

# **South Gloucestershire Core Strategy**

## **Supplementary Housing Paper**

**December 2011**

## SUPPLEMENTARY HOUSING PAPER

December 2011

### 1. Introduction

- 1.1 This paper is the Council's response to the Inspector's request received in his letter of 15 August 2011 to:

*Provide a detailed breakdown of the differences in the approach to assessing and meeting housing needs between the CS and the RS and the evidence in support of the Council's position;*

- 1.2 The purpose of the paper is to demonstrate that the housing provision set out in the Post Submission Core Strategy (CS) is justified. It will explain the clear and robust reasons why other material considerations outweigh the emerging Regional Spatial Strategy (RS) as the basis for establishing the strategic housing requirement for South Gloucestershire for the period 2006-2026.
- 1.3 The Council considers that the status of the South West Regional Spatial Strategy is now limited. We consider that there are more relevant material considerations that outweigh the RS as the basis for establishing the strategic housing requirement. We have fundamentally reviewed the South Gloucestershire housing requirement set out in the various iterations of the RS with respect to demand side factors – population, housing projections and economic and job forecasts and consider there are significant grounds to challenge previous assumptions made in the RS. In addition South Gloucestershire Council strongly concludes that the RS failed to give sufficient consideration to supply side factors including environmental constraints, infrastructure and delivery, as equally key determinants of the strategic housing land requirement for the area. Consequently the Council's approach to preparing the Submission Core Strategy is considered to better reflect its objectives in relation to creating sustainable and balanced communities in accordance with the principles of localism.
- 1.4 Notwithstanding this, in response to the Inspector's concerns about ensuring sufficient flexibility in housing provision to respond to rapidly changing circumstances and the national policy context to promote economic growth, we have re-evaluated available housing provision consistent with the Plan's overall spatial strategy. To inform this work we have considered: RS evidence and changing circumstances, including the most up to date evidence on population and economic growth forecasts; and the need to provide a strategic planning framework in response to the proposed release of Filton Airfield.
- 1.5 As a result of this work we are proposing a higher housing provision of 26,400. This represents a significant amount of housing growth, which suitably supports economic growth, is deliverable while balancing the need to provide housing with the environmental and social objectives of the Council in accordance with the vision and development strategy. These proposals for housing provision are set out in the December 2011 Core Strategy Incorporating Post Submission Changes and in the supporting Sustainability Appraisal.
- 1.6 The Core Strategy has been prepared to a plan period of 2006-2026. However, due to the late major change of circumstances as a result of the announcement of the intention to release Filton Airfield, the plan will not now be adopted until 2012. This

will give less than 15 years before the end of the plan period. For the purposes of identifying a 15 year housing provision therefore, the housing distribution set out in Policy CS15 will be calculated to 2027. This will not materially affect the evidence presented in this paper. This paper should be read alongside the Strategic Green Belt Report (December 2011) and the Consequences of Development of Filton Airfield Statement (December 2011)

## **2. The status of the RS and relationship between the RS and CS**

- 2.1 Until May 2010 the higher level strategic guidance on the scale and location of future housing provision in the district was set out in the emerging South West Regional Spatial Strategy. This document provided a number of different housing scenarios during its development, up to the point in July 2008 when progress on it stalled. In May 2010, the incoming government immediately announced its intention to abolish Regional Spatial Strategies so that housing numbers and locations could be set locally. While there have been legal challenges to this approach, the Localism Act which will provide the legal framework has now received Royal Assent and it is considered that the emerging national planning policy agenda has material weight as a framework for the preparation of planning policy. This is in strong contrast with the draft RS which does not form part of the development plan, will never reach the adoption stage and consequently carries limited weight. Appendix 1 sets out the housing requirement and locations for development at each stage of the RS and CS.
- 2.2 Furthermore the Council considers that the amount and locations for development identified in the RS are not justified by the evidence base or Sustainability Appraisal (SA). As a result the RS proposals are considered by South Gloucestershire Council to have unacceptable impacts in relation to Green Belt, environmental constraints, transport infrastructure and sustainable communities. This diminishes the weight that any current decision maker should place in the RS and its SA evidence base to justify the strategic housing requirement for South Gloucestershire.
- 2.3 To illustrate this position and recognising that the RS Panel Report which allocated 30,800 dwellings to South Gloucestershire is the only version of the document which has been tested through examination, there remains the highly significant issue that the locations and numbers that the Panel Report RS relied on to deliver this growth were not subject to SA. The Government Office for the South West commissioned additional SA work in the light of a High Court Judgement to the East of England RS in May 2009 which delayed the publication of the RS. The Council considers that this fundamentally undermines the weight which can be given to the RS Panel Report with regard to the locations and amount of development in South Gloucestershire.
- 2.4 The RS evidence base in respect of the level and locations for development in South Gloucestershire cannot therefore be claimed to be sound. Furthermore, circumstances have changed since work was abandoned on the RS in 2008 in particular in relation to economic growth, infrastructure delivery and national policy. Therefore its significance in determining the housing requirement for South Gloucestershire, when weighed against more recent evidence is greatly diminished.

## **3. Assessing the housing requirement – a locally derived strategy**

- 3.1 In determining the long term housing requirement for an area, Planning Policy Statement 3 – Housing, para 33 advises that a number of factors must be taken into account. Future needs are estimated through forecasting growth in population and households and in economic and job growth projections for the area. In addition Local Strategic Housing Market Assessments identify the need for affordable housing. These forecast demand side pressures then need to be balanced with supply side issues. These include the requirement to take account of the views of local communities, protect environmental assets and ensure that housing development is sustainable, deliverable and that necessary infrastructure is in place. During the early stages of the development of the Core Strategy this process was undertaken through the RS. In future the Council will set its own locally derived housing requirement as a result of the abolition of the regional strategies through the Localism Act which is expected to come fully into force by April 2012

3.2 In practice each of the various strands of evidence points to a different level of housing provision. Unlike the RS process, the Council does not consider it appropriate to give particular or pre-determined weight to any one source of evidence. In determining the Core Strategy housing requirement all relevant factors have to be taken into account and a judgement made as to an appropriate provision for the area which is justified, realistic and deliverable. The section below sets out how each element of housing requirement justification was determined in the RS and the CS and where the CS evidence base has justified a departure from the RS.

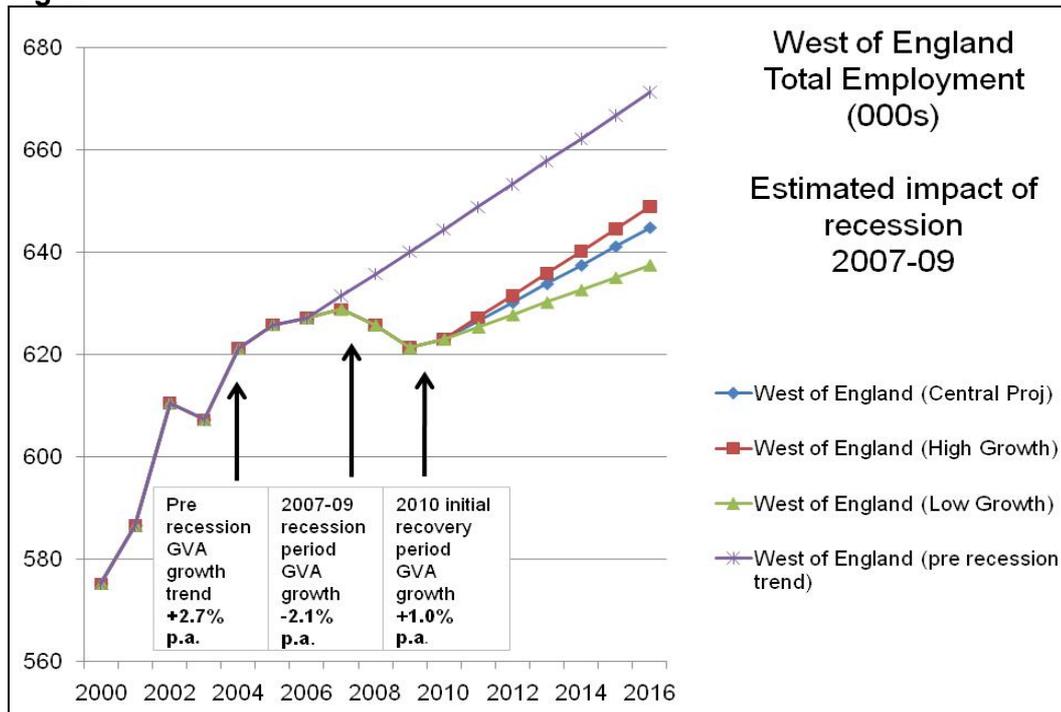
#### **4. Economic and employment growth as the basis for assessing housing need in the RS and Core Strategy**

- 4.1 Evidence prepared for the Draft South West RS in 2005/6 produced an economic growth projection for the South West region of 2.8-3.2% GVA pa for the plan period<sup>1</sup>. It was assumed that the Strategically Significant Cities and Towns (SSCTs), including the West of England (WoE), would reach growth levels nearer the top end of this range. The Draft RS and Panel Report recognised that this level of growth represented an aspirational target for economic growth at or above existing rates. This reflected the ambitions for growth set out in the South West Regional Development Agency's Economic Strategy (Regional Economic Strategy for South West England 2006-15, Table 3) despite the fact that evidence was already emerging that growth was slowing in the light of oil and resource price rises (Draft RSS Section 2 p26 Panel Report para 0.23 page 4).
- 4.2 Using this range of economic growth projections, modelling for the RS produced a projection for job growth in the WoE sub-region of between 94,600 and 116,800 new jobs from 2006-2026 (Table 1 column A). This projected level of job growth, underpinned the Draft RS housing requirement for the WoE of 92,000 dwellings of which 23,000 were to be provided in South Gloucestershire.
- 4.3 These economic projections were tested at the EIP in 2007. Significantly, the Panel Report and Proposed Changes versions of the RS did not revise (up or down) this range of economic growth or job projections. For consistency, the Panel made the decision to use the upper level of job growth in its calculation of housing requirements for the SSCTs, rather than the lower level used for the Draft RS (RSS Proposed Changes p20).
- 4.4 The justification given for the significant uplift in the number of houses in the Panel Report and Proposed Changes was in terms of meeting the need arising from projected, trend based, population increases and the then strategic top down, target based, policy context for a step change in housing provision. This approach was driven by centralised policy making rather any anticipation of growth in employment above Draft RS levels or consideration of issues relating to the impact or deliverability of growth. Given that economic growth and job projections were not reviewed by the Secretary of State the council's view is that this did not comprise a sound or robust evidence based approach.
- 4.5 Notwithstanding this, as a result of the recession of 2008/9 and subsequent and on-going global economic downturn the reality has been that economic growth rates achieved during the first five years of the plan period have been much lower than RS projections. This has resulted in a reduction in potential job growth as illustrated in Fig 1. This shows that the lower growth rates experienced between 2007 and 2010 have put future employment growth on to a lower trajectory than would have been experienced if the West of England pre recession trend had continued throughout the plan period. As a result, even if previous RS levels of economic growth are assumed to be achievable for the remaining plan period, the amount of job growth generated by 2026 will be considerably lower than the level predicted by RS evidence. This requires policy makers to take a more realistic view than simply adopting housing provision based on RS projected economic and employment growth levels

