

[5] Note that the 2011-based SNPP is an 'interim' projection and therefore only extends from 2011 to 2021.

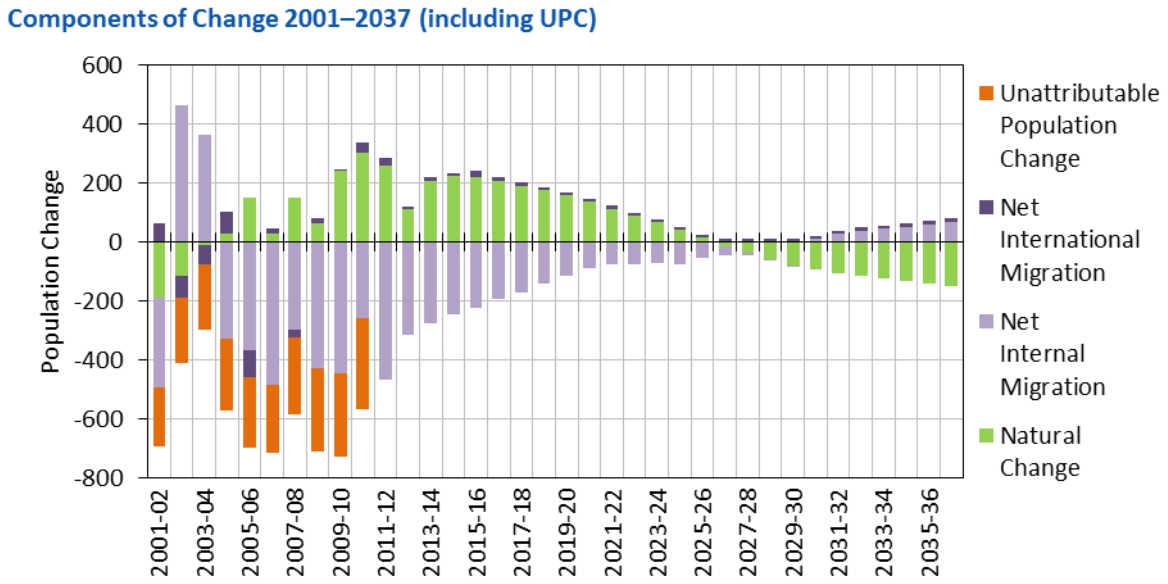


Figure 9: Redcar & Cleveland historical (2001/02–2011/12) and 2012-based SNPP components of change (source: ONS)

Table 4: Redcar & Cleveland 2012-based SNPP components of change (source: ONS)

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	203	109	36
Net Internal Migration	-379	-225	-74
Net International Migration	11	-8	11
Unattributable Population Change (UPC)*	-227	-230	-
Net International Migration Including UPC	-216	-237	11
Net Migration (Internal and International) Excluding UPC	-368	-232	-64
Net Migration (Internal and International) Including UPC	-595	-462	-64

* UPC is only applicable to the years 2001/02—2010/11

2.22 Historically, over both the 5-year and 10-year periods, net internal out-migration has been a dominant component of change. In the 2012-based SNPP, net internal out-migration is expected to continue to be an important driver of population change, but occurring at a lower rate than that suggested by the historical 5-year and 10-year average.

2.23 Natural change has been positive over the historical 5-year and 10-year periods (i.e. the number of births exceeded the number of deaths). This is expected to continue in the 2012-based SNPP, but at a lower rate than the historical 5-year and 10-year averages.

2.24 Net international migration (excluding UPC) recorded a small positive change over the historical 5-year period, compared to a small negative change over the historical 10-year period.

Official Household Projections

2.25 In the evaluation of housing need, the PPG states that the DCLG household projections *"should provide the starting point estimate of overall housing need"* (PPG paragraph 2a-015). The 2012-based household projection model, which is underpinned by the 2012-based SNPP, was released by the DCLG in February/March 2015, superseding the 2011-based interim household projection model.

2.26 The methodological basis of the new 2012-based model is consistent with that employed in the previous 2011-based interim and 2008-based household projections. A 'two-stage' methodology has been used by DCLG. 'Stage One' produces the national and local projections for the total number of households by age-group and relationship status group over the projection period. 'Stage Two' provides the detailed household type breakdown by age. Currently, only Stage One output is available for the 2012-based household projection model (refer to Appendix B for further detail).

2.27 Whilst methodologically similar to previous releases, the 2012-based household projections provide an important update on the 2011-based interim household projections with the inclusion of the following information:

- 2012-based SNPP by sex and age that extend to 2037 (rather than to 2021 as was the case in the 2011-based interim projections).
- Household population by sex, age and relationship-status consistent with the 2011 Census (rather than estimates for 2011, which were derived from 2001 Census data, projections and national trends, as used in the 2011-interim projections).
- Communal population statistics by age and sex consistent with the 2011 Census (rather than the previous estimate, which were calibrated to the total communal population from the 2011 Census).

- Further information on household representatives from the 2011 Census relating to aggregate household representative rates by relationship status and age.
- Aggregate household representative rates at local authority level, controlled to the national rate, based on the total number of households divided by the total adult household population (rather than the total number of households divided to the total household population).
- Adjustments to the projections of the household representative rates in 2012 based on the Labour Force Survey (LFS).

(Source: DCLG Methodology[6])

2.28 The official 2012-based DCLG household projection model for Redcar & Cleveland, underpinned by the relatively low growth of the 2012-based SNPP, suggests that the number of households will increase by just 2,530 over the 2012–2037 projection period, equivalent to an additional 101 households per year. The average household size is projected to decrease from 2.24 in 2012 to 2.12 by 2037. Under the earlier 2008-based model, the rate of household growth was *higher* than under the latest 2012-based model (Figure 10), at 195 households per year (2008–2033).

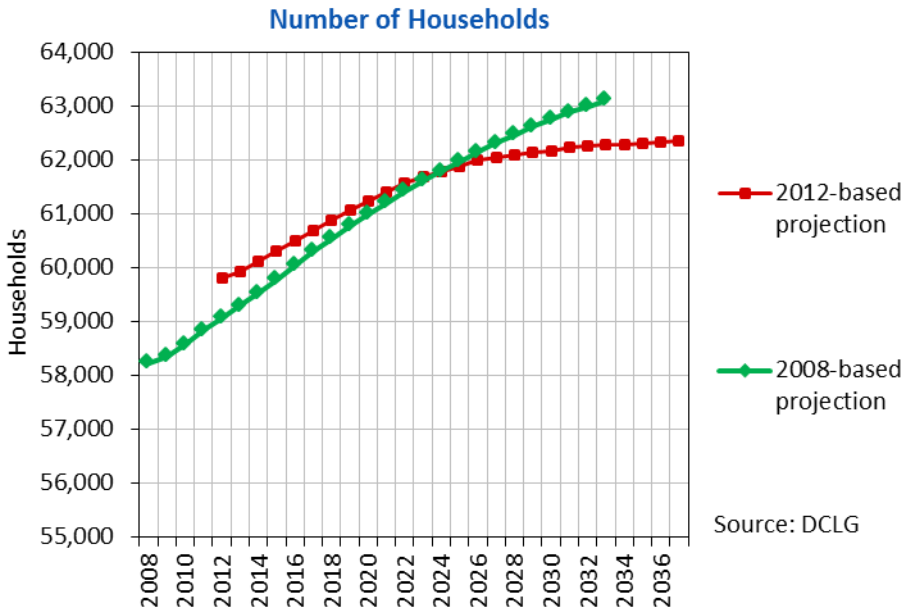


Figure 10: Redcar & Cleveland household growth under the 2012-based and 2008-based DCLG household projections (source: DCLG)

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

Starting Point Estimate

2.29 As outlined in the PPG, the official DCLG household projections provide the 'starting point' in the assessment of housing need (PPG paragraph 2a-015).

2.30 Over the 2015–2032 plan period, the 2012-based household projection model suggests an increase of 1,975 households, approximately 116 per year. Over the same time period, the 2012-based SNPP (which underpins the household projection model) projects a -0.1% decline in the population, equivalent to 82 fewer people (Table 5).

