Housing Trend Analysis

&

Population and Household Projections

Commissioned by

Gloucestershire County and Districts Planning Authorities

As part of Gloucestershire Housing Evidence Review

Final Report

May 2011

The Research Team

Chief Executive's Support Unit

Gloucestershire County Council

The Housing Trend Analysis and Population and Household Projections report is commissioned by Gloucestershire County and districts planning authorities. It contains details of the assumptions made in its analysis, and all of the data used and sources are also available in the appendices. The purpose of the report is to contribute to the Gloucestershire Housing Review evidence base and support planners in their development of policies.

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**Cheltenham Borough Council, Gloucester City Council and Tewkesbury Borough Council are presently working together on a Joint Core Strategy (GCT-JCS), which will incorporate key policies on housing and growth for each of the three local planning authorities.*

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Summary of Findings

The Housing Trend Analysis and Population and Household Projections study is commissioned by Gloucestershire County and Districts planning authorities in response to the forthcoming planning reform that seeks to devolve most planning related decisions on housing, which are to be based on robust evidence, to local authorities. The key aim of the study is to explore specifically the role of new housing provision in the population dynamics in Gloucestershire districts, the interaction between new housing and economic growth, and alternative population projection scenarios based on trend and employment assumptions. The findings of the study will feed into a wider Gloucestershire Housing Evidence Review that will include other parameters and considerations that may have an impact on future housing requirements.

The following summarise the key findings of this study for each local planning authority area in Gloucestershire.

County context

Between 1992 and 2009/10, a total of 42,730 new housing were delivered throughout Gloucestershire, with Gloucester accounting for nearly half of the delivery over that period. The overall housing stock in the County is currently estimated to be around 267,900, with Cheltenham housing the largest number of dwellings (20.2%), closely followed by Gloucester (19.7%). In terms of population distribution, however, Gloucester is the most populated area in the County.

Data suggest that the number of population moves into the County was around 20,000 a year, twice the number of inter-district moves. Data derived from local GP register records between 2006 and 2010 suggest that local indigenous population in the county are more likely to move into local new housing than those who move from outside the county (6.5% vs 5.9%). The vast majority of both types of movers, however, move to existing dwellings (93.5% and 94.1% respectively).

Cheltenham

- A total of 7,258 new dwellings were built in Cheltenham between 1992 and 2009/10. The total dwelling stock is now estimated to be around 54,100, which is the largest in the County.

- The overall provision of new dwellings in Cheltenham has been in pace with household formations since 1991. Households as a proportion of dwellings is now estimated to be around 96.0%, compared to 96.8% in 1991.
- Demand for housing from indigenous population has become increasingly more important in Cheltenham. In 2004-2009, 75% of new households were formed from within the indigenous population, compared to 25% of new households attributable to net migration.
- Cheltenham is the favourite location in Gloucestershire for migrants from outside the county, and attracts an average of 4,700 people a year from outside the county.
- Within the county, inward migration to Cheltenham has been primarily from Tewkesbury. There is no clear link between new housing completions in Cheltenham and inward migration. However, there appears to be some connection between new completions and out-migration; the more completions, the less outflows to outside the county.
- Study of two recent housing developments in Cheltenham, namely Oakley site and Persimmon Gardens, indicates that nearly half of residents in these two new developments had previously been resident within Cheltenham.
- The rise in dwelling numbers in Cheltenham seems to be contrary to the general downward trends in employment. However, increased housing provision may have contributed to a larger proportion of Cheltenham residents now working locally (from 70% in 2001 to 77% in 2008).
- There has been a marked increase in in-commuting from Tewkesbury, which may be linked to the high level of out-migration from Cheltenham to Tewkesbury.
- Employment-based projections suggest that population in Cheltenham is expected to increase to 121,300 by 2020, compared to 121,900 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 57,200, compared to 57,500 based on current trends.

Cotswold

- Between 1992 and 2009/10, a total of 5,389 new dwellings were delivered in Cotswold and the total number of dwellings is now estimated to be around 39,100.

- Comparison of dwellings and household trends in Cotswold suggests that households as a proportion of dwellings is now estimated to be around 94.5%, compared to 91.4% in 1991. However, the margin of dwellings over households in Cotswold is the largest in the county.