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<sup>1</sup> **THE SOCIAL AND ECONOMIC EVIDENCE REVIEW DRAFT RS: THE TECHNICAL CASE BEHIND THE HOUSING NUMBERS** – Appendix 1 - [http://southwest-ra.gov.uk/media/SWRA/Assembly%20Papers/10th%20March%202006/PaperF\\_Appendix1\\_.pdf](http://southwest-ra.gov.uk/media/SWRA/Assembly%20Papers/10th%20March%202006/PaperF_Appendix1_.pdf)

**Fig 1:**



- 4.6 New evidence prepared to support the Core Strategy is shown by Figure 1. This is based on further growth projections which have become available since the EIP. The advantage of these new projections is that they modify the RS job growth projections to take into account these “lost” years of growth. An independent study (Justification for the Strategy for Housing to 2026 EB21) produced for the Council considered the evidence from the available updated forecasts. This concluded that this evidence results in an estimated range of 13,700 to 21,900 additional new jobs in South Gloucestershire to 2026 illustrated in Table 1 (column B).
- 4.7 The stronger trend growth scenario of the recession adjusted economic projections assumes that the rates of economic growth anticipated by the RS and Regional Economic Strategy (an average of 2.7% growth in GVA p/a) will be reached during the remainder of the plan period and that this would result in 21,900 new jobs. It is acknowledged that the assumptions on future economic growth are at the lower end of the RS growth forecasts. However, in the current economic circumstances they are ambitious and are in line with pre-recession economic performance. Updated economic forecasts which inform the CS locally derived housing requirement are therefore consistent with the RS expectations for optimistic, long term, economic and employment growth, whilst taking into account the actual growth achieved in the first five years.
- 4.8 Furthermore, to make up for the “lost” years of economic growth up to 2011 and reach the job totals projected by RS to be achieved by 2026 would require rates of GVA growth of 4% pa for the remainder of the plan period. This is significantly higher than the most ambitious growth levels put forward by any economic forecasts. This is therefore, discounted as a sound basis on which to base the strategic housing requirement for South Gloucestershire.

Table 1: Comparison between dRS based projections, Oxford Economics projections & modified Cambridge Econometrics (CE) projections (equivalent scenarios)

UK Economic growth scenario 2011-26 Total employment ('000 jobs)	(A) CE dRS projections (January 2008)		(B) Recession adjusted CE dRS projections		(C) Oxford Economics Scenarios (June 2010)		(D) Modified Oxford Economics Scenarios	
	Change 2006-26	% Change 2006-26	Change 2006-26	% Change 2006-26	Change 2006-26	% Change 2006-26	Change 2006-26	% Change 2006-26
<b>South West</b>			(000's)		(000's)		(000's)	
Central Forecast	~	~	218.4	8.36%	296.9	11.31%	296.9	11.31%
Stronger Trend Growth	~	~	273.9	10.48%	441.5	16.81%	441.5	16.81%
Weaker Trend Growth	~	~	135.7	5.21%	205.3	7.82%	205.3	7.82%
Pre-Recession Trend (mid point RES/RS range SW average 2.8% pa GVA)	364.9	13.96	~	~	~	~	~	~
Higher Pre-Recession RES/ RS range SW average 3.2%pa GVA	464.0	17.76%	~	~	~	~	~	~
<b>West of England Partnership</b>								
Central Forecast	~	~	53.8	8.59%	73.7	12.83%	73.7	12.83%
Stronger Trend Growth	~	~	67.5	10.76%	108.6	18.90%	108.6	18.90%
Weaker Trend Growth	~	~	33.4	5.34%	53.6	9.32%	53.6	9.32%
Pre-Recession Trend (mid point RES/RS range SW average 2.8% pa GVA)	<b>94.6</b>	15.08%	~	~	~	~	~	~
Higher Pre-Recession RES/ RS range SW average 3.2%pa GVA	<b>116.8</b>	18.62%	~	~	~	~	~	~
<b>South Gloucestershire</b>								
Central Forecast	~	~	<b>18.6</b>	11.8%	28.9	19.52%	12.0	8.07%
Stronger Trend Growth	~	~	<b>21.9</b>	14.0%	38.6	26.03%	20.7	14.00%
Weaker Trend Growth	~	~	<b>13.7</b>	8.7%	23.9	16.10%	7.6	5.09%
Pre-Recession Trend (mid point RES/RS range SW average 2.8% pa GVA)	29.1	18.54%	~	~	~	~	~	~
Higher Pre-Recession RES/ RS range SW average 3.2%pa GVA	37.7	24.01%	~	~	~	~	~	~

- 4.9 In coming to this position, it is recognised that the West of England LEP, of which the council is an active partner, is seeking to achieve ambitious levels of economic growth for the area to 2030. The Draft West of England Local Economic Assessment (LEA) produced for the LEP uses the Oxford Economics 2010 central scenario of 3.3% GVA growth pa. This projects an additional 29,600 jobs for South Gloucestershire to 2030. However, and significantly the LEA comments that this assumes consistent levels of growth year on year and that more realistic methodologies taking into account fluctuations in growth year on year would result in much lower average growth (2.8% GVA pa).
- 4.10 Moreover, the Council's independent study (Appendix 2 and Justification for the Strategy for Housing to 2026 EB21) describes in some detail why it is considered that the Oxford Economics 2010 projection produces an unrealistically high employment growth forecast for South Gloucestershire compared to the West of England. The projection is based on modelling at a national level and has resulted in a very high and un-realistic projected growth in business services. By contrast the Cambridge Econometrics employment growth figures are more appropriate as they do not include this statistical bias.
- 4.11 The West of England LEA also specifically acknowledges that

*".. It should be noted that individual UAs' have, in preparing their Core Strategies considered locally derived growth rates for sustainable economic growth. Consequently these may be considered more realistic and deliverable than the potential higher growth rate identified by Oxford Economics. In addition the Core Strategies are also informed by the need to balance growth alongside local objectives, taking account issues such as housing supply and environmental capacity, availability of sites, infrastructure and environmental issues, support for regeneration, and the need to improve self containment and reduce out-commuting." Draft West of England LEA Nov 2011 para 3.65.*

### **Conclusion**

- 4.12 The Council duly recognises the ambitious levels of economic growth envisaged by the RS but considers that the evidence underpinning the Draft RS is of limited weight given that it was collected and prepared at a time of greater economic buoyancy. The RS evidence has since been over-taken by events, during which there has been a period of sustained lower economic growth. The local evidence base used by South Gloucestershire Council takes account of more up-to-date assessments, unavailable at the time, which reflect the actual impact of these economic circumstances, whilst continuing to plan for pre-recession levels of growth for the remainder of the plan period. It uses a similar approach to that which informed the Draft RS prepared by the Regional Assembly. Therefore, the Council considers that the locally derived figure for job growth of up to 21,900 is robust and based on up-to-date and reliable information.
- 4.13 The Post Submission Changes CS provides a prudent level of flexibility in the amount of employment land required for this job growth. It also provides flexibility in the provision of housing land for the anticipated demand resulting from growth in jobs. Therefore we are confident that the approach taken by the South Gloucestershire CS will support the economic vitality of the sub-region.

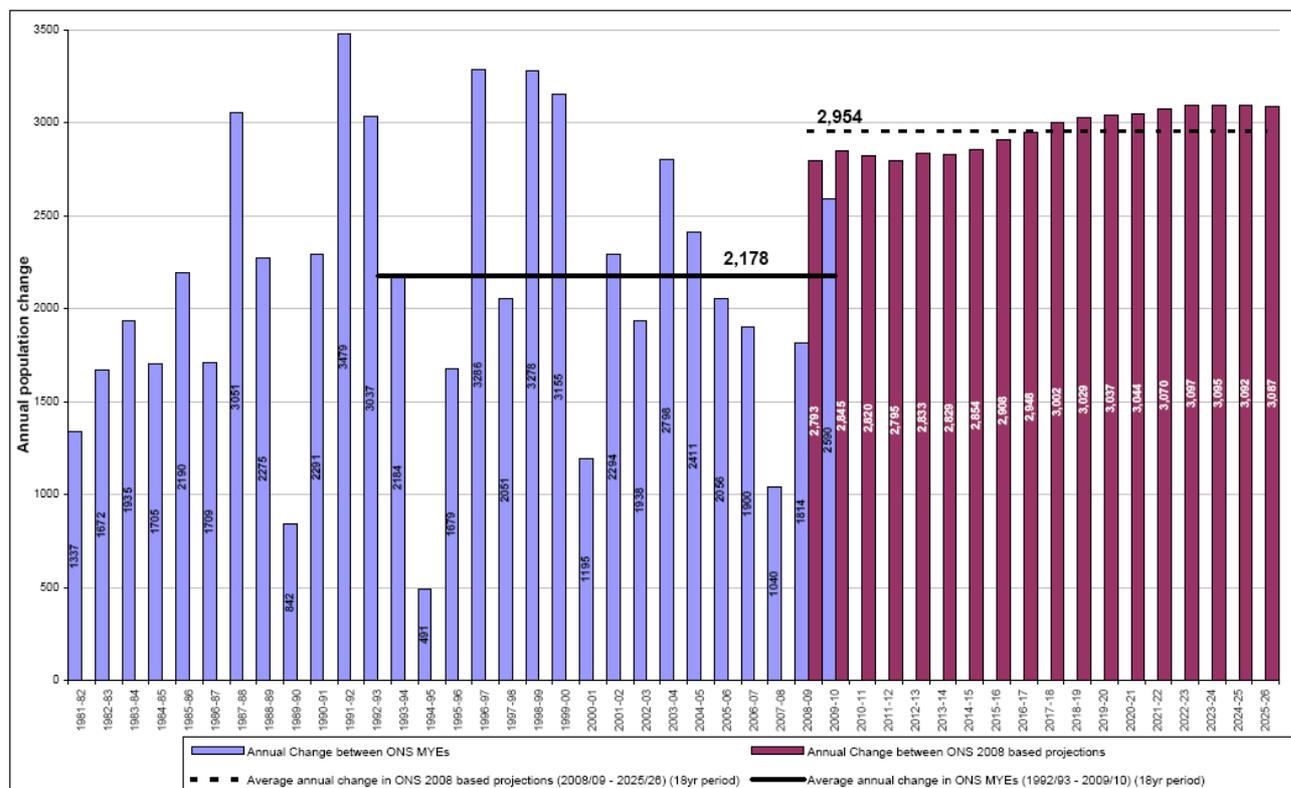
## **5. Population Forecast Basis for Determination of Housing Requirement in RS and CS**