Table 5: Redcar & Cleveland 'starting point' estimates (source: ONS and DCLG)

	Variable	2015	2032	Difference (No.)	Difference (%)	Average Annual Change
2012-based SNPP	Population	134,740	134,658	-82	-0.1%	-5
2012-based DCLG Household Projection Model	Households	60,294	62,267	1,975	3.3%	116
	Household population	133,427	132,786	-641	-0.5%	-38
	Average household size	2.21	2.13	-0.08	-3.6%	0.00

2.31 As outlined in the PPG, it is appropriate to consider *"alternative assumptions in relation to the underlying demographic projections and household formation rates"* of the local area (PPG Paragraph 2a-017). Therefore, in the following sections, these 'official' projections are compared to a range of alternative demographic scenarios.

3 Scenario Development

Introduction

3.1 There is no single definitive view on the likely level of population and household growth expected in Redcar & Cleveland. Ultimately, a combination of economic, demographic and national/local policy issues will determine the speed and scale of change. Whilst the official 2012-based population and household projections form the 'starting point' of the assessment of housing need, it is necessary to evaluate a range of growth alternatives to establish the most 'appropriate' basis for determining future housing provision.

3.2 In line with the PPG, Edge Analytics has developed a range of alternative demographic scenarios for Redcar & Cleveland, using POPGROUP v.4 technology (for detail on the POPGROUP methodology, refer to Appendix A).

3.3 The 2012-based SNPP is presented as the official 'benchmark' scenario, with household growth assessed using headship rate assumptions from the 2012-based DCLG household projection model. For comparison with this official benchmark, a range of 'alternative trend' scenarios has been developed, in which varying migration assumptions have been applied. Alternative headship rates have also been applied in a 'headship rate sensitivity', to evaluate the impact of the earlier 2008-based headship rates on the scenario household and dwelling growth outcomes.

Demographic Scenario Definitions

3.4 In the following sections, the alternative trend scenarios are defined. In each scenario, household growth has been assessed using the household headship rates and communal establishment assumptions from the latest, 2012-based, household projection model. The dwelling growth

implications of each scenario have been evaluated through the application of a vacancy rate for Redcar & Cleveland[7].

Official Projections

3.5 The **SNPP-2012** scenario replicates the 2012-based SNPP from ONS. Through the application of the household growth assumptions from the 2012-based DCLG household projection model, the 'starting point estimate' for Redcar & Cleveland is provided.

Alternative Trend Scenarios

3.6 The PPG recommends, as part of the assessment of housing need, that the most recent demographic statistics from ONS and alternative demographic projections should be considered (PPG Paragraph 2a-017).

3.7 The 2012-based SNPP from ONS is a trend-based projection that draws demographic assumptions from a 5-year historical period to 2012[8]. Given the unprecedented economic changes that have occurred since 2008, and the differences between the projected 2012-based SNPP data and the historical data (see paragraph 2.22), it is appropriate to consider alternative time periods in the derivation of migration assumptions.

3.8 For these reasons, the following alternative trend scenarios have been developed:

- **PG-5yr**: internal migration rates and international migration flow assumptions are based on the last five years of historical evidence (2009/10–2013/14).
- **PG-10yr**: internal migration rates and international migration flow assumptions are based on the last 10 years of historical evidence (2004/05–2013/14).

3.9 Note that these scenarios include two additional years of historical data when compared to the 2012-based SNPP (i.e. the 2013 and 2014 MYEs). Furthermore, in both of these scenarios the UPC adjustment is *included* within the international migration assumptions.

[7] The communal population refers to the population 'not-in-households', and includes residential care homes and students halls of residence. A dwelling vacancy rate of 3.7% has been applied, fixed throughout the forecast period. Refer to Appendix B for detail on the data inputs and assumptions used.

[8] http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2012-based-projections/stb-2012-based-snpp.html#tab-Introduction

3.10 An additional trend scenario, in which zero migration occurs, has also been developed. In this **Natural Change** scenario, internal and international migration rates are set to zero from 2014/15. This scenario is hypothetical, but provides an indication of the degree to which dwelling growth is driven by migration to/from Redcar & Cleveland.

Demographic Scenario Results

3.11 Each of the demographic scenarios has been run with the historical MYEs defined for the 2001–2014 period. Scenario results are presented in Figure 11 and Table 6 for the 2015–2032 plan period.

3.12 Under the benchmark **SNPP-2012** scenario, the population of Redcar & Cleveland declines by -82 over the 2015–2032 plan period, equivalent to a -0.1% reduction. The number of households increases by +1,975, equivalent to +3.3% growth, resulting in an average annual dwelling requirement of +121.

3.13 Of the four alternative trend scenarios, population change is highest under the hypothetical **Natural Change** scenario, at +0.8% and lowest under the **PG-10yr** scenario, at -1.1%.

3.14 The alternative **PG-5yr** trend scenario suggests a *slower* rate of population decline and an *increased* rate of household growth compared to the **PG-10yr** scenario, resulting in a higher average annual dwelling requirement: +102 (**PG-5yr**), compared to +91 (**PG-10yr**). This reflects the *lower* levels of net out-migration that have occurred in Redcar & Cleveland over the more recent 5-year historical period (Figure 7).

3.15 The hypothetical **Natural Change** scenario (in which migration is set at zero in each year of the forecast period) highlights the role of migration in driving population growth in Redcar & Cleveland. Under this scenario, the slowing of population growth, followed by a gradual decline, is reflective of Redcar & Cleveland's ageing population, which has important implications for the size and structure of the resident labour force, and for the provision of housing.