- Net migration is the key driving force behind the housing market in Cotswold. In 2004-2009, 68% of new households are attributable to net migration, which is the highest proportion in the county. This compares to 32% that were formed from within the indigenous population.

- Of all districts, Cotswold has the lowest level of population exchange with other districts within the county; only 15% of the inward migration to Cotswold originated from other Gloucestershire districts and just 21% of the outflow from Cotswold was to other districts within the county. The majority of internal migration to Cotswold was from outside Gloucestershire, averaging around 4,100 people a year.

- Within the county, most of the population exchange took place with Cheltenham and Stroud. Notably, Cotswold’s outflow to Cheltenham and Stroud has been highly responsive to new housing completions in these two districts. Inflow from Gloucestershire districts to Cotswold, on the other hand, did not seem to correlate with the level of new completions in the district.

- Study of two recent housing developments in Cotswold, namely the rear of Coach and Horses *(known now as Bourton Chase*) and Land at Stratton Mills *(also known as Newland Mills)* indicates that residents of these two new developments came almost entirely either from within Cotswold district or from beyond Gloucestershire.

- The broadly upward trend in local employment is consistent with the gradual rise in dwellings in Cotswold. Commuting patterns also seem to be consistent with the emerging employment and housing picture; out-commuting level reduced and the proportion of residents working locally increased when new completions and local employment rose.

- Employment-based projections suggest that population in Cotswold is expected to increase to 88,200 by 2020, compared to 87,700 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 40,700, compared to 40,500 based on current trends.

Forest of Dean

- Between 1992 and 2009/10, a total of 4,567 new dwellings were delivered in the Forest of Dean, the lowest number among Gloucestershire districts. The total number of dwellings in the Forest is estimated to be around 35,600 as at 2009/10.

- The rate of provision of new dwellings in the Forest seems to have lagged behind household formations in the past 10 years. Households as a proportion of dwellings is now estimated to be around 99.0%, compared to 95.1% in 1991.

- Demand for housing from indigenous population has increased. In 2004-2009, 62% of new households were formed from within the indigenous population, compared to 38% of new households attributable to net migration.

- Population exchange between the Forest and rest of the county is low. On average, only about 22% of the inflow originated from within Gloucestershire and a similar proportion of the outflow (24%) was to other districts within the county. The majority of in-migrants was from outside the county, averaging around 3,000 a year.

- Within the county, inward migration to the Forest has been primarily from Gloucester. There appears to be a link between the level of inward migration and the number of new house build in the district; an increase in new completions was generally connected to an increase in inflow, and vice versa.

- There does not seem to be an apparent link between housing and employment in the Forest of Dean, which may be linked to the findings that the majority of new households are formed from within the indigenous population. The steady increase in dwellings has not coincided with an increase in employment. Instead, data suggest that Forest of Dean is a net out-commuting area, with 36% of its residents travel for employment (particularly to Gloucester and outside Gloucestershire), which is the highest proportion of all districts.

- Employment-based projections suggest that population in the Forest is expected to increase to 85,000 by 2020, compared to 87,000 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 37,800, compared to 38,600 based on current trends.

Gloucester

- Between 1992 and 2009/10, a total of 10,881 new dwellings were delivered in Gloucester. The total number of dwellings in Gloucester is now estimated to be around 52,700.
- The provision of new dwellings in Gloucester has been broadly in pace with household formations although there are signs that the market is tightening in recent years. Households as a proportion of dwellings is now estimated to be around 97.6%, compared to 97.1% in 1991.
- Demand for housing from the indigenous population continued to be the driving force behind the local housing market. In 2004-2009, 69% of new households were formed from within the indigenous population, compared to 31% of new households attributable to net migration.
- There is a high level of population exchange between Gloucester and other districts in the County. Nearly half (48%) of the inflow to Gloucester originated from other Gloucestershire districts and about 46% of the outflow was to other districts within the county. These are the highest percentages of all districts.
- Within Gloucestershire, Gloucester is a favourite location for migrants from Stroud and Tewkesbury whose moves are found to be highly responsive to the new housing supply in Gloucester. The overall net internal migration (including from out of county) to Gloucester has dropped rapidly after 2007 when housing delivery started to decrease.
- Study of two recent developments in Gloucester, namely Kingsway, Quedgeley and Awebridge Way, indicates that most movers to the Kingsway and Awebridge Way developments had origins within Gloucestershire. Three-quarters of movers to Awebridge Way, and nearly half of movers to Kingsway, originated from Gloucester itself.
- There does not appear to be a clear link between housing provision and employment growth. The relatively high level of housing completions since mid-2000, for instance, did not seem to have linked to an increase in employment, which has actually reduced. During the same period, out-commuting increased, particularly to Cheltenham and out of County.
- Employment-based projections suggest that the population in Gloucester is expected to increase to 126,700 by 2020, compared to 136,200 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 56,600, compared to 60,600 based on current trends.