- 5.1 The evidence for Draft RS housing requirement was the result of an exercise carried out in 2005. This took into account various strands of evidence including; migration driven population growth and estimates of unmet housing need, as well as the RDA's ambitious economic growth projections. This resulted in a housing requirement for South Gloucestershire of 23,000.
- 5.2 Following publication of the draft RS in 2006, the Regional Assembly considered the implications of the DCLG 2003 based household projections which indicated a need to accommodate higher levels of households per annum. This was supported by recommendations from the newly formed National Housing and Planning Advice Unit (NHPAU). This evidence was considered by the EIP Panel in 2007 and supported their recommendations to uplift housing numbers in South Gloucestershire to 30,800.
- 5.3 The Proposed Changes RS then added a further 2,000 dwellings as a result of the additional and entirely trend based figures, from the later round of 2004 based sub national household projections, responding to the then government's top down and target driven strategic housing agenda. While this was a decision made by the then Secretary of State, South Gloucestershire Council notes this was completely without any further justification or SA evidence to support this approach.
- 5.4 South Gloucestershire strongly objects to the emphasis placed by the RS housing allocations (both at Panel and Proposed Changes) on population projections. The ONS population projections do not represent a need but a trend, and may not always be the most relevant indicator of long-term trends. As such, the Council considers that such projections need to be treated with caution in order not to simply reinforce the patterns of the past. The West of England vision does not propose that the past high levels of growth in South Gloucestershire are continued into the future. Furthermore the Council considers that reliance on trends is contrary to the principles of localism.
- 5.5 In line with the Government's approach to locally derived housing requirements, the Council while recognising the need for significant levels of housing growth, has now placed weight on the locational implications of the higher levels of growth which it considers would have unacceptable impact on the Green Belt, infrastructure and environmental assets and would undermine efforts to create more mixed, balanced and sustainable communities. The Council's position is set out in the Core Strategy Sustainability Appraisal. The Council notes that the GOSW commissioned additional SA work to assess the RS Panel and Proposed Changes approach to the sustainability appraisal of the spatial strategy. Although the additional SA has been published its findings have not been subject to any form of independent scrutiny and therefore little weight can be placed on this work.
- 5.6 The Council, therefore, challenges the assumptions underpinning the use of this evidence. In particular it questions the merits of using trend based data to make predictions about future growth. South Gloucestershire has experienced significant growth over past decades. However, it is not appropriate to assume that this high rate of growth should or could continue into the future in the absence of any assessment of constraints or sustainability appraisal. To do so would be to negate the plan led system and fundamentally undermine localism principles. The following section sets out a more considered consideration of ONS population forecasts and their contribution to establishing the strategic housing requirement for South Gloucestershire.

## ONS 2008 based Sub-National Population Projections and Mid-Year Estimates

- 5.7 As required of all Core Strategies/Local Plans by PPS3 and the Draft NPPF, the Council has had regard to the latest CLG household and underlying ONS population projections as part of our overall consideration of demand and supply side factors.
- 5.8 In the absence of a population register, England and Wales rely on successive, annual updates of 2001 Census data to produce mid-year population estimates (MYE's). The Office for National Statistics (ONS) estimates the mid-year population for each local authority area using data on births and deaths, internal migration and international migration. These estimates provide the baseline for the creation of both national and sub-national population projections (SNPP). Sub-national population projections for England are produced on a two-yearly cycle by ONS and are constrained to the total, national population estimates.
- 5.9 The most recent SNPP's, the 2008 based projections, were published by ONS on 27 May 2010. They are based on trends in births, deaths and migration in the period 2004-2008. These projections suggest that the population of South Gloucestershire will rise to 313,600 in 2026, a 21.7% increase on the 2006 MYE (257,500).
- 5.10 The Council has undertaken a detailed analysis of the 2008 based SNPP's and MYEs for South Gloucestershire. This work identified surprising variations and potential inconsistencies between the projections and recent MYE's in the data for the district. The Council therefore commissioned independent demographic consultants to scrutinise the ONS' projections (Appendix 2).
- 5.11 The 2008 based SNPP's for South Gloucestershire suggest that the population of the district will increase at a higher and more consistent rate than has been experienced in the past (Fig 2).

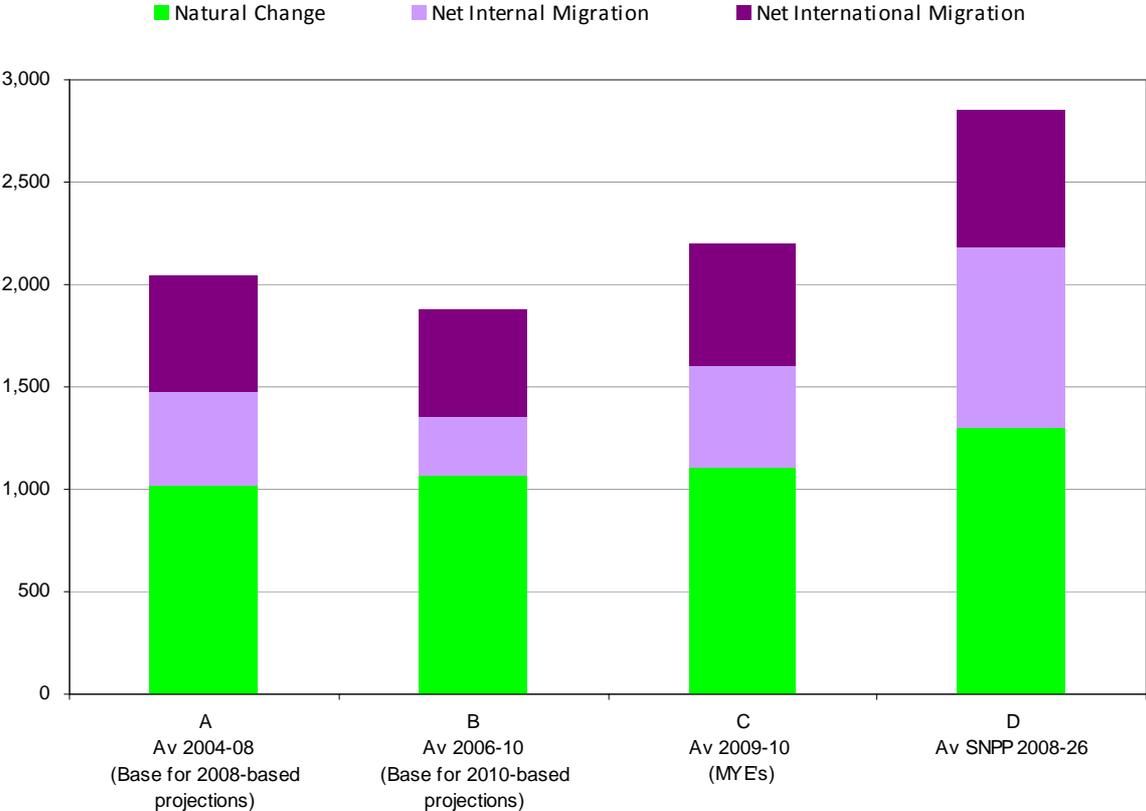
**Fig 2: Annual population change estimated and projected (1981-2026) for S. Gloucestershire**



Source: Office for National Statistics – Mid Year Population Estimates and Sub-National Populations (SNPP) for England. Crown Copyright.

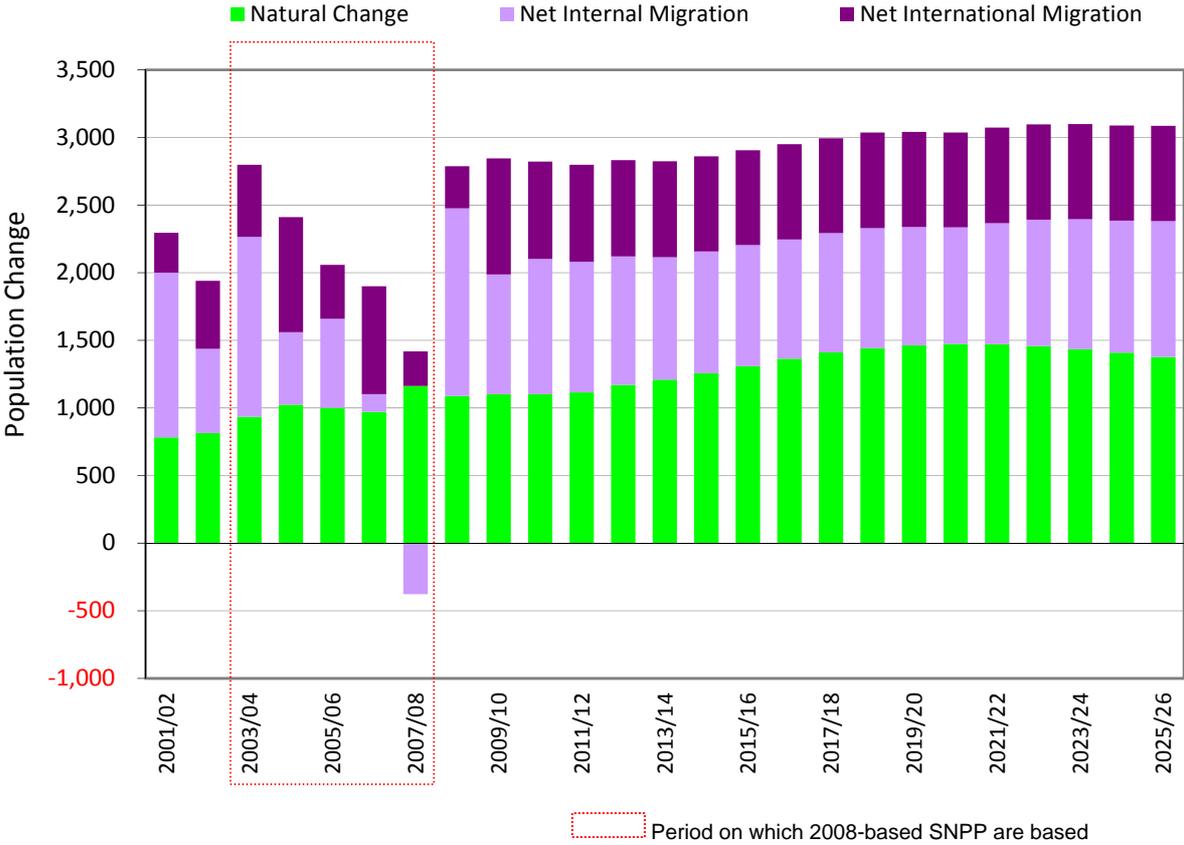
- 5.12 It must be recognised that the ONS sub-national population projections provide a trend-led forecast that is superseded on an ongoing basis by more recent and accurate evidence. For example, the 2008 SNPP (published on 27 May 2010) has now been superseded by both the 2009 MYE (published on 24 June 2010) and the 2010 MYE (published 30 June 2011). Significantly ONS guidance specifically advises the use of the more up to date and accurate MYE for analytical purposes when they are available: *“Where possible, use the mid-year population estimates in an analysis instead of the projections”* (SNPP Guidance for Users, ONS, 2010).
- 5.13 Comparison between the ONS 2008 based projections and the more recent and accurate 2009 and 2010 mid-year estimates, reveals a tendency for the 2008 population projections to inflate the ‘actual’ level of population growth in South Gloucestershire. The ONS mid year population estimate for 2010 (264,826), for example, is over 1,200 persons *lower* than the projected population for 2010 suggested in the 2008 based projections (266,060).
- 5.14 When scrutinising population estimates and projections, it is important to recognise the relative importance of the ‘components-of-change’ that are driving population growth. Figure 3 illustrates the average differences in the annual components of change between the 2008-based SNPP’s (column D) and recent ONS Mid Year Population Estimates (Columns A-C). It shows that the migration assumptions in the 2008 based projections are considerably higher than those estimated in the more recent and accurate MYEs for 2009 and 2010 (column C). Counter intuitively the graph also shows that migration assumptions in the 2008-based projections (column D) are significantly higher than those estimated in the period 2004-2008 (column A) – i.e. the period on which the 2008-based projections are based.