Redcar & Cleveland Demographic Scenario Outcomes

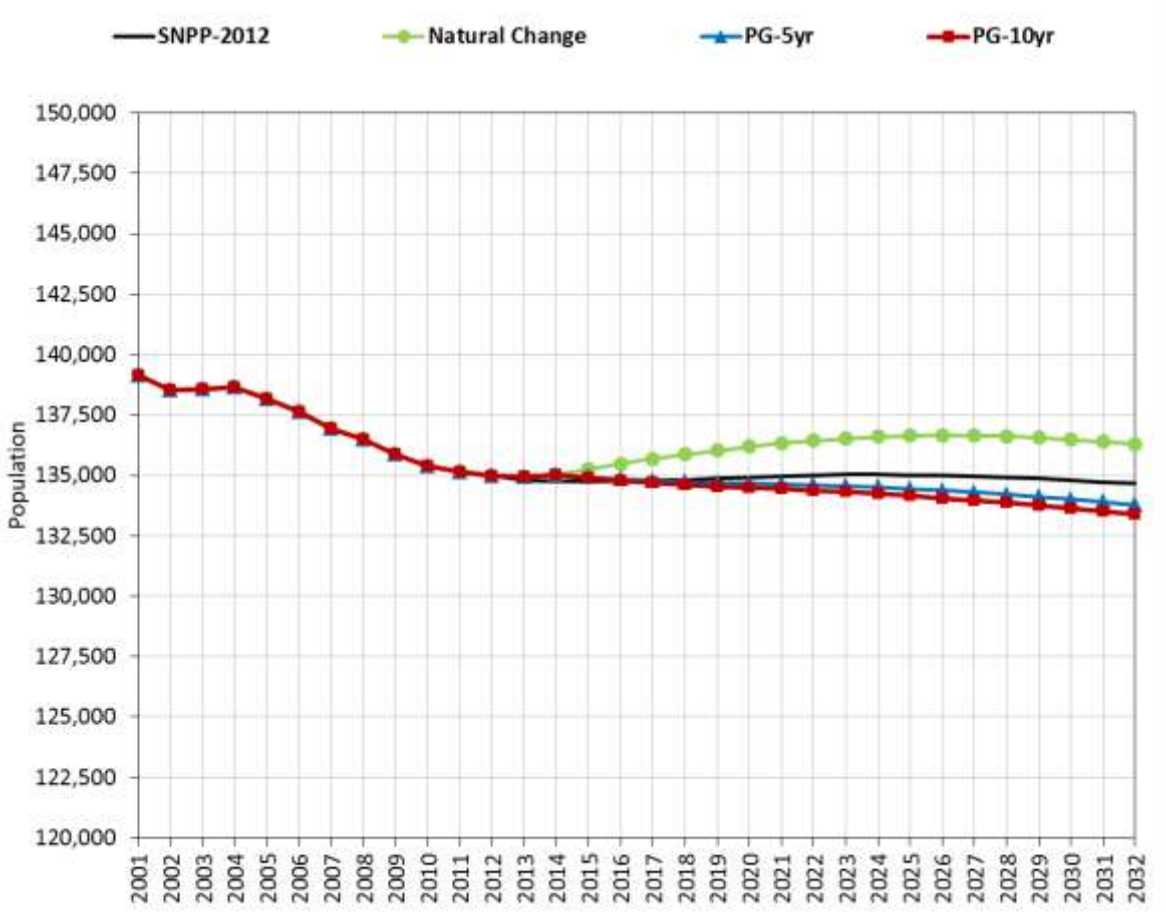


Figure 11: Redcar & Cleveland demographic scenario outcomes: population growth 2001–2032

Table 6: Redcar & Cleveland demographic scenario outcomes 2015–2032

Scenario	Change 2015 - 2032				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
Natural Change	1,027	0.8%	2,320	3.8%	0	142
SNPP-2012	-82	-0.1%	1,975	3.3%	-65	121
PG-5yr	-1,140	-0.8%	1,675	2.8%	-114	102
PG-10yr	-1,526	-1.1%	1,490	2.5%	-159	91

Note that household growth has been assessed using the 2012-based headship rates and the dwelling growth figures using a fixed 3.7% vacancy rate.

Headship Rate Sensitivity

3.16 In the four demographic scenarios presented above, household growth has been assessed using headship rate and communal population assumptions from the 2012-based household projection model. For comparison, each of the scenarios has also been run using the headship rate assumptions from the earlier, 2008-based, DCLG household projection model (Table 7).

3.17 The application of the 2008-based headship rates to each of the scenarios suggests more optimistic household formation, reflective of the different market conditions during the period from which the model was calibrated.

3.18 For the **SNPP-2012** scenario, the application of the 2008-based headship rates results in an average annual dwelling requirement of +158 for the 2015–2032 plan period.

Table 7: Redcar & Cleveland demographic scenario dwelling growth using varying headship rates

Scenario	Average annual dwelling requirement (2015–2032)	
	HH-08	HH-12
Natural Change	164	142
SNPP-2012	158	121
PG-5yr	141	102
PG-10yr	121	91

HH-08: the 2008-based DCLG headship rates are applied, scaled to be consistent with the 2011 DCLG household total but following the original trend thereafter. **HH-12:** the 2012-based DCLG headship rates are applied.

In each variant, the communal population assumptions from the 2012-based household projection model have been applied and a consistent, Redcar & Cleveland-specific dwelling vacancy rate used. Only the household and dwelling growth outcomes differ between the **HH-08** and **HH-12** variants. Population growth and net migration figures are consistent with those presented in Table 6.

4 Summary

Requirements & Approach

4.1 Edge Analytics has been commissioned by arc4 to produce a suite of population, household and housing forecasts for the borough of Redcar & Cleveland, underpinned by the latest demographic inputs and economic assumptions. This includes the latest official population and household projections from ONS and the DCLG respectively.

4.2 In line with the PPG, Edge Analytics has developed a range of demographic scenarios for Redcar & Cleveland, using POPGROUP technology. Scenarios have been produced for the 2015–2032 plan period.

4.3 The 2012-based population projection from ONS is presented as the official 'benchmark' scenario, with household growth assessed using household headship rate assumptions from the 2012-based DCLG household projection model. This provides the 'starting point' for the assessment of housing need (in line with PPG paragraph 2a-015).

4.4 For comparison with the official benchmark scenario, a range of alternative trend scenarios has been developed, in which variant migration assumptions have been applied. In addition, household growth has been assessed using assumptions from the previous, 2008-based, DCLG household model, for comparison with the 2012-based outcomes.

Dwelling Growth Outcomes

4.5 A summary of the annual average dwelling growth outcomes for the range of scenarios presented in this analysis is summarised below, for the 2015–2032 plan period (Figure 12).

4.6 The **SNPP-2012** scenario provides the benchmark against which to consider alternative growth outcomes, with a dwelling requirement of +121 per year over the 2015–2032 plan period, when the 2012-based household growth assumptions (**HH-12**) are applied.

4.7 Alternative headship rates have been applied, to evaluate the impact of the earlier, 2008-based, household growth assumptions upon each scenario outcome. In all cases, the application of the 2008-based assumptions (**HH-08**) results in a higher average annual dwelling requirement.

4.8 The **PG-5yr** and **PG-10Yr** scenarios make more explicit use of the historical evidence on internal and international migration for a 5-year and 10-year historical period (2009/10–2013/14 and 2004/05–2013/14 respectively).

4.9 Dwelling growth is lower under the **PG-10yr** scenario (+91 per year), a reflection of *higher* levels of net out-migration that occurred in Redcar & Cleveland over the extended 10-year historical period (see Figure 7). With a shorter, 5-year historical period, the **PG-5yr** scenario results in a higher dwelling growth outcome (+102 per year).

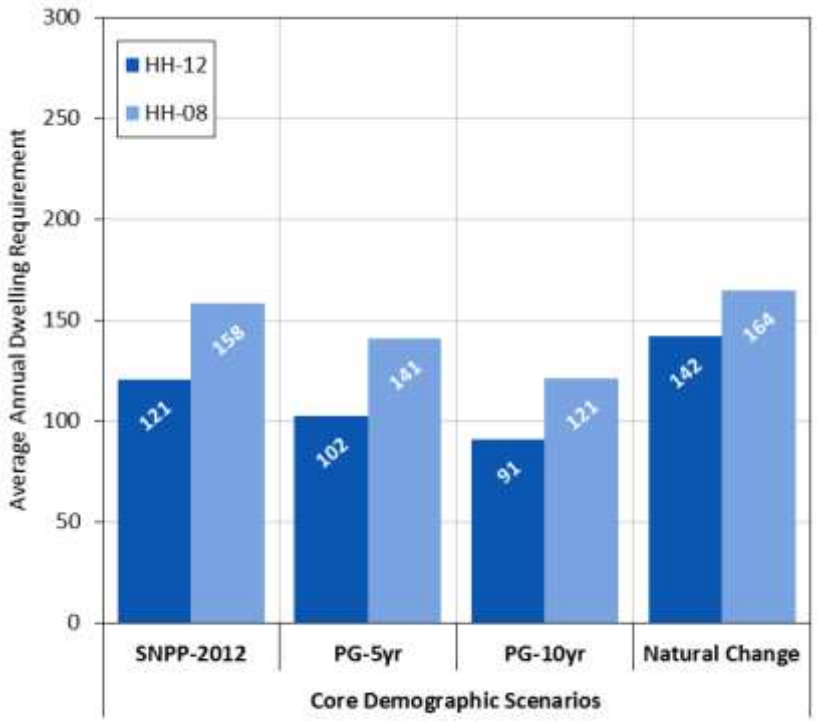


Figure 12: Redcar & Cleveland, summary of annual average dwelling growth outcomes, 2015–2032

Appendix A

POPGROUP Methodology

Forecasting Methodology

A.1 Evidence is often challenged on the basis of the appropriateness of the methodology that has been employed to develop growth forecasts. The use of a recognised forecasting product which incorporates an industry-standard methodology (a cohort component model) removes this obstacle and enables a focus on assumptions and output, rather than methods.

A.2 Demographic forecasts have been developed using the POPGROUP suite of products. POPGROUP is a family of demographic models that enables forecasts to be derived for population, households and the labour force, for areas and social groups. The main POPGROUP model (Figure 13) is a cohort component model, which enables the development of population forecasts based on births, deaths and migration inputs and assumptions.