Stroud

- Between 1992 and 2009/10, a total of 7,105 new dwellings were delivered in Stroud. The total number of dwellings in Stroud is now estimated to be around 49,500.
- The rate of household formation in Stroud was found to have risen faster than the provision of new dwellings in recent years, contrary to the trends in the previous 5-year period. Households as a proportion of dwellings is now estimated to be around 97.6%, compared to 95.7% in 1991.
- The proportion of household growth that can be attributed to net migration is relatively high in Stroud. In 2004-2009, an estimated 53% of new households were attributable to net migration, compared to 47% that were formed from within the indigenous population. However, demand for housing from the indigenous population in the local housing market has grown in the last five years compared to previous years.
- The majority of internal migration to Stroud was from outside Gloucestershire, averaging about 3,400 people a year. Within the county, inward migration to Stroud has been primarily from Gloucester.
- There appears to be some relationship between new completions in Stroud and the level of inward migration from outside the county, from Gloucester and from Cotswold. Outflow from Cotswold to Stroud, in particular, is found to be consistently linked to the supply of new housing in Stroud.
- Study of a recent housing development in Stroud, namely Stroud College (Orchard Leaze) indicates that most people who moved to the development have moved from within Gloucestershire, with the large majority of these from within Stroud district itself.
- There has been some association between the level of employment in Stroud and the amount of new housing completions in the district. The increase in employment may have also resulted in a marked increase in in-commuting to the district.
- Employment-based projections suggest that population in Stroud is expected to increase to 117,900 by 2020, compared to 119,800 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 52,400, compared to 53,200 based on current trends.

Tewkesbury

- Between 1992 and 2009/10, a total of 7,534 new dwellings were delivered in Tewkesbury. It is estimated that by 2009/10, the total number of dwellings in Tewkesbury was around 36,900.

- The rate of new dwelling provision in Tewkesbury has been higher than household formations since early 2000s. Household as a proportion of dwelling is now estimated to be around 94.9%, compared to 97.1% in 2001. Compared to previous years, however, dwelling provision and household formations were more aligned in recent years.

- The proportion of household formations in Tewkesbury attributable to migrants is relatively high compared to most other districts in Gloucestershire. In 2004-2009, about 58% of new households were attributable to net migration (second highest in the county) and an estimated 42% of new households were formed from within the indigenous population. Compared to the period 1998-2003, however, indigenous household growth has increased and become more important in the local housing market.

- Tewkesbury received an average of 4,800 internal migrants per annum from within the UK, and about half of the inflow originated from within Gloucestershire.

- Within the county, inward migration to Tewkesbury has been primarily from Cheltenham. There was also a significant number of inward migrants from Gloucester. Population moves from Cheltenham to Tewkesbury, in particular, are found to be highly responsive to the new housing completions in Tewkesbury.

- Study of two recent housing developments in Tewkesbury, namely the land off Bredon Road and the former Shell Site *(now known as Centurion Way)*, indicates that more than a third of movers to the Bredon Road development moved from outside the County, reflecting that the development is located close to the County boundary. More of the Shell site residents originated from Gloucester City than from Tewkesbury Borough itself.

- The generally upward trend in employment in Tewkesbury has coincided with a general increase in dwelling numbers in the past 20 years but the connections have not been always consistent.

- Tewkesbury has seen a rapid increase in out-commuting between 1991 and 2008; 60% of people now travelling out for employment which is the largest proportion of any districts in the county. Over half of the out-commuting is to Cheltenham, which may be linked to the high level of inward-migration from Cheltenham to Tewkesbury.