**Fig 3. Differences in components of change between ONS 2008 based projections and recent ONS MYE's for South Gloucestershire**



5.15 Migration is the most difficult component to estimate, however the impacts of migration are also typically the most important drivers of population growth. Scrutiny of the 'components of change' that have been used in South Gloucestershire's most recent SNPP, suggest migration has a very significant impact upon growth throughout the projection period (figure 4). Net growth through internal and international migration is projected to contribute 1,500-1,800 people per year throughout the 2008-2026 projection period. This would consequently further increase the projected level of growth through natural change as higher net migration would maintain higher fertility levels due to the typical age-profile of the migrant population.

**Fig 4: Components of change, sub-national population projection (2008-based) for South Gloucestershire (Source:ONS)**



- 5.16 What is particularly surprising about the 2008-based projections for South Gloucestershire is that the migration components used in the growth forecasts do not represent a true picture of the trends evident in the historical period on which they were based (2004-2008) (Fig 4). The migration components appear over-inflated relative to previous trends, resulting in a high population growth rate for South Gloucestershire to 2026, averaging approximately 3,000 per year. The reasons for this over inflation are unclear, it can only be assumed that the population assumptions are a result of ONS' specific application of its population model to South Gloucestershire. The result however is that the 2008-based projections for the district are at odds with the recent historic data on which the projections are based.
- 5.17 To support this position, the consultants then used evidence from the latest (2009 and 2010) mid year estimates to perform an exploratory re-calibration of the components of change, in order to replicate what the migration assumptions in a 2010 based trend projection might be. This produces a very different growth trajectory. Net migration remains as a driver of growth, but at a reduced level (approximately +800 per year) compared to that suggested in the ONS 2008-based projections (1,500-1,800 per year). Using these revised migration assumptions, the population estimated in 2026 would be approximately 290,000 compared to the figure of 313,600 suggested by the 2008-based SNPP (i.e. **approximately 23,600 persons lower**).
- 5.18 In November 2011 ONS published indicative mid-year estimate revisions (for 2006-10) which incorporate the latest methodology for international migration estimation. For South Gloucestershire this has had the effect of a cumulative increase in population of +1,029 between 2006 and 2010, due to an increase in the annual estimates of immigration. However, the 'rate-of-change' in population growth is not

significantly affected and does not provide any further explanation for the differences between historical and SNPP growth rates described earlier.

- 5.19 The full extent of the changes to the components of change that underpin these revised mid-year estimates is not yet fully understood as ONS has indicated that, in some areas, additional modifications have been made to internal migration estimates to account for previous data inaccuracies. However, on the basis of the evidence that is available and using a crude application of the migration assumptions, the revised immigration estimate could have an impact upon South Gloucestershire's re-calibrated population projection of 3,000 to 4,000, increasing the 2026 estimate to 294,000 (i.e. **approximately 19,600 persons lower** than the ONS 2008-based projection for 2026) .
- 5.20 As a consequence the Council's strategic housing need arising from these re-calibrated ONS based population projections is likely to be considerably lower than the 32,000 dwellings projected by the DCLG's 2008-based household projections.

### **Conclusion**

- 5.21 The most recent ONS population and household projections indicate a potential need for more than 30,000 new dwellings to 2026. However, South Gloucestershire considers that this should not solely determine the strategic housing requirement for the following reasons:
- Household projections are based on estimated population growth and household formation reflecting past trends and are not therefore a definitive forecast of need.
  - The Council has sound independent evidence which illustrates that the migration assumptions in the latest 2008-based ONS population projections are at odds with the data on which they are based and are likely to considerably over-inflate the likely level of future population growth in the district
  - A re-calibrated projection based on more recent and accurate ONS mid-year estimates suggests that the population of South Gloucestershire may be **between 19,600 and 23,600 persons lower** than that the 313,600 residents suggested by the ONS' 2008 based projections. This would clearly necessitate a considerably lower strategic housing requirement
  - Population based projections are not the only consideration in determining the Strategic Housing Requirement, which must be considered alongside planning policy, sustainability and delivery issues.
  - Economic growth forecasts are now consistently lower than previous projections and are likely to remain so and have a negative impact on the demand for housing.

## **6. The need for affordable housing identified in the SHMA**

- 6.1 The Council's approach to the need for affordable housing identified in the WoE Strategic Housing Market Assessment (SHMA) is set out in Justification for the Strategy for Housing to 2026 (EB21) Appendix 3 paras 6.1-6.4.
- 6.2 In summary the CS approach to the provision of affordable housing is set out in Policy CS 18 which requires that on-site provision of affordable housing on all new urban developments of 10 plus dwellings (or 0.33 ha) should be at the rate of 35%, with a threshold of 5 dwellings (or 0.2 ha) in rural areas. The SHMA identifies a need for 20,982 affordable homes in South Gloucestershire; however, to achieve this level through Policy CS18 would require unrealistic and undeliverable levels of market housing to 2026. The CS housing provision combined with policy CS18 does, however, represent a substantial increase in the delivery of affordable housing compared with previous levels.

## **7. Determination of the Core Strategy locational strategy based on Green Belt review, analysis of constraints and sustainability appraisal**

- 7.1 An explanation of how the locations for development in the CS were derived and the evidence which justifies where the CS spatial strategy departs from the RS locations is set out in the Strategic Green Belt Report (December 2011). The Council's analysis of Green Belt, environmental constraints and the Sustainability Appraisal of the Core Strategy provides the evidence which supported the housing figure of 21,500 set out in the Submission CS. However, the opportunities provided by the release of Filton Airfield has allowed further flexibility to respond to housing demand and the need to promote economic growth without compromising the existing spatial strategy. Thus the objectives of the Council in terms of sustainable, balanced communities, provision of infrastructure, protection of environmental assets and Green Belt will not be compromised.

## **8. Consultation Response to the South West RS and South Gloucestershire Core Strategy**

- 8.1 As set out in Justification for the Strategy for Housing to 2026 (EB21), consultation on both the Draft RS and CS Issues & Options resulted in very strong local opposition to the overall housing numbers set out in the RS and the resulting erosion of the character and identity of existing settlements. There was also strong local opposition to development in the Green Belt particularly the proposed urban extension East of Kingswood. In determining the spatial strategy set out in the Draft CS, these local concerns were given greater weight than they were by the RS panel and SoS Proposed Changes RS. It is considered that this approach is further justified in the context of the greater weight given to local views set out in the Localism Act.

## **9. The Development Industry's ability to deliver housing**

- 9.1 As set out in Justification for the Strategy for Housing to 2026 (EB21) paras 23 & 24, there is considerable doubt as to whether the industry could deliver new housing at the annual rates required by the higher level housing requirement set by the RS Panel Report and Proposed Changes. In summary the growth rates for the district set out in the Proposed Changes represent an annualised figure of 1,640 homes. However, analysis of completions in the past 30 years shows that this rate has only been achieved in 4 of the last 30 years (South Gloucestershire Residential Land Availability Surveys). The mean rate achieved over this period was 1,240 dwellings per annum.

- 9.2 Mindful of the historic problems of undersupply, the Council is now very aware of the need to provide an adequate supply of housing land, and to help free-up constraints to delivery. The Council's Major Sites Team is working closely with our developer partners to renegotiate planning obligations and bring forward sites to secure housing delivery. Notwithstanding this, based on developers' own assessment of future delivery, it is very unlikely that peak build rates could be repeated each year up to 2026. The Council notes that at October 2011 there were outstanding planning permissions for around 6,090 dwellings and a further 3,450 dwellings on committed sites in the district. However, the sector has only achieved 714 dwellings in 2010/11 and is expected to build 951 in 2011/12. This adds considerable weight to the Council's view that, in establishing the housing requirement, the ability of the market to actually deliver must be a key consideration.

## **10. Infrastructure Delivery**

- 10.1 The Core Strategy Issues and Options document tested the deliverability of RS Panel Report levels and locations of growth. In particular, the significant housing growth East of Kingswood proposed by the RS relied on the package of transport infrastructure set out in the GBSTS however, as set out in Justification for the Strategy for Housing to 2026 (EB21) Appendix 1, the GBSTS package for the East Fringe was considered to be undeliverable prior to the recession of 2008/9. The further impact of the recession on public funding for infrastructure means there is no reasonable prospect that the package of transport infrastructure required to support growth in the East Fringe will be delivered. This is a major change of circumstance which, together with CS evidence on constraints and consultation, justifies the council's position that the RS approach to the urban extension East of Kingswood cannot be supported.
- 10.2 The evidence base for the CS is significantly more detailed in terms of deliverability and infrastructure requirements than the RS and justifies our level of housing provision and locational strategy.

## 11. Post Submission Core Strategy Housing Provision

- 11.1 Based on the information set out in this paper and the previous technical paper (Justification for the Strategy for Housing to 2026 (EB21), The Council has set out where and why its approach to setting the strategic housing requirement differs from the RS approach and evidence.
- 11.2 Notwithstanding this, in response to the Inspector's advice we have acknowledged it is important for the Core Strategy to have regard to and plan sustainably for:
- Rapidly changing circumstances, in particular higher than expected levels of economic growth and housing demand;
  - the Government's growth agenda which is in line with the LEP and Council's approach to promoting economic prosperity in the light of the current economic circumstances;
  - the need to take into account the most up to date evidence on population and household growth; and
  - the change of circumstance provided by the release of Filton Airfield and the need to plan comprehensively for Cribbs/Patchway
- 11.3 In setting the revised, locally derived Core Strategy strategic housing provision the Council must make a judgement based on a number of factors. We have therefore considered the available statistical indicators of need in the context of the Council's locational strategy which is based on its vision and objectives for the area.
- 11.4 This has involved consideration of the following factors which have shaped capacity:
- Putting into a local context the demographic drivers to housing demand which indicates that ONS population (and subsequent CLG household) projections are likely to over estimate the future level of growth;
  - the projected local employment growth over the duration of the plan period which is lower than RS projections due to the impact of the recession in the first five years;
  - the Council's stated objective not to compromise the fundamental spatial objectives of the CS in terms of sustainable communities and locations for growth. The Strategic Green Belt Report (December 2011) supports these conclusions.
  - the physical, green and community infrastructure needed to support additional housing and the importance of its delivery through comprehensive and co-ordinated plan making,
  - The ability of the industry to deliver new housing based on completions over the past 30 years.