A.3 The Derived Forecast (DF) model (Figure 14) sits alongside the population model, providing a headship rate model for household projections and an economic activity rate model for labour-force projections.

A.4 The latest development in the POPGROUP suite of demographic models is POPGROUP v.4, which was released in January 2014. A number of changes have been made to the POPGROUP model to improve its operation and to ensure greater consistency with ONS forecasting methods. The most significant methodological change relates to the handling of internal migration in the POPGROUP forecasting model. The level of internal in-migration to an area is now calculated as a rate of migration relative to a defined 'reference population' (by default the UK population), rather than as a rate of migration relative to the population of the area itself (as in POPGROUP v3.1). This approach ensures a closer alignment with the 'multi-regional' approach to modelling migration that is used by ONS.

A.5 For further information on POPGROUP, please refer to the Edge Analytics website: http://edgeanalytics.co.uk/popgroup.

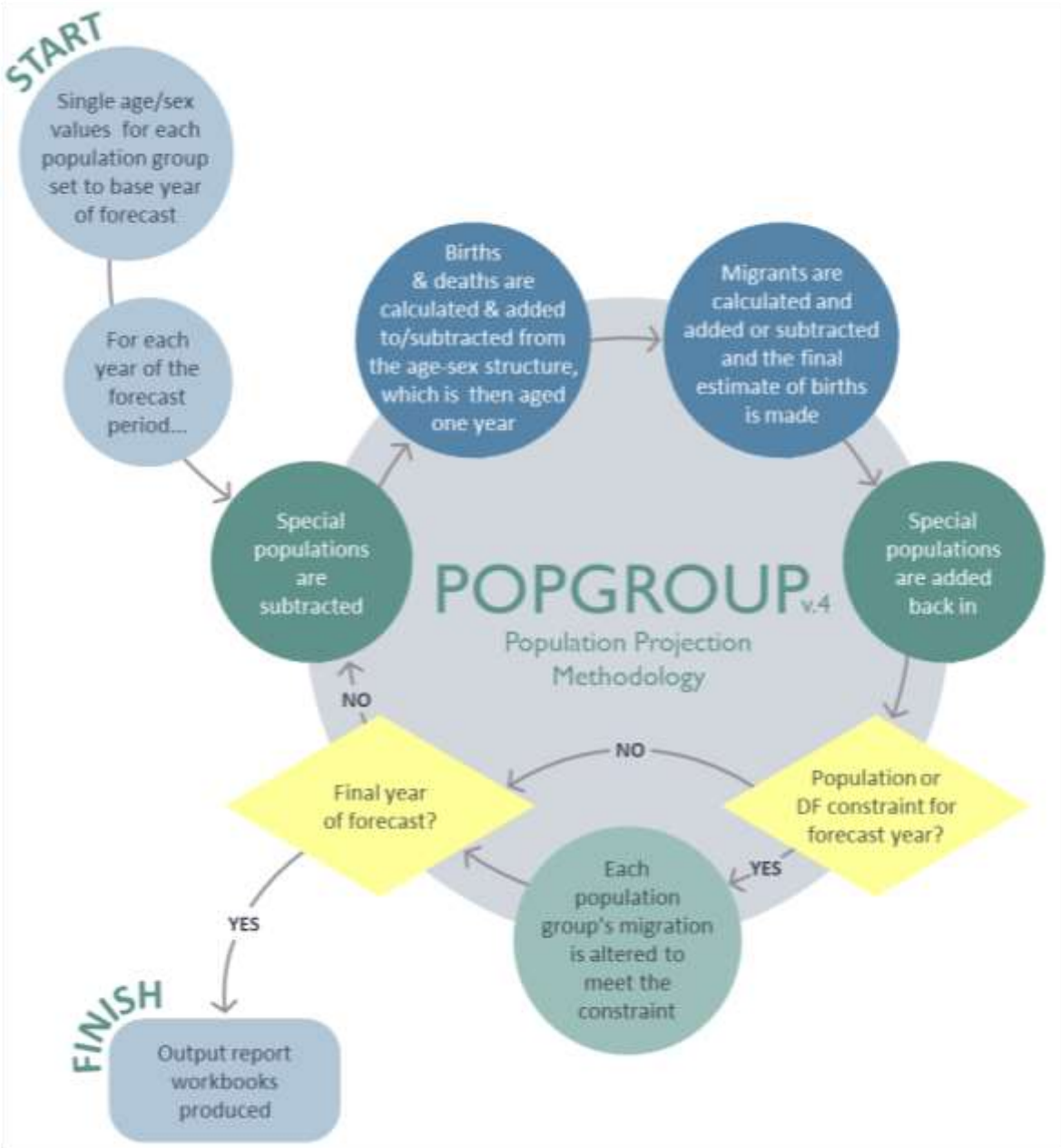
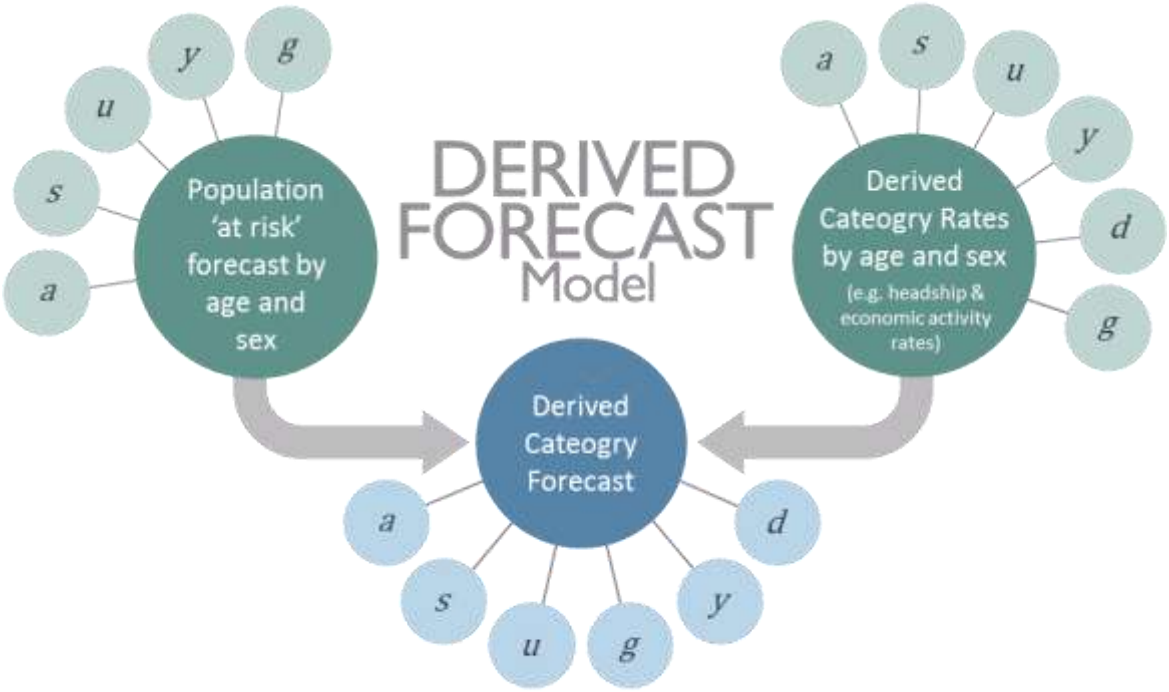


Figure 13: POPGROUP population projection methodology



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

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

Figure 14: Derived Forecast (DF) methodology

Appendix B

Data Inputs & Assumptions

Introduction

B.1 Edge Analytics has developed a suite of demographic scenarios for the borough of Redcar & Cleveland using POPGROUP v.4 and the Derived Forecast model. The POPGROUP suite of demographic models draws data from a number of sources, building an historical picture of population, households, fertility, mortality and migration on which to base its scenario forecasts.