Part 1 - Introduction

Section 1.1 Context - Planning System and Reforms around Housing

The planning system is currently undergoing major reforms incorporating new primary legislation – Localism Bill, a new consolidated national policy framework, and a variety of regulatory changes and initiatives aimed at supporting growth. The most significant change is the shift away from the national-to-local, hierarchical plan making system set out in the Planning and Compulsory Act (2004), constructed of prescriptive national planning policy guidance and statements (PPG and PPGs), Regional Spatial Strategies (RSSs), and Local Development Frameworks (LDFs). The reforms promote an alternative model of planning described as Localism, which includes the abolition of regional tier planning; consolidation of all national planning policy guidance into a single, streamlined source; and an increasing focus on local plan-making as the solution to future land-use challenges. The new model also aims to introduce a new local tier of planning to be known as Neighbourhood Plans.

From a housing planning policy perspective, the proposed reforms are likely to be significant. Under the existing system, much of the core policy decisions for housing such as the overall number and strategic distribution have been resolved through the preparation of Regional Spatial Strategies (RSSs). Local planning authorities, as part of their LDF programmes, have been responsible for deciding the type and tenure of new housing units and potential locations and sites for delivery. National level guidance has also provided significant advice on policy and methodology including an overarching approach to housing delivery known as the '5-year land supply'. This approach has required authorities to keep a register of housing sites which could be delivered within the next five years. The number of units to be delivered through the five year supply has had to meet the 'housing trajectory' set out in local planning policy documents, which in turn was to be derived from the Regional Spatial Strategy. In the absence of locally adopted housing trajectories, the RSS has been used as the measure for five-year supply by the Planning Inspectorate.

The new system seeks to devolve almost all planning related decisions on housing (i.e. the number, distribution, tenure and location) to local planning authorities through their preparation of new local plans. The Government has stated keenness for local housing policy and decision making to be supported by robust evidence, and intends to provide new guidance on what will count as a legitimate evidence base. However, in keeping with their general ethos of decentralised decision-making it seems likely that this will be less comprehensive than previous Strategic Housing Market Assessment (SHMA) guidance. Through a new statutory duty to co-operate, local authorities will also be required to demonstrate how they have reflected strategic, 'larger-than-local' issues such as how planning policy decisions covering housing delivery may influence or be influenced housing market areas, which often crosses several local authority areas. At present the proposed planning reforms do not seek to remove the five-year land supply approach, however the policy target for which it is to be measured will need to reflect the new locally derived housing requirement rather than the previous RSS or structure plan position.

Section 1.2 Housing Trend Analysis and Population and Household Projections

The Housing Trend Analysis and Population and Household Projections study is commissioned by Gloucestershire County and District planning authorities and undertaken by Gloucestershire County Council Research Team, with a view to contributing to the evidence base for districts' decision-making on housing. The study covers all local planning authorities in Cotswold, Forest of Dean and Stroud as well as the Cheltenham, Gloucester and Tewkesbury joint core strategy authority area.

This report presents the full findings of the study, following an interim report which was presented to the Joint Core Strategy Members' Steering Group on Dec 15th 2010 at which the approach, methodology and format of the study were approved. Since then, the study has incorporated the latest Department for Community and Local Government (CLG) 2008-based headship rates which has significantly revised the assumptions on household formation patterns (See 2.3 Interpreting Data). This has had a significant impact on the original findings on estimated and projected household numbers in the interim report, which is now superseded by this report.

1.2.1 Purpose of the study

The key purpose of the study is to provide county and district planners with analytical information on the possible role of housing in the current population and economic dynamics, and to project future possible population and household numbers based on trend and economic assumptions. The findings will form part of the input to a wider Gloucestershire Housing Evidence Review, which includes an econometric model on affordability and related housing variables, which are separately commissioned by Gloucestershire County and District planning authorities and undertaken and reported by Heriot-Watt University.

1.2.2 Scope of the study

Specifically, this study comprises two components; housing trend analysis and population and household projections:

Housing trend analysis

Through cross-analysing currently available time-series datasets on housing, population and employment, the trend analysis aims to

1. Identify the relative levels of demand for housing from indigenous and migrant population.

2. Examine the relationship between housing provision and migration, with a view to better understanding how housing provision may affect population moves.

3. Case study population moves to new housing developments, in order to understand the nature of demand for new housing and population implications of new house build.