In this context we have considered opportunities for further growth, and the ability for the Core Strategy to respond flexibly to this. As a result, the following additional housing provision is considered justified to provide the additional flexibility the inspector has requested.

**Table 2 Additional Housing Flexibility Supply**

<b>Site</b>	<b>Capacity</b>
Frenchay Hospital	450 dwellings
Filton Airfield	2,500 dwellings
Land west of A4018	1,000 dwellings
Additional capacity at land south of airfield	300 dwellings
Identified SHLAA Sites	350 dwellings
Small sites post 2022	600 dwellings
<b>Total</b>	<b>5,200 dwellings</b>

- 11.5 Small sites (sites less than 10 dwellings) have made a significant contribution to housing supply over the last 10 years delivering almost 30% or 2,192 (219 dwellings per annum) of the total dwellings completed. Small sites currently under construction and with the benefit of planning permission are identified as part of the overall housing supply in CS15. In accordance with national guidance, the Council's Strategic Housing Land Availability Assessment (SHLAA) excludes the identification of such sites which do not currently have planning consent until after 2022. However, an allowance of 600 dwellings has been included in Table 2 for small site windfalls post 2022.
- 11.6 The small sites will come from a variety of sources, including: vacant urban land, subdivision of houses, conversion of existing buildings (barns, residential annexes, outbuildings and other commercial uses), development of flats over shops, agricultural workers dwellings. In arriving at this figure the changes to PPS3 in June 2010 to the definition of previously developed land to exclude private garden land has been taken into account i.e. 219 dwellings per annum discounted by 30% / or the proportion of dwellings that have come forward on small sites on land that was previously private gardens during the period 2006 to 2011.
- 11.7 In conclusion the total housing provision in the December 2011 Core Strategy Incorporating Post Submission Changes is for 26,400 dwellings. South Gloucestershire considers that increasing the available supply from 21,500 to 26,400 dwellings provides sufficient 'flexibility'; firstly should the market out perform expectations and secondly, to enable resilience to be built into the overall housing portfolio to allow for any unforeseen site delivery delays. Further details about the identification and assessment process of sites listed at Table 2 are set out in the December 2011 Sustainability Appraisal.

## 12. Conclusion

- 12.1 South Gloucestershire Council, while recognising that the RS Panel and Proposed changes remain a material consideration, for the reasons set out in this paper consider the weight that should be attached to RS is now greatly diminished. Moreover, we are strongly of the view that there is now more up to date and very clear evidence as presented by our Core Strategy that would outweigh the reliance on RS and its supporting evidence base. We therefore consider that the evidence used to support the Core Strategy should be given more weight than the RS for the following reasons:
- Actual economic growth for the first five years has been much lower than predicted resulting in a “lost” 5 years of employment growth. Our evidence suggests that job growth will be between 13,700 and 21,900 to 2026.
  - Independent scrutiny of the latest 2008-based ONS population projections (which underpin the latest DCLG household projections) suggest that they are likely to considerably over inflate the level of future population growth in the district. Our evidence, which is based on the migration assumptions derived from more recent and accurate ONS mid-year population estimates, suggests that the population of the district is likely to be approximately 19,600 to 23,600 persons lower in 2026 than the ONS 2008-based population projections suggest.
  - The RS Panel Report and Proposed changes did not provide adequate evidence or sustainability appraisal to justify the numbers or location of development in South Gloucestershire.
  - The situation regarding the delivery of transport infrastructure has changed and this undermines the Panel and Proposed Changes RS approach in promoting significant housing growth in the East Fringe.
  - The Draft CS spatial strategy is sustainable and evidenced and justifies the choice and location of strategic locations.
  - Since RS greater emphasis on localism gives more weight to consultation responses which stressed Green Belt protection and lower housing numbers. It should be noted that there is still significant local opposition to the CS housing provision of 21,500 and to proposed green field development at Thornbury and Yate.
- 12.2 However, the Council does accept that the emphasis on economic prosperity and growth, recent population projections and the need for affordable housing requires flexibility to be built into the strategic housing requirement. In the light of the further opportunity for growth at Cribbs/ Patchway and the Plan’s clear spatial objective to focus growth and infrastructure investment at the Bristol North Fringe, this flexibility can and should be provided within the CS spatial strategy. A new housing provision of 26,400 based on further development within the existing urban area primarily in the Bristol North Fringe is therefore proposed.
- 12.3 The proposed housing strategy makes substantial contribution to housing need. The council considers that its Core Strategy housing provision will meet need arising from anticipated population and job growth in the plan period and is likely to be above that required by the industry, based on evidence of past and current delivery. It therefore, provides a framework which takes a long term view to support the delivery of housing for which there is likely to be genuine demand but which is resilient and flexible for higher growth rates. The proposed housing is in accordance with our spatial strategy and is in sustainable locations. We have identified and met the housing, business and other development needs of our area. South Gloucestershire Council therefore conveys this to the Inspector and asks that he gives further consideration to these matters as set out in the December 2011 Core Strategy Post Submission Changes, and supporting Sustainability Appraisal.

## Appendix 1

### Summary of South West Regional Spatial Strategy (RS) and South Gloucestershire Core Strategy approach to housing provision and distribution.

Date	RS and Core Strategy stages	RS - housing numbers and distribution	S Glos - housing numbers and distribution	South Gloucestershire response to RS
2006 (EIP 2007)	Draft SW RS	<b>23,000</b> Urban areas (13,000) East of Kingswood / M32 (8,000) Yate & Chipping Sodbury, Thornbury and rural areas (2,000)	<b>21,500</b>	Response agreed at Cabinet July 2006: Objected to level and locations of growth proposed in the district. 23,000 considered absolute maximum that could be accommodated. Concern that the locations were not sufficiently justified and more work on GB assessment, SA, environmental constraints, infrastructure and delivery required.
January 2008	SW RS Panel Report	<b>30,800</b> Urban areas (13,000) Cribbs/Filton (2,500) East of Kingswood / M32 (8000) Yate (5,000) Th and RA to meet local need (2,000)	<b>21,500</b>	Did not fully agree with Panel's conclusions. Issues & Options to be used to test Panel Report and inform response to RS.
April 2008	Core Strategy DPD - Issues and Options published for consultation		<b>Tested options to meet the 30,800 housing requirement set out in the RS Panel Report in the context of key issues for S. Glos</b> Urban areas 2 options at each potential urban extensions: West of M32 (2,700 & 3,300) Cribbs Causeway (1,500 & 2,600) East of Kingswood (5,000) Yate & Chipping Sodbury (2,500 & 5,000) Thornbury need for more housing outside development boundary Rural Areas	<ul style="list-style-type: none"> <li>Testing RS options based on initial evidence relating to constraints and infrastructure deliver and SG Green Belt Assessment (Sept 2006)</li> <li>Call for additional housing sites</li> <li>Further testing strategic policy objectives developed through Initial SA report on (June 2008)</li> </ul>
July 2008	SOS Proposed Changes to SW RS	<b>32,800</b> Urban areas (17,500) Cribbs East of Kingswood (8,000) M32 (2,000) Yate (3,000) Thornbury and Rural Areas (2,300)	<b>21,500</b>	<ul style="list-style-type: none"> <li>The Council has strong objections to the high levels and distribution of housing development proposed by Government for the District</li> <li>Significant community objections to the RS and the Government's high and unsustainable housing requirements. (SG Cabinet Report 6<sup>th</sup> October 2008)</li> </ul>
June & Sept 2009	GOSW announced delays to RS due to challenge to SA.			
March 2010	SG Core Strategy - Pre Submission Publication Draft		<b>21,500</b> Urban area and completions (13,050) East of Harry Stoke (2,000) Cribbs/Patchway (1,750) Yate (2,400)	<ul style="list-style-type: none"> <li>SA Report (March 2010)</li> <li>Key policy objectives <ul style="list-style-type: none"> <li>Balanced communities</li> <li>Protect Green Belt</li> <li>Economic growth</li> </ul> </li> <li>Infrastructure and delivery</li> <li>Consultation response to Issues and Options</li> <li>SHLAA (March 2010)</li> </ul>

Date	RS and Core Strategy stages	RS - housing numbers and distribution	S Glos - housing numbers and distribution	South Gloucestershire response to RS
			Thornbury (500) Rural areas (1,800)	<ul style="list-style-type: none"> <li>• WoE SHMA (May 2009)</li> <li>• Continuing objections to the RS levels and location of growth. (SG Cabinet report March 2010)</li> </ul>
May 2010	SoS announces intention to abolish RS. Legal challenges delay revocation but SW RS will remain unpublished.			
Dec 2010	Draft Pre Publication Submission Core Strategy		<b>21,500</b> Urban area and completions (13,050) East of Harry Stoke/M32 (2,000) Cribbs/Patchway (1,750) Yate (2,400) Thornbury (500) Rural Areas (1,800)	<ul style="list-style-type: none"> <li>• Sustainability Appraisal (Dec 2010)</li> <li>• Impact of economic recession</li> <li>• Delivery and infrastructure</li> </ul>

# South Gloucestershire

*Scrutiny of population estimates and projections*

November 2011

edge analytics

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*The authors of this report do not accept liability for any costs or consequential loss involved following the use of the analysis presented here, which is entirely the responsibility of the users of the analysis.*

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# 1. Introduction

## 1.1. Context

*Content drawn directly from assignment 'brief'.*

South Gloucestershire Council is drafting a Housing Justification Paper which sets out the rationale for the Council's strategy for additional housing over the period 2006-2026. This paper builds on a previous Housing Justification Paper published in March 2011. The latest paper will propose that the Core Strategy strategic housing requirement will be around 26,000 new dwellings for the period 2006-2026.

When finalised, the Council intends to publish this paper subject to seeking suitable confirmation that the contents and findings are appropriate. In accordance with PPS3 and the emerging National Planning Policy Framework (NPPF), the Council has to show how it has considered the Government's latest population and household projections (the 2008 ONS population projections and the 2008 CLG household based projections). These projections suggest that the population of the district will rise to 313,600 by 2026 (ONS); necessitating the requirement for 32,000 new homes (CLG).

South Gloucestershire Council recognises that the ONS population projections are only one element of the evidence and analysis required to establish a strategic housing requirement for the district. In order to ensure sustainable patterns of future housing development, the Council is seeking to balance the requirements of these trend based projections with other considerations including revised economic growth projections and infrastructure requirements.