B.2 Using historical data evidence for 2001–2014, in conjunction with information from ONS sub-national population projections (SNPPs) and DCLG household projections, a series of assumptions have been derived which drive the scenario forecasts.

B.3 A range of core demographic scenarios have been produced for Redcar & Cleveland. These are summarised in Table 8. In all scenarios, household growth has been assessed using assumptions from the 2012-based DCLG household projection model. For the official projection and alternative trend scenarios, household growth has also been assessed using assumptions from the earlier 2008-based household projection model.

B.4 In the following sections, a narrative on the data inputs and assumptions underpinning the scenarios is presented.

Table 8: Redcar & Cleveland scenario summary (see text for full descriptions of scenarios)

Scenario Type	Scenario Name	Description
Official Population Projections	**SNPP-2012**	• Replicates the 2012-based SNPP from ONS. • Official benchmark scenario. • Household growth assessed using assumptions from 2012-based and 2008-based DCLG household projection models. • Household to dwelling conversion defined using 2011 Census vacancy rate.
Alternative Trend Scenarios	**PG-5yr** **PG-10yr**	• Migration assumptions from 2014/15 onwards based on 5-year (2009/10–2013/14) or 10-year (2004/05–2013/14) historical time frame. • UPC adjustment *included* within international migration. • Fertility and mortality assumptions from 2012-based SNPP. • Household growth assessed using assumptions from 2012-based and 2008-based DCLG household projection models. • Household to dwelling conversion defined using 2011 Census vacancy rate.
	Natural Change	• From 2014/15 onwards, migration is set to zero (i.e. no migration occurs) • Fertility and mortality assumptions from 2012-based SNPP. • Household growth assessed using assumptions from 2012-based and 2008-based DCLG household projection models. • Household to dwelling conversion defined using 2011 Census vacancy rate.

Population, Births & Deaths

Population

B.5 In each scenario, historical population statistics are provided by the mid-year population estimates (MYEs), with all data recorded by single-year of age and sex. These data include the revised MYEs for 2002–2010, which were released by the ONS in May 2013. The revised MYEs provide consistency in the measurement of the components of change (i.e. births, deaths, internal migration and international migration) between the 2001 and 2011 Censuses.

B.6 In the **SNPP-2012** scenario, the historical MYEs are defined up to 2012. From 2012, future population counts are provided by single-year of age and sex to ensure consistency with the trajectory of the ONS 2012-based SNPP.

B.7 In the **Natural Change** and **PG** scenarios, the historical MYEs are defined up to 2014.

Births & Fertility

B.8 In each scenario, historical mid-year to mid-year counts of births by sex have been sourced from the ONS MYEs.

B.9 In the **SNPP-2012** scenario, historical births are defined from 2001/02 to 2011/12. From 2012/13, future counts of births are specified, to ensure consistency with the 2012-based official projection.

B.10 In the **Natural Change** and **PG** scenarios, historical births are defined from 2001/02 to 2013/14. From 2014/15, an area-specific age-specific rate (ASFR) schedule, derived from the ONS 2012-based SNPP, is included in the POPGROUP model assumptions. Long-term assumptions on changes in age-specific fertility rates are taken from the ONS 2012-based SNPP.

B.11 In combination with the 'population-at-risk' (i.e. all women between the ages of 15–49), the area-specific ASFR and future fertility rate assumptions provide the basis for the calculation of births in each year of the forecast period.

Deaths & Mortality

B.12 In each scenario, historical mid-year to mid-year counts of deaths by 5-year age-group and sex have been sourced from the ONS MYEs.

B.13 In the **SNPP-2012** scenario, historical deaths are defined from 2001/02 to 2011/12. From 2012/13, future counts of deaths are specified, to ensure consistency with the 2012-based official projection.

B.14 In the **Natural Change** and **PG** scenarios, historical deaths are defined from 2001/02 to 2013/14. From 2014/15, an area-specific age-specific mortality rate (ASMR) schedule, derived from the ONS 2012-based SNPP, is included in the POPGROUP model assumptions. Long-term assumptions on changes in age-specific mortality rates are taken from the ONS 2012-based SNPP.

B.15 In combination with the 'population-at-risk' (i.e. the whole population), the area-specific ASMR and future mortality rate assumptions provide the basis for the calculation of deaths in each year of the forecast period.

Migration

Internal Migration

B.16 In each scenario, historical mid-year to mid-year estimates of internal in- and out-migration by 5-year age-group and sex have been sourced from the 'components of population change' files that underpin the ONS MYEs. These internal migration flows are estimated using data from the Patient Register (PR), the National Health Service Central Register (NHSCR) and the Higher Education Statistics Agency (HESA).

B.17 In the **SNPP-2012** scenario, historical counts of internal in and out-migrants are defined from 2001/02 to 2011/12. From 2012/13, future counts of migrants are specified, to ensure consistency with the 2012-based official projection.

B.18 In the **Natural Change** scenario, historical counts of internal in and out-migrants are defined from 2001/02 to 2013/14. From 2014/15, future counts of internal migration are set at zero (i.e. no internal in- or out-migration occurs).

B.19 In the **PG** scenarios, historical counts of migrants are defined from 2001/02 to 2013/14. From 2014/15, future internal migration *flows* are based on the area-specific historical migration data. In the **PG-5yr** scenario, a five year internal migration history is used (2009/10 to 2013/14). In the **PG-10yr** scenario, a ten year history is used (2004/05 to 2013/14).

B.20 The relevant historical time period is used in the **PG** scenarios to derive the age-specific migration rate (ASMigR) schedules, which are then used to determine the future number of internal in- and out-migrants from 2014/15. In the case of internal in-migration, the ASMigR schedules are applied to an external 'reference' population (i.e. the population 'at-risk' of migrating into the area). This is different to the other components (i.e. births, deaths, internal out-migration), where the schedule of rates is applied to the area-specific population (i.e. the population 'at-risk' of migrating out of the area). The reference population is defined by considering the areas which have historically contributed the majority of migrants into the area. In the case of Redcar & Cleveland, the reference population comprises all districts which cumulatively contributed 70% of migrants into the Tees Valley Local Enterprise Partnership (LEP) area over the 2008/09–2013/14 period.

International Migration

B.21 In each scenario, historical mid-year to mid-year counts of immigration and emigration by 5-year age-group and sex have been sourced from the 'components of population change' files that underpin the ONS MYEs. Any 'adjustments' made to the MYEs to account for asylum cases are included in the international migration balance.

B.22 In all scenarios, future international migrant counts are specified.

B.23 In the **SNPP-2012** scenario, historical counts of migrants are defined from 2001/02 to 2011/12. From 2012/13, the international in- and out-migration counts are drawn directly from the 2012-based official projection.

B.24 In the **Natural Change** scenario, historical counts of internal in and out-migrants are defined from 2001/02 to 2013/14. From 2014/15, future counts of international migration are set at zero (i.e. no international in- or out-migration occurs).

B.25 In the **PG** scenarios, historical mid-year to mid-year counts of immigration and emigration by 5-year age-group and sex are defined from 2001/02 to 2013/14. From 2014/15, future international migration counts are derived from the area-specific historical migration data. In the **PG-5yr** scenario, a five year international migration history is used (2009/10 to 2013/14). In the **PG-10yr** scenario, a ten year history is used (2004/05 to 2013/14).

B.26 Implied within the international migration component of change in the **PG** scenarios is an 'unattributable population change' (UPC) figure, which ONS identified within its latest mid-year estimate revisions. The UPC component has been assigned to the international migration component as this is the component with which it is most likely associated.

B.27 In the **PG** scenarios, an ASMigR schedule of rates is derived from a 5-year or 10-year migration history and is used to distribute future counts by single year of age.

Households & Dwellings

B.28 The 2011 Census defines a household as: *"one person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area."*

B.29 In POPGROUP, a dwelling is defined as a unit of accommodation which can either be occupied by one household or vacant.