4. Investigate the link between housing provision and employment growth in the past, including travel-to-work patterns, to understand possible economic implications of housing.

Population and household projections:

Using the Cambridge Econometrics Local Economy Forecasting Model and the POPGROUP forecasting modelling suite, this part of the study is to explore the impact of forecast employment growth on future population and household numbers for each district planning authority, in comparison with projections based on current trends.

1.2.3 Interpreting Data

This study draws on a wide range of datasets from a variety of sources in an effort to examine the link between housing, population and employment variables. As a result there are a number of issues that planners and other users need to be aware of in interpreting the data in this study.

- The **time reference periods** of many of the datasets covered in the study are not aligned. Population, household and migration data are mid-year figures, while housing completion records relate to calendar year (pre-2003) and financial year (post-2003). Census data on dwellings and commuting are March-based. Employment figures are combined data from different sources with various time reference periods. It is therefore recommended that when interpreting any link between variables in this study, the focus is on longer-term correlation rather than annual associations.

- The **variable time lag** between individual housing developments and their effect on population and employment also means that it is not advisable to look at specific housing impact in a given year or, in some cases, years.

- **Population estimates** between 1991 and 2006 included in the study are from the Office for National Statistics (ONS). From 2007 onwards, the statistics are drawn from Gloucestershire County Council (GCC) in-house estimates, which are derived from local sources[1]. In view of this, the population difference between 2006 and 2007 for any districts shown in the study should not be interpreted as an annual change. Instead they should be considered as accumulated differences between the ONS and GCC estimated population numbers over the period 2001-2007.

- Similarly, **international migration estimates** are taken from the ONS up to 2003, which are based on national annual passenger surveys. Statistics from 2004 onwards are based on GCC in-house estimates, with are derived from local National Insurance Registration records, with assumptions on short-term migration and outflow[2]. Therefore, any step change in international migration figures between 2003 and 2004 shown in the report should be viewed with this in mind.

- **Housing completion data** are supplied by district planning authorities. It should be noted that the increase in the number of dwellings between 1991 and 2001 derived from the Census differ from the aggregate housing completion statistics provided by districts for the inter census years. In estimating total dwelling stock, the study uses the 2001 Census dwelling figures as the starting point and then adds on annual completion numbers for each subsequent year.

[1] For details on methodology please see Appendix 2 in Gloucestershire Local Projections 2010 report via http://www.gloucestershire.gov.uk/inform/index.cfm?articleid=94725

[2] For details on methodology please see Appendix 3 in Gloucestershire Local Projections 2010 report via http://www.gloucestershire.gov.uk/inform/index.cfm?articleid=94725

- The **CLG 2008-based headship rates** were released after the preparation of the interim report which was based on the then available 2006-based headship statistics. The latest CLG headship rates, which revised downward household formations among people aged 20-40, have been integrated in this report in estimating and projecting household numbers. As a result, the provisional findings in the interim report have now been superseded by this final report.

1.2.4 Supporting data and sources

All data used in the report are set out in relevant tables in the Appendix with sources indicated.

Section 1.3 A County Overview

1.3.1 Housing delivery

Housing completion records from district planning authorities suggest that between 1992 and 2009/10, a total of 42,730 new housing were delivered across Gloucestershire. It is estimated that by 2009/10, there were a total of 267,930 dwellings in the county, compared to 221,330 in 1991, or an increase of 46,600 dwellings.

On average, completions increased from about 2,280 per annum during the period 1992-2000 to 2,460 per annum during 2001-2009. The increase was mainly driven by a surge in new housing supply in 2006 and 2007 when the Regional Spatial Strategy came into force. House building rates, however, slowed significantly in 2009/10 when the impact of the recession sank in.

There are disparities in housing delivery between districts. Data show that the increase in completions since 2001 has been largely accounted for by Gloucester and Cheltenham where the number of new house build has increased substantially. By comparison, Cotswold, Forest of Dean and Tewkesbury all recorded a reduction whereas in Stroud there was only a marginal increase. By 2009/10, Cheltenham had the largest housing stock in the County, representing 20.2% of all dwellings, followed by Gloucester (19.7%). The Forest and Tewkesbury have the smallest shares, at 13.3% and 13.8% respectively.