## 1.2. Requirements

South Gloucestershire Council has carried out its own in-house analysis of the ONS 2008 based projections and has concluded that there may be grounds to consider that the ONS projections 'over-inflate' the likely level of population growth in the district. The analysis has made the following observations:

- Analysis of the ONS data for the 5 year period (2003-2008) shows that annual population growth has slowed considerably from 2,798 in 2003/04 to 1,040 in 2007/08. However the 2008 based projections predict that population will increase at a far higher and more consistent rate i.e. 2,800 from 2008/09.

- The trend in slowing population growth in South Gloucestershire over the period used to construct the 2008-based projections (2004-2008) is contrary to that experienced in many other local authority areas e.g. Bristol City. At their Core Strategy Examination in Public (EiP) Bristol City Council argued that that the ONS 2008-based projections should be treated with ‘caution’, because they were based on a unique set of circumstances which appear unlikely to be repeated with the plan period - this was a factor in securing a lower (and more realistic) strategic housing requirement in the Bristol City Council Core Strategy.
- The migration assumptions in the more recently published ONS Mid-Year Estimates for 2009 and 2010 appear to be considerably lower than those set out in the 2008-based SNPP for South Gloucestershire.

### **1.3. Methodology**

The derivation of an appropriate level of ‘growth’ for South Gloucestershire requires a careful and considered analysis. The published outcome of this analysis needs to be robust and defensible, with transparency essential given the likelihood of future public consultation and review. The requirements defined above are driven by the uncertainty surrounding the ‘appropriate’ level of growth given the population and household change estimates published in the latest (2008-based) forecasts. The analysis and review presented here seeks to provide additional evidence to South Gloucestershire’s forthcoming Housing Justification Paper. This additional evidence is structured as follows:

Section 2: A short note on the derivation of ‘official statistics’ on population and household estimates and projections and the importance of using these data as a ‘benchmark’ against which to compare alternative growth scenarios.

Section 3: A summary of South Gloucestershire’s population estimates and projections including:

- An illustration of the 2004-based, 2006-based and 2008-based projections (ONS)
- An examination of ONS mid-year estimates 2001-2010
- An illustration of ‘annual growth’ trajectories from the estimates and 2008-based projections
- An examination of the components of change in the mid-year estimates and in the sub-national projections and their impact upon growth forecasts

## 2. Official Statistics – population & households

In the absence of a population register, England and Wales rely on successive, annual updates of 2001 Census data to produce mid-year population estimates. The Office for National Statistics (ONS) estimates the mid-year population for each local authority area using data on births and deaths, internal migration and international migration. These estimates provide the statistical baseline for the creation of both national and sub-national population projections (SNPP). Sub-national population projections for England are produced on a two-yearly cycle by ONS and are constrained to the total, national projection estimates.

Household projections are produced by Communities and Local Government (CLG) and typically follow the delivery of the sub-national population projections. Household projections are produced through the application of headship rates (by household type, age and sex) to the age-sex profile of the population projected in the SNPP statistics.

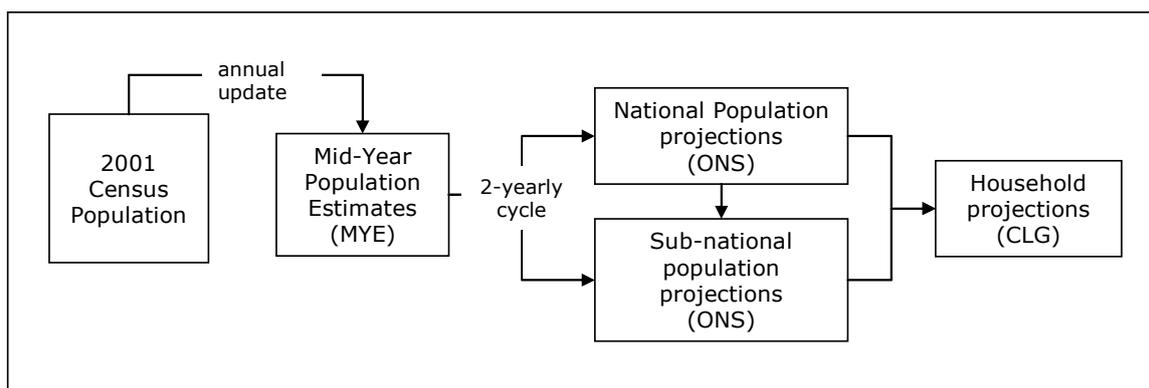


Figure 1: Official statistics: population and households

With regard to the robustness of the data inputs that underpin the ONS mid-year estimates, birth and death statistics are derived from vital statistics registers and provide an accurate measure of natural change by local area. Internal migration data are derived from GP registers, providing an accurate representation of inter-district flows, albeit with some issues with regard to potential under-registration in certain age-groups (young males, in particular). International migration is the most difficult component to estimate with confidence. ONS has an ongoing programme of ‘improvement’ to its estimation methodologies to ensure the most accurate data on immigration and emigration is used in its mid-year estimates. In 2010, ONS released a set of ‘revised’ mid-year estimates for 2001-2009 and a revised 2008-based population projection, which took account of a number of such improvements; specifically, the improved handling of onward student moves and the integration of administrative data sources to better estimate the local impact of international

migration. Further developments to the international migration estimation methods are underway and will form part of the forthcoming 2011 mid-year estimates and the 2010-based population projections. A preliminary release of mid-year estimate revisions for 2006-2010, incorporating the revised immigration estimation methodology, was made in November 2011 (see section 3.5).

The accuracy of the 'components of change' (births, deaths, internal migration and international migration) in the mid-year estimates is very important to the development of sub-national population projections (and therefore the household projections). Historical trends for a prior five-year period provide a key input to the 'trend' based SNPP (i.e. evidence from 2004-2008 will drive the 2008-based projections). Recognition of the relative importance of the components of change within the mid-year estimates is necessary in order to interpret what is driving the 25-year trend projection of the SNPP. This is explored further in section 3.

For a local authority considering the development of its housing strategy, the ONS 'official' statistics on population and households provide the 'benchmark' against which a range of alternative evidence should be compared. The ONS sub-national population projections provide only one growth trajectory - a trend-led forecast that is typically based on historical data that has already been superseded by more recent evidence (for the 2008-based projections we now have more recent, 2009 and 2010 mid-year estimates to take into consideration). In developing a robust, realistic and defensible evidence base to support housing policy and plans, it is advisable to consider a range of alternative growth scenarios. These scenarios should ideally make use of the latest demographic evidence, should evaluate previous 'policy' scenarios and should test a range of growth trajectories based upon dwelling development, economic forecasts and local policy drivers.

With the demise of the RSS, local authorities across England and Wales have been confronted with the need to produce new plans and policy for housing development. The POPGROUP suite of software has, for many local authorities, provided the basis from which a range of evidence has been produced, to both scrutinise previous growth forecasts and to derive alternative population, household, labour force and housing trajectories.

### 3. South Gloucestershire – demographic evidence

#### 3.1. Mid-year estimates, 2001-2010

In 2001 the population of South Gloucestershire was approximately 246k. Over the last ten years the population is estimated to have increased by 18.8k, a 7.7% growth from 2001 (Figure 2).

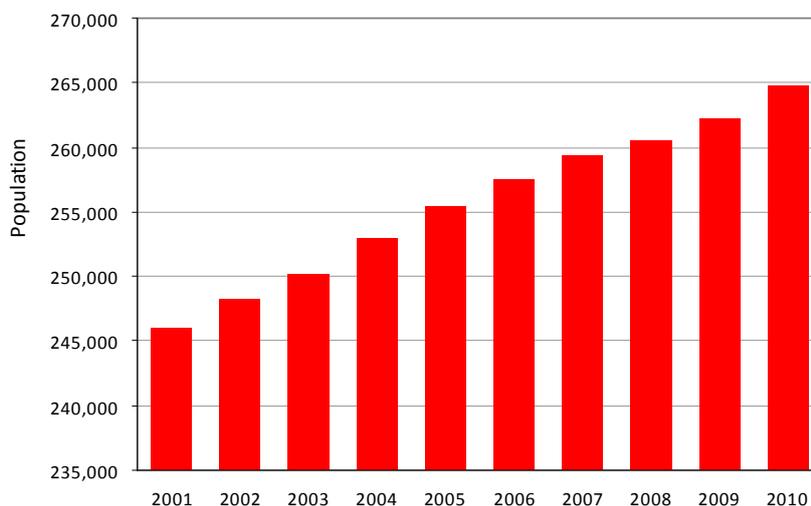


Figure 2: Mid-year population estimate (Source: ONS)

#### 3.2. Sub-national population projections

Mid-year estimates provide the baseline from which population and household projections are developed. The three, most-recent, sub-national population projections produced by ONS for South Gloucestershire have suggested a range of growth scenarios. Using 2008-2026 as the forecast horizon, the 2004-based projections suggest the lowest growth (16%), 2008-based projections the highest (20%) (Figure 3).

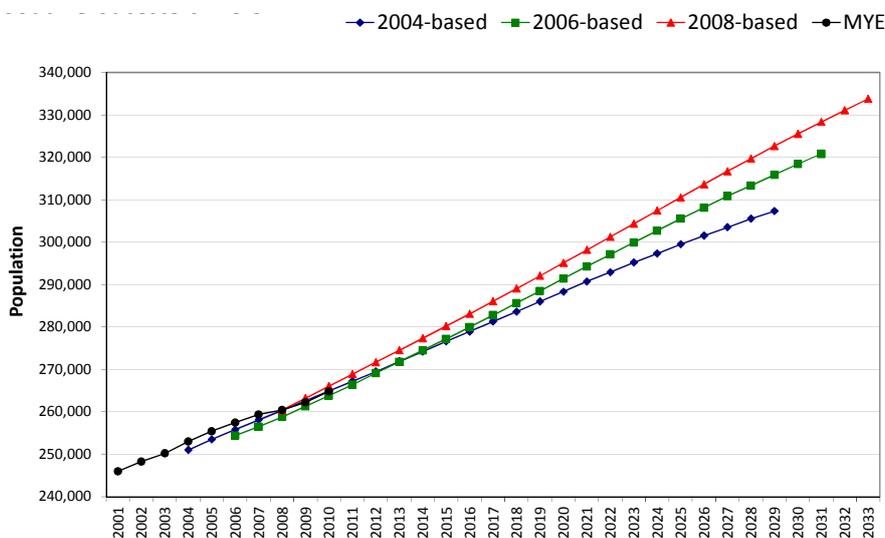


Figure 3: Mid-year population estimate and sub-national projections (Source: ONS)

Each projection will, of course, have been based upon 'trends' from a different historical time-period and on different assumptions regarding the long-term trends in fertility, mortality and migration that are set by ONS' 'national' population projections. For example, the 2004-based projections will have taken no account of the increase in international migration that resulted from the expansion of the European Union in 2004 (Accession 8 countries) and 2006 (Romania and Bulgaria). Both 2006-based and 2008-based projections will have higher international migration elements due to the increased importance of this component in the historical trend.