B.30 In all scenarios, the household and dwelling implications of the population growth trajectory have been evaluated through the application of headship rate statistics, communal population statistics and a dwelling vacancy rate. These data assumptions have been sourced from the 2001 and 2011 Censuses and the 2008-based and 2012-based household projection models from the DCLG.

Household Headship Rates

B.31 A household headship rate (also known as household representative rate) is the *"probability of anyone in a particular demographic group being classified as being a household representative"*[9].

B.32 The household headship rates used in the POPGROUP modelling have been taken from the DCLG household projection models. In all scenarios, the latest 2012-based headship rates have been applied. The core demographic scenarios have also been run using the earlier 2008-based headship rates.

B.33 The DCLG household projections are derived through the application of projected headship rates to a projection of the private household population. The methodology used by DCLG in its household projection models consists of two distinct stages:

- **Stage One** produces the national and local authority projections for the total number of households by sex, age-group and relationship-status group over the projection period. All Stage One output and assumptions for the 2012-based household projection model has been released by DCLG.
- **Stage Two** provides the detailed 'household-type' projection by age-group, controlled to the previous Stage One totals. Stage Two assumptions and output are available for the 2008-based household projection model, but have yet to be made available for the 2012-based model.

2012-based Headship Rates

B.34 In POPGROUP, the 2012-based headship rates are defined by sex, 5-year age-group and relationship status (Table 9). The rates therefore determine the likelihood of person of a particular age-group, sex and relationship status being head of a household in a particular year, given the age-sex structure of the population.

[9] Household Projections 2012-based: Methodological Report. DCLG (February 2015).

Table 9: 2012-based headship rate classification household type classification

DCLG Category	Description
Single	Not in a couple – marital status single
Couple	In a couple (whether married or cohabiting)
Previously Married	Not in a couple – marital status previously married

2008-based Headship Rates

B.35 The 2008-based headship rates in POPGROUP are defined by age-group and household type and therefore define the likelihood of a particular household type being formed in a particular year, given the age-sex profile of the population. Household-types are modelled with a 17-fold classification (Table 10).

B.36 The 2008-based headship rates are scaled to the 2011 DCLG household total, following their original trend thereafter. This does not alter the trajectory of growth implied by the household projection models; it ensures a consistent start point in the assessment of household growth.

Table 10: 2008-based household type classification

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

Communal Population Statistics

B.37 Household projections in POPGROUP exclude the population 'not-in-households' (i.e. the communal/institutional population). These data are drawn from the DCLG 2012-based household projections, which use statistics from the 2011 Census. Examples of communal establishments include prisons, residential care homes and student halls of residence.

B.38 For ages 0–74, the number of people in each age-group not-in-households is fixed throughout the forecast period. For ages 75–85+, the proportion of the population not-in-households is recorded. Therefore, the population not-in-households for ages 75–85+ varies across the forecast period depending on the size of the population.

Vacancy Rate

B.39 The relationship between households and dwellings in all scenarios is modelled using a 'vacancy rate', sourced from the 2011 Census. The vacancy rate is calculated using statistics on households (occupied, second homes and vacant) and dwellings (shared and unshared).

B.40 A vacancy rate of 3.7% for Redcar & Cleveland has been applied, fixed throughout the forecast period. Using this vacancy rates, the 'dwelling requirement' of each household growth trajectory has been evaluated.

APPENDIX B
ACTIVITY RATES – EXPERIAN NOTE

Employment Activity and the Ageing Population

by Bobby Shojai

May 2015

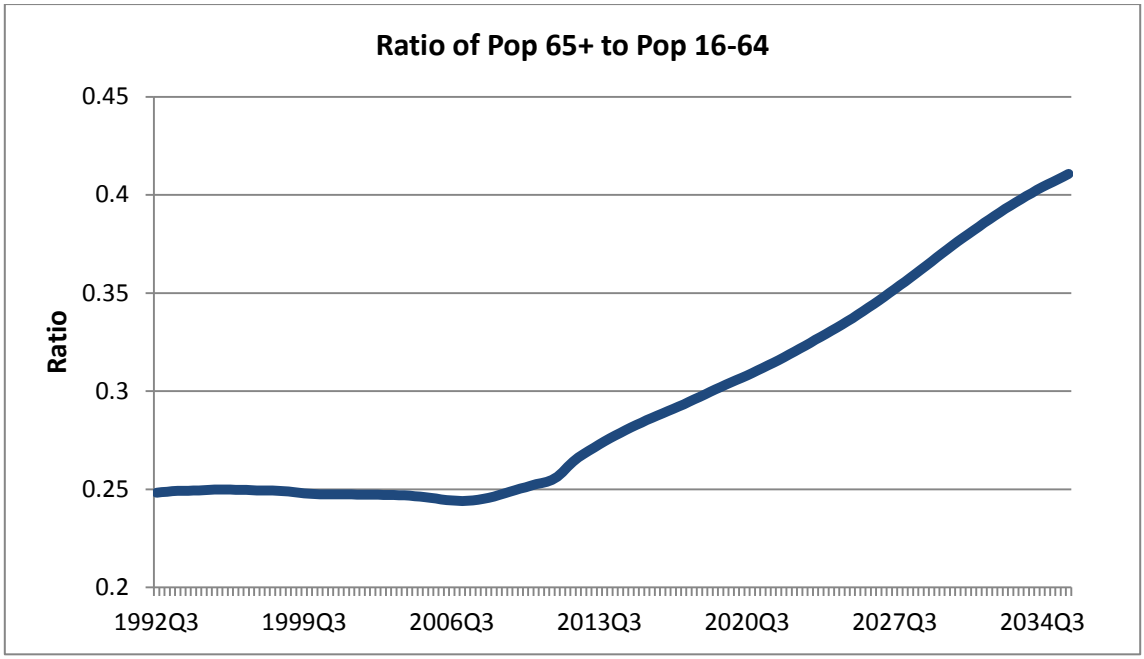
We analyse the labour market trends of the population aged 65 & over and assess the impact these will have on UK and regional participation rates

In 2035, there will be more than 17 million people in the UK aged over 65; this contrasts with around 12m in 2015. Moreover, they will make up nearly a quarter of the entire population compared with around 18% in 2015. This change in the age-composition of the population will have a significant economic impact. Older workers will make an increasing proportion of the potential labour force. In this note, we consider the impact of different labour force participation rates for older workers and explain the participation assumptions we will use in our UK suite of models beginning with June 2015.

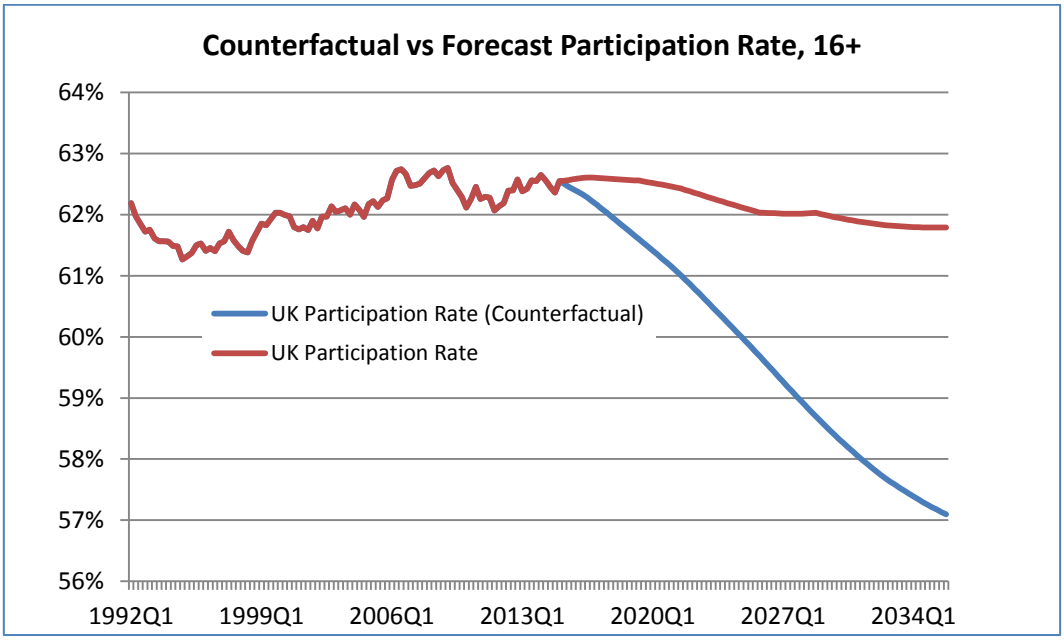
It will be convenient at this point to set out some key definitions:

- Participation Rates / Activity Rates: the proportion of the population either in employment or searching for employment
- Working Age Population: the population above the age of 15 but below the current state retirement age for their gender.
- Subnational Population Projections: population projections set out by the Office of National Statistics using 2012 mid-year population estimates.
- Labour Force Survey: survey of the employment patterns of the UK population. It provides official measures of employment and unemployment.