Figure 3 also includes the trajectory of growth evident from the mid-year population estimates for South Gloucestershire. The comparison with the 2004-based and 2006-based projections suggests that the mid-year estimate for South Gloucestershire was 'revised upwards' as part of ONS' 2010 methodological revisions, which introduced improved handling of onward student moves and the first stage of the integration of administrative data sources to better estimate the local impact of international migration. It also indicates that 2009 and 2010 mid-year estimates are lower than those originally forecast in the 2008-based projections, indicating that the migration assumptions used in the projections have not been reflected in population change over the last two years.

### **3.3. Growth rates compared**

In scrutinising the robustness of the latest ONS population projection for South Gloucestershire, it is interesting to compare the population *growth rates* evident from the most recent mid-year estimates against those in the SNPP (Figure 4). The rate of population growth declined from 2004-2008 but is estimated to have increased thereafter. Average annual growth over the period 2001-2010 has been approximately 0.85% per year.

The 2008-based projections achieve annual growth rates that are consistently higher than those evident in recent mid-year estimates, ranging from almost 1.1% at the start of the period to 1.0% by 2026. It is not clear from the historical evidence why the projected growth rates should be so high. It can only be assumed that the projection assumptions are a result of ONS' specific application of its projection model to South Gloucestershire.

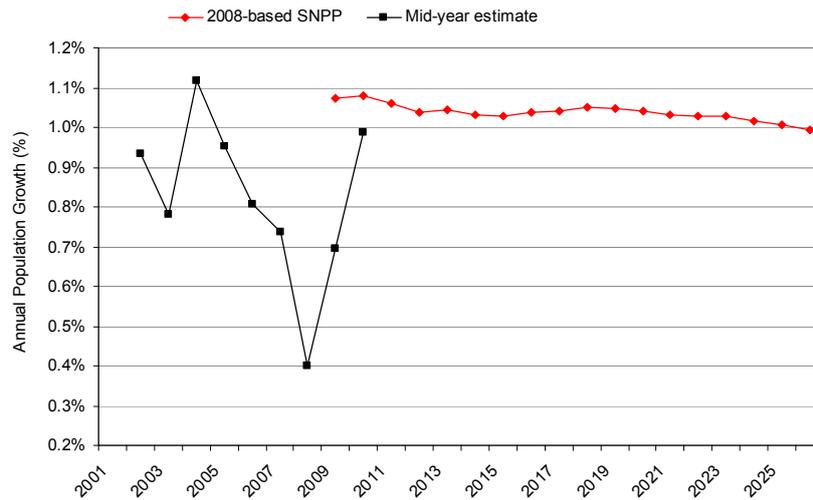


Figure 4: Annual population growth (%) (Source: ONS, Edge Analytics)

### 3.4. Components of change

Successive population projections will use different ‘historical’ time-periods as evidence for future trends. The ONS 2008-based projections will have used 2004-2008 as the base period from which key assumptions on migration have been derived. 2010-based projections will use an updated 2006-2010 evidence base. In scrutinising population estimates and projections, it is important to recognise the relative importance of the ‘components-of-change’ that are driving population growth (or decline) in the historical evidence.

For South Gloucestershire, growth since 2001 has been driven by both natural change (the difference between births and deaths) and the positive net impact of both internal and international migration. Scrutiny of the components of change for South Gloucestershire reveal that the combined impact of births, deaths and migration do not accurately sum to the estimated population change year-on-year. Assuming that births and deaths data are the most accurate data, it has been necessary to slightly rebalance the migration components to ensure consistency in the mid-year estimates. This has an average impact of approximately +55 per year in net migration terms, a small adjustment but necessary to ensure both historical consistency and a sound basis for the derivation of projection assumptions.

With this adjustment in place, the year-on-year components of change can be examined to assess the likely impact upon growth projections. Natural change has contributed approximately 1k per year to population growth. Growth due to net internal migration (the difference between inflows and outflows from/to elsewhere in the UK) has fluctuated (it was estimated to be negative in 2007/8) with an annual average of approximately +500 per year. Growth due to international

migration (the difference between immigration and emigration) has also fluctuated but is also estimated to have contributed an average of approximately +500 per year (Figure 5).

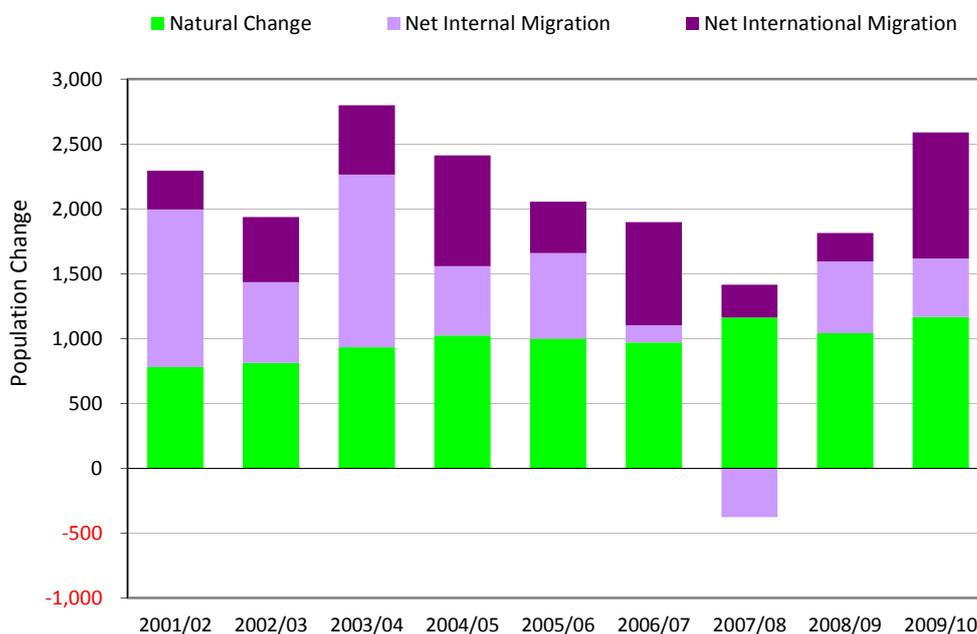


Figure 5: Components of change, mid-year population estimate (Source: ONS, Edge Analytics)

Migration is the most difficult component to estimate accurately and there remain uncertainties with regard to both internal migration and, particularly, international migration estimation. This is reflected in both the components of change that make up the mid-year estimates and the assumptions that have been used in the 2008-based sub-national population projections.

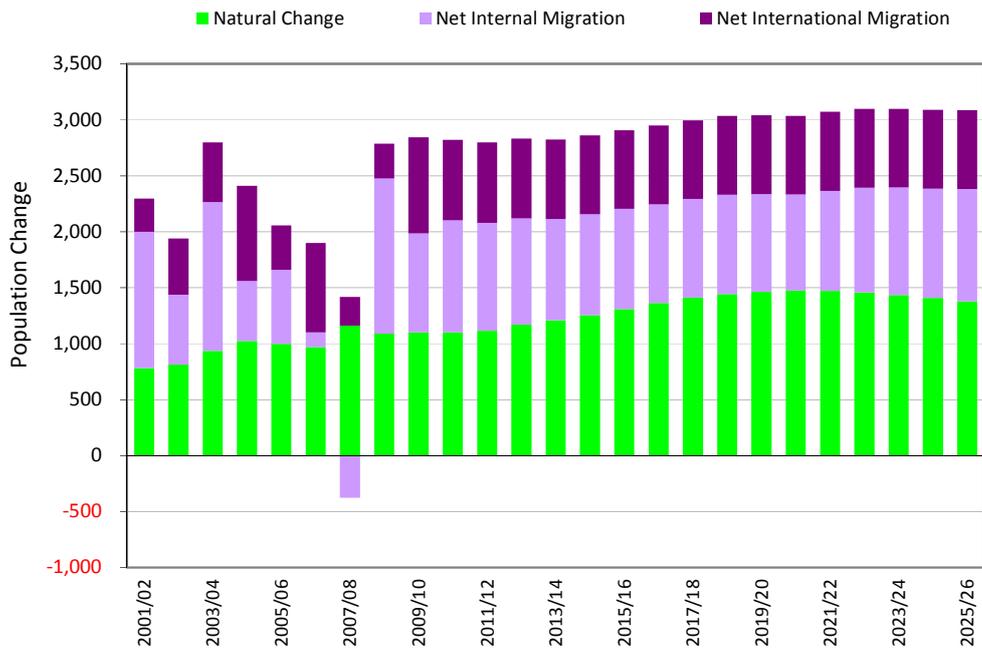
Internal migration data are captured from GP registration systems and provide the best local estimates available, albeit with some issues in relation to potential under-registration of young males. In South Gloucestershire there is an added complication with regard to students at the University of West of England (UWE). The UWE campus is in South Gloucestershire and houses a large number of students in its campus accommodation. A high percentage of students choose campus accommodation in their first year of study but will then move into private rented accommodation in years 2 and 3. Much of this accommodation will be in the City of Bristol. Analysis completed by Bristol City Council has indicated that year 2 and year 3 moves from South Gloucestershire to Bristol may not be fully accounted for in the GP registration statistics that are used to measure internal migration. This is very difficult to quantify precisely but any undercount of these student moves (due, for example, to the difficulty in accounting for those students who fail to re-register when they leave university) could have the effect of inflating the annual ‘net’ effect of

student moves into South Gloucestershire, affecting both its mid-year population count and the assumptions regarding future growth due to net in-migration.

With regard to international migration, there remain issues in relation to the robustness of local estimates of immigration and emigration. The UK systems for population data capture do not enable detailed and comprehensive statistics on immigration and emigration to be collected directly; estimation methods are necessary to produce the data which underpin the mid-year estimates for local authority areas. These estimation methods have been subject to further improvement, the results of which were published by ONS in November 2011. The revised methodology has used data from a number of local administrative sources (national insurance number registrations, GP registrations and university student numbers) to derive a revised immigration estimate as the basis for the development of 2010-based projections. The results of these methodological changes have been made available by ONS for local authority review. The new data are summarised in Section 3.5.

Whilst migration impacts are difficult to estimate, they are also typically the most important drivers of population growth. Scrutiny of the 'components-of-change' that have been used in South Gloucestershire's most recent SNPP, suggest a very significant impact of migration upon growth throughout the projection period (Figure 6). Net growth through internal and international migration is projected to contribute 1,500-1,800 per year throughout the 2008-2026 projection period. This also has an impact upon the level of growth through natural change as higher net migration will maintain higher fertility levels due to the typical age-profile of the migrant population.

What is particularly surprising about the 2008-based projections for South Gloucestershire is that the migration components used in the growth forecasts do not represent a true picture of the trends evident in the historical period on which they are based (2004-2008). The migration components appear over-inflated relative to previous trends, resulting in a high population growth rate for South Gloucestershire to 2026, averaging approximately 3k per year. It is not clear from the historical evidence why the projected growth rates should be so high. Once again, it can only be assumed that the projection assumptions are a result of ONS' specific application of its projection model to South Gloucestershire.