Over the last few years, the ageing of the population has begun to markedly change the demographic profile of the UK. According to the 2012 Subnational Population Projections, the proportion of the population aged 16 and over that was older than 65 remained at around 20% between 1997 and 2010. However, baby boomers entering retirement has caused this ratio to increase rapidly from 2011. Longer life expectancy will sustain the rising proportion, projected to reach 29% by 2035.

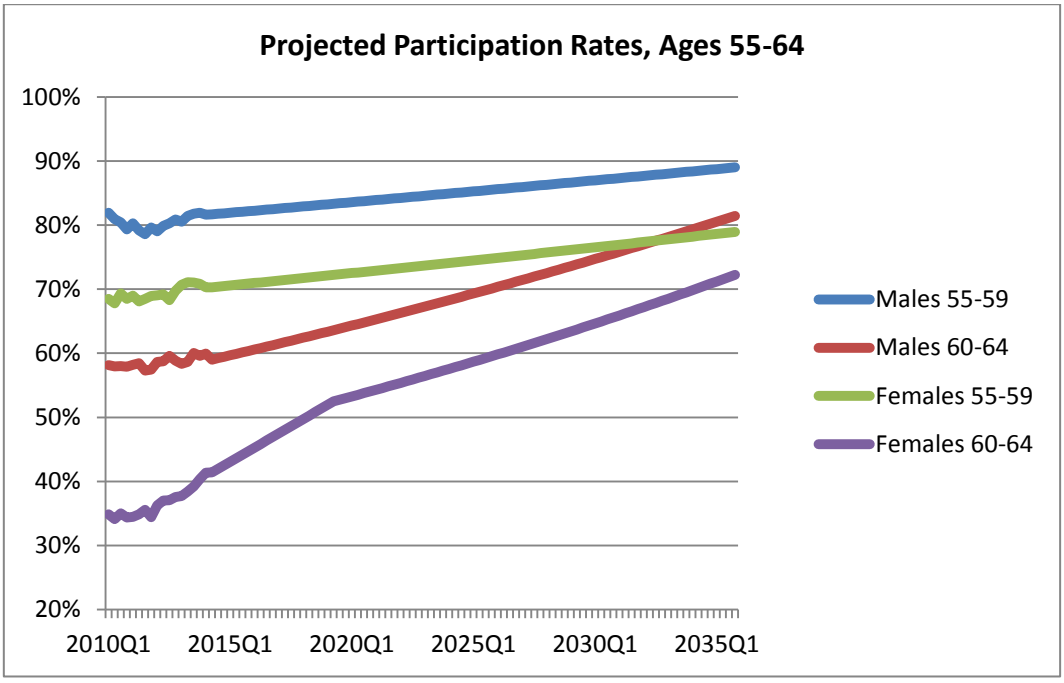


The impact of the ageing population can be seen in the participation rate chart below. The counterfactual (the blue line) is based on the assumption that older people will have the same participation rate in the future as they have in 2015. The overall participation rate for the population aged 16+ falls dramatically as older people – who have lower participation rates – make up an increasing part of the population. Such a scenario would lead to very slow labour force growth, growing at an annual average rate of only 0.19%. This would seriously limit the economic growth potential of the UK.

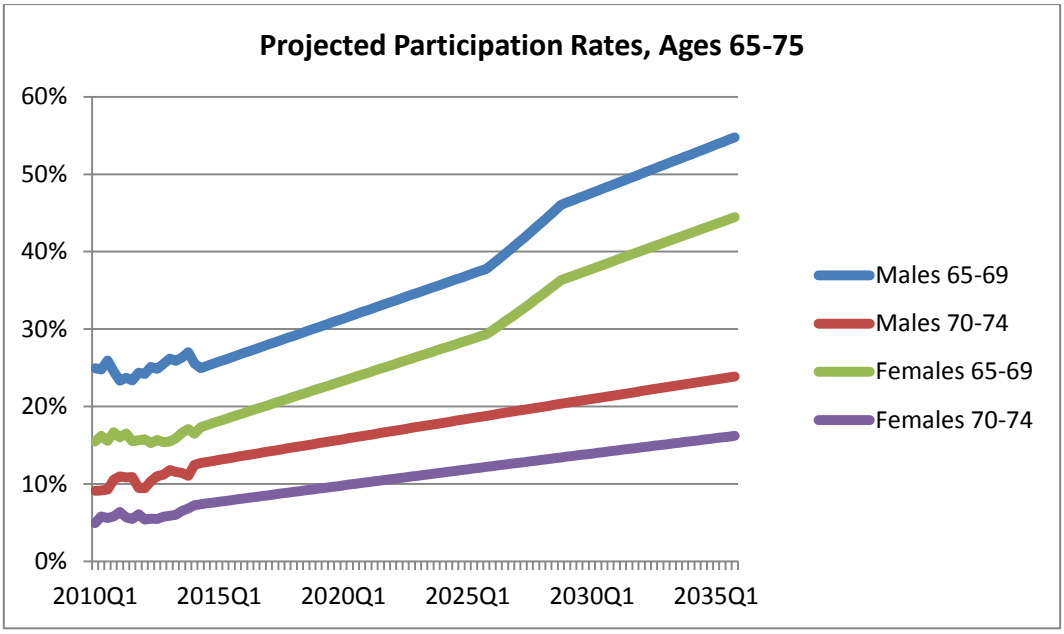


Based on our analysis of LFS economic activity rates by 5-year age bands below, we instead forecast that the overall UK participation rate will fall to just below 62%. The labour force is 8% larger than in the counterfactual scenario by the end of the forecast, reaching almost 37 million people.

We expect to see increasing participation rates across all older bands for both men and women. As the UK economy becomes increasingly service-oriented, older people are inclined to continue working. Improving health standards also mean that people are able to participate in the labour force for longer and need to build up enough savings ahead of longer retirements. The option to receive pensions as a lump sum may even leave people needing to return to the labour force at a later stage should they fail to adequately manage their finances.

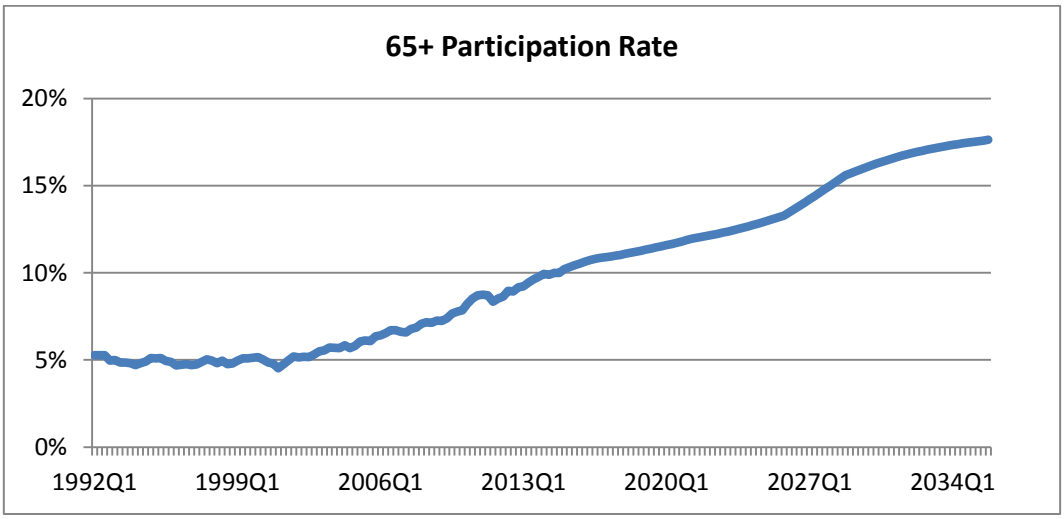


Policy changes have also begun to influence participation rates. The default retirement age has already been phased out and the State Pension Age (SPA) is gradually being increased. The SPA for women was increased from 60 to 65 in 2010. An increase in the female participation rate for those aged 60-65 can be seen in the historical LFS data from around 2011. We have forecast that the rate will grow such that the gender gap in this age band approaches the corresponding gap for the 55-59 age band. The female participation rate also grows because cohorts displace one another over time and women born in later generations have had a higher propensity to work. As the SPA for both genders reaches 67 by 2028 and health standards improve, we see fewer people leaving the labour force between the ages of 60-64. The impact of the SPA policy changes can also be seen on the 65-69 age band.

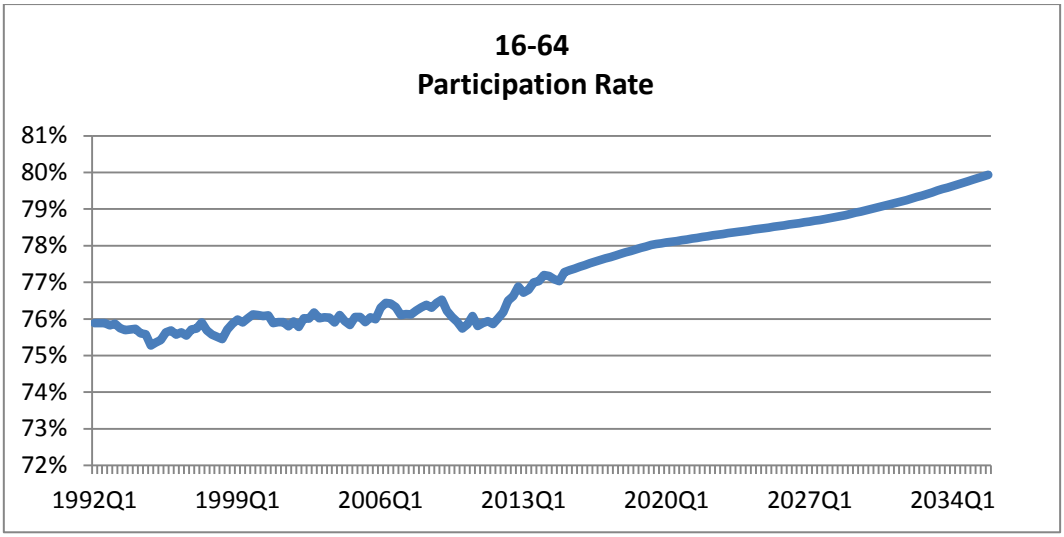


Our participation rates grow such that, by the end of the forecast, the rate for each age band by gender approaches that of the age band below at the beginning of the forecast.

There is ageing within the 65-plus population group. For example, there will be 6 times as many people over 100 by 2035 and the population older than 90 will more than double. We forecast that the overall 65-plus participation rate will increase to 18% by 2035, with growth rates fluctuating mainly due to policy changes and population growth across age bands.



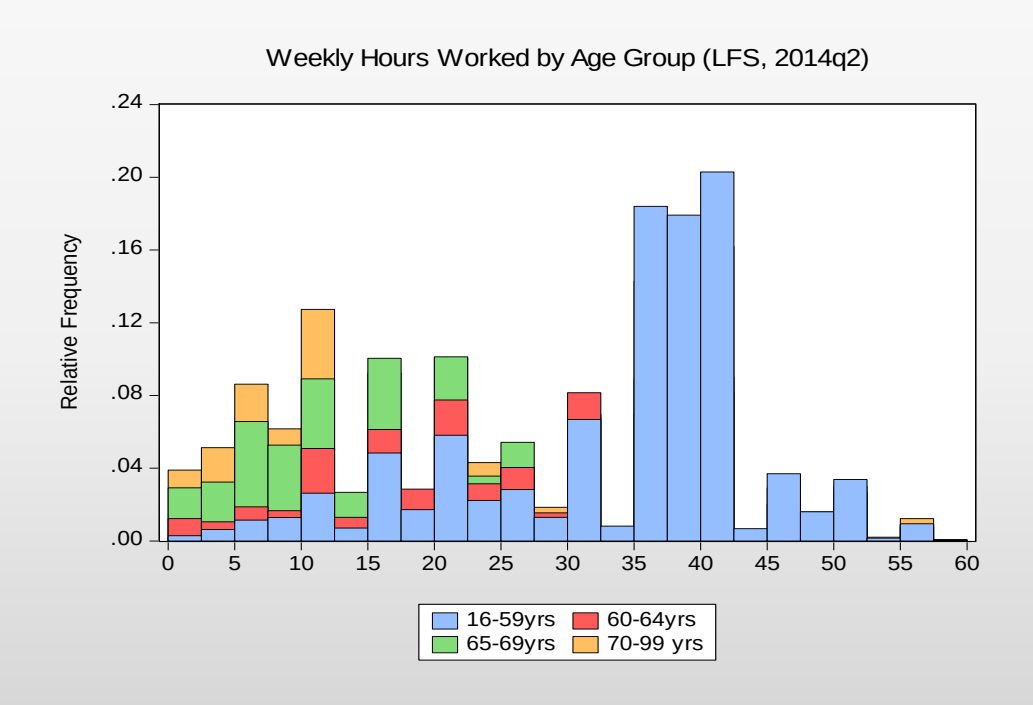
The increase in the activity rate of those aged 16 to 64 is due largely to the growing participation rate of those aged 55-59 and 60-64. It also accounts for policies designed to encourage more people to take part in the labour force.



We can apply this analysis to the regional and local level as well. The impact on our regional forecasts is that Greater London is the only area with a rising participation rate between 2015 and 2035. Greater London has the youngest population of the UK regions. By 2035 only 23% of the population in London will be 65 or over, while all other regions will see this proportion rise to above 40%.

Overall Participation Rate (%) by Region	2015Q1	2020Q1	2025Q1	2030Q1	2035Q1
UK	62.5	62.5	62.1	61.9	61.8
East Midlands	62.7	62.5	61.9	61.8	61.6
East of England	63.7	63.6	63.2	63.0	62.9
Greater London	67.2	67.8	67.9	68.1	68.2
North East	59.9	59.4	58.5	57.8	57.3
Northern Ireland	59.4	59.1	58.4	57.8	57.3
North West	61.1	61.0	60.4	60.1	59.9
Scotland	62.6	62.5	61.9	61.5	61.2
South East	64.2	64.1	63.6	63.6	63.5
South West	61.2	60.9	60.4	60.2	60.0
Wales	58.2	58.2	57.8	57.6	57.6
West Midlands	60.4	60.3	59.9	59.7	59.5
Yorkshire and The Humber	61.6	61.4	60.8	60.3	59.9

Although many more people aged 65 and over will be working over the next 20 years, the majority will be working reduced hours. The relative distribution of hours worked by age, taken from the Labour Force Survey for 2014Q2, shows that most people younger than 65 work at least 35 hours per week. When we separate the age bands of those aged 65 and over, we see that people work fewer hours the older they get. We would expect the distribution for the 65-plus population to shift towards slightly longer hours over time.



We will be implementing these revised projections in our June 2015 UK macro forecast and in our September 2015 Regional and Local Forecasts.