Note: 2008/9 and 2009/10 are projections and are not 'mid-year estimates'

Figure 6: Components of change, sub-national population proj. (2008-based) (Source: ONS, Edge Analytics)

To emphasise the differences between the ONS 2008-based projection and the historical evidence, a direct comparison of the components of change from a variety of time-periods is presented below. Average growth rates are significantly higher in the ONS trend projection, even when compared to its 2004-2008 base period and particularly when compared to the more recent 2006-2010 period on which 2010-based projections would be developed (Figure 7).

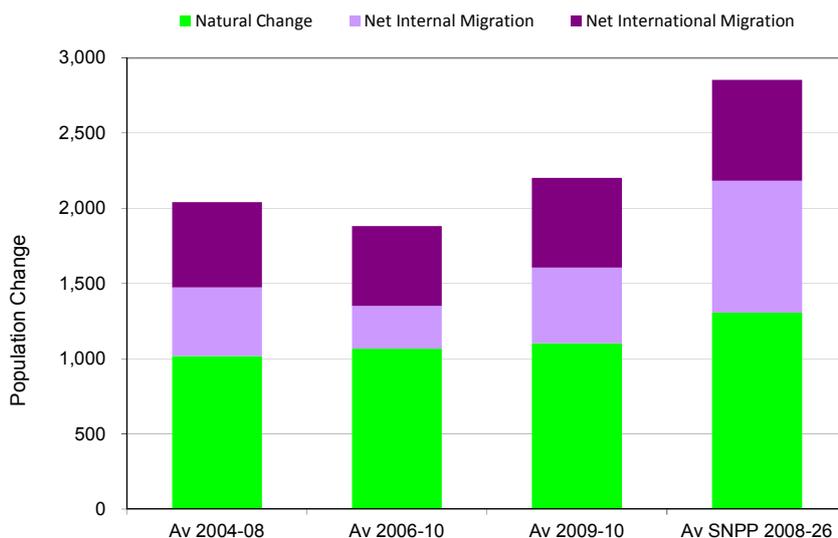


Figure 7: Components of change compared (Source: ONS, Edge Analytics)

Using evidence from the latest (2009 and 2010) mid-year estimates, an exploratory re-calibration of the components of change has been conducted to replicate what the migration assumptions in a

2010-based trend projection might be. This produces a very different growth trajectory. Net migration remains as a driver of growth, but at a reduced level (approximately +800 per year) compared to that suggested in the ONS 2008-based projections (1,500-1,800 per year). A crude application of these revised migration assumptions to the existing SNPP projection suggests that the population estimated in 2026 would be approximately **290k**, compared to the figure of **313.6k** suggested by the 2008-based SNPP.

### 3.5. Revised mid-year estimates – November 2011

During November 2011 ONS released mid-year estimate revisions (for 2006-2010) which incorporate the latest methodology for international migration estimation. For South Gloucestershire this has had the effect of a cumulative increase in population of +1,029 between 2006 and 2010, due to an increase in the annual estimates of immigration. The ‘rate of-change’ in population growth is not significantly affected and does not provide any further explanation for the differences between historical and SNPP growth rates (Figure 8).

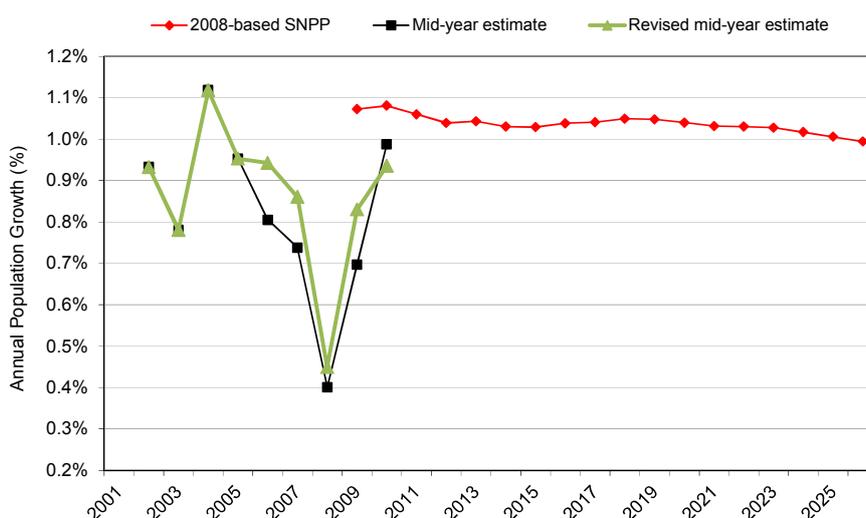


Figure 8: Annual population growth (%) (Source: ONS, Edge Analytics)

The full extent of the changes to the components of change that underpin these revised mid-year estimates is not yet fully understood as ONS has indicated that, in some areas, additional modifications have been made to internal migration estimates to account for previous data inaccuracies. A more complete release of the components-of-change is expected in December. On the basis of the evidence that is available and using a crude application of the migration assumptions, the revised immigration estimate could have an impact upon South Gloucestershire’s re-calibrated population projection of 3-4k, increasing the 2026 estimate to **294k**.

## 4. Appendix: CV

### CV – Dr Peter Boden

Peter Boden is Director of Edge Analytics Ltd and is a Visiting Research Fellow at the Centre for Spatial Analysis and Policy, University of Leeds. Peter has a PhD in demographic forecasting methods and an MBA that specialised in business planning and operations management. He is a member of the British Society for Population Studies

Peter is a specialist in geographical modelling methods and population analysis. He has a particular interest in the impact of internal and international migration upon demographic change in local areas. His latest research focus has been the evaluation and improvement of estimates of immigration to local areas in the UK as part of an initiative to produce ethnic population projections for UK local authorities.

Peter is a former Director of GMAP Ltd, having spent 20 years delivering bespoke geographical modelling solutions to a range of businesses that included WHSmiths, Asda, Ford Motor Company, Esso, BP, NS&I and HBOS. Peter was responsible for the development and delivery of a multi-million pound, global contract for retail planning services to ExxonMobil. In addition, Peter managed the development and delivery of Callcredit's 'over-indebtedness' initiative, providing credit services to UK lenders based upon a unique combination of consumer income and debt profiles.

In the provision of specialist services in population analysis, estimation and projection, Peter continues to work with a range of public and private sector organisations in the UK. In collaboration with the Local Government Association, Peter has made Edge Analytics responsible for the management, development and delivery of a suite of demographic forecasting products used extensively across the UK public sector.

<u>Experience</u>	<u>Qualifications</u>	
2005-	Director, Edge Analytics Ltd 1994	MBA, Bradford Management Centre
2001-2005	Director, Callcredit Information Group 1989	PhD, School of Geography, Univ of Leeds
1997-2000	Director, GMAP Consulting 1985	BA Geography, University of Leeds
1990-1997	Senior Consultant, GMAP Ltd	

#### Peter Boden: Project References, Planning and Policy Research and Analysis

Greater London Authority: Estimating London's new migrant population: – review of methodology

Yorkshire Futures: Ethnic population projections for local authorities in Yorkshire & Humber

Severn Trent Water: Hidden & Transient Populations: An analysis for the Severn Trent Water Supply Area

Places for People: Population and Household Estimates and Forecasts for Local Areas

United Utilities: Void Property forecasts for the North West

Herefordshire Council: Review of population and pupil projections for Herefordshire schools

Yorkshire Water: Population Accounts: Reconciling population totals and components

Yorkshire & Humber Assembly: Review of migration estimates and projections

States of Jersey: Expert advisor to Population Policy Scrutiny Panel

UK Water Industry Research: Debt & Affordability: debt collection performance and income deprivation

One North East: Regional Demographic Model - a review and evaluation

UK Statistics Authority: Review of literature and research on migration estimation in the UK

Office for National Statistics: Member of Expert Panel on Migration Statistics Improvement Programme (MSIP)

#### Peter Boden: Project References, Demographic forecasting

Buckinghamshire Council

Calderdale Council

Cardiff City Council

Carmarthenshire Council

Cornwall Council

Derby City and Derbyshire County Councils

Essex County Council

Leeds City Council

Lincolnshire County Council

Liverpool City Council

North Northamptonshire Council

North Yorkshire Councils

Nottinghamshire County & Nottingham City Councils

South West Councils

West Northamptonshire Council

Wiltshire Council

Worcestershire Councils

## Recent Publications

Rees, P.H., Stillwell, J. and Boden, P. (2009) Regional Demographic Model – A Review and Evaluation, Report for the North East Regional Information Partnership (NERIP), School of Geography, University of Leeds. Leeds

Rees, P.H. Stillwell, J., Boden, P. and Dennett, A. (2009) A Review of Migration Statistics Literature, Part 2 in UK Statistics Authority (ed.) *Migration Statistics: The Way Ahead?*, UK Statistics Authority, Report 4, London, pp. 53-140.

Boden, P. and Rees, P. (2009). Improving the reliability of estimates of migrant worker numbers and their relative risk of workplace injury and illness. Health and Safety Executive

Norman, P., Rees, P., Wohland, P. and Boden, P. (2010) Ethnic group populations: the components for projection, demographic rates and trends. Chapter 14 in Stillwell, J. and van Ham, M. (eds.) *Ethnicity and Integration*. Series: Understanding Population Trends and Processes. Berlin: Springer, in press.

Boden, P. and Rees, P. (2010) Using administrative sources to improve the estimation of immigration to local areas in England. *Journal of the Royal Statistical Society, Series A*, Published Online: Mar 11 2010 3:52AM. DOI: 10.1111/j.1467-985X.2009.00637.x.

Boden, P. and Rees, P. (2010) New Migrant Databank: concept and development. Chapter 5 in Stillwell, J., Duke-Williams, O. and Dennett, A. (eds.) *Technologies for Migration and Commuting Analysis*. IGI Global, Hersey, PA. in press.

McDonald, A., Boden, P., Clarke, M. and Kay, D. (2010) Making and measuring a (water) mark. The Yorkshire and Humber Regional Review

Wohland P, Rees P, Norman P, Boden P and Jasinska M (2010) Ethnic Population Projections for the UK and Local Areas, 2001-2051, Working Paper 10/2, School of Geography, University of Leeds

Wohland P, Rees P, Norman P and Boden P (2010) Alternative futures for the UK's ethnic populations: sensitivity and scenario analyses. *Population, Space and Place*, submitted.

Rees P, Wohland P, Norman P and Boden P (2011) A local analysis of ethnic group population trends and projections for the UK. *Journal of Population Research*, DOI 10.1007/s12546-011-9047-4, in press

Stillwell J and Boden P (2011) UK internal and international migration in the twenty-first century. Chapter 6 in Stillwell J and Clarke M (eds.) *Population Dynamics and Projection Methods: Essays in Honour of Philip Rees*. Series: Understanding Population Trends and Processes - Volume 4. Berlin: Springer.