Figure 1.3.1

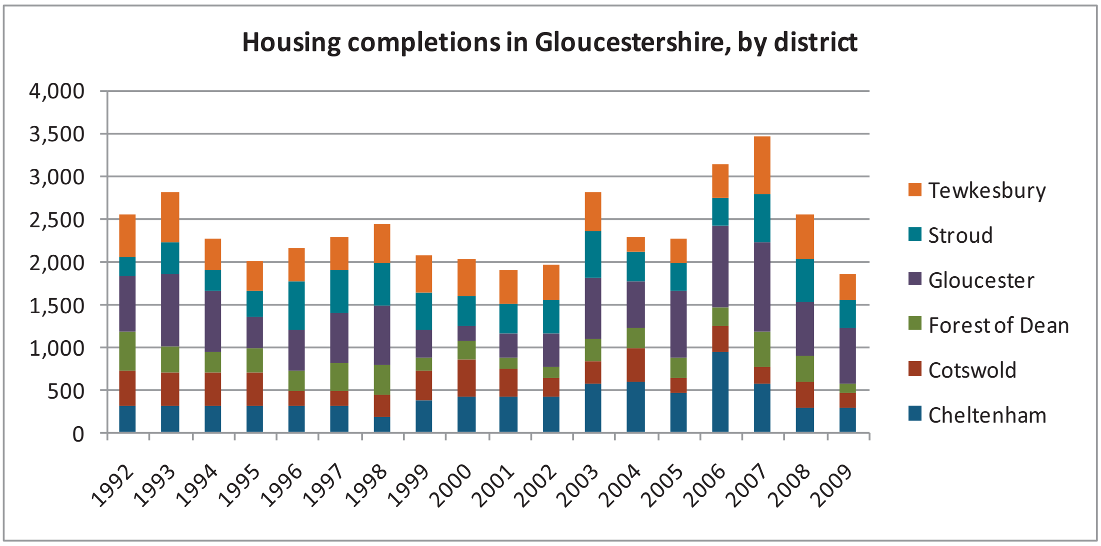


Figure 1.3.2

Housing delivery and dwellings in Gloucestershire

	New Completions		Total dwellings			% County dwellings
	1992-2000	2001-2009	Census 1991	Census 2001	2009	2009
	No.	No.	No.	No.	No.	%
Gloucestershire	20,564	22,170	221,330	246,390	267,930	100.0
Cheltenham	2,774	4,484	45,200	49,800	54,140	20.2
Cotswold	3,009	2,380	33,070	36,800	39,080	14.6
Forest of Dean	2,549	2,018	30,400	33,640	35,610	13.3
Gloucester	4,847	6,034	41,480	46,780	52,720	19.7
Stroud	3,474	3,631	42,400	45,960	49,480	18.5
Tewkesbury	3,911	3,623	28,780	33,410	36,900	13.8

1.3.2 Population change

While the number of dwellings in Gloucestershire increased by 46,600 between 1991 and 2009, population rose by almost 64,000 from 536,000 to nearly 600,000 during the equivalent period. The largest increase was in Gloucester (up 17,000), Tewkesbury (10,600) and Stroud (10,500), which is broadly consistent with dwelling trends. Population increase in Cheltenham, however, has been relatively modest when compared against new dwelling provision in the area in the past two decades.

Figure 1.3.3 shows that while the current housing stock distribution broadly translates into districts' share of population in the County, there are some variations which are indicative of differing household size and levels of vacancies, second homes and concealed households across districts.

Figure 1.3.3

	Population change in Gloucestershire				
	Population 1991 Census	2001 Census	2009 GCC	% County population 2009	% County dwelling 2009
Gloucestershire	535,980	565,000	599,800	100.0%	100.0%
Cheltenham	107,010	110,020	116,200	19.4%	20.2%
Cotswold	74,830	80,390	84,000	14.0%	14.6%
Forest of Dean	75,820	80,060	83,100	13.9%	13.3%
Gloucester	103,500	109,950	120,500	20.1%	19.7%
Stroud	104,100	108,060	114,600	19.1%	18.5%
Tewkesbury	70,720	76,520	81,300	13.6%	13.8%

1.3.3 Migration

Internal migration data suggest that the number of population moves in and out of the County was about twice the number of moves between districts. On average, about 20,600 and 18,500 people moved in and out of Gloucestershire annually over the past 10 years. This compares to an annual average of 10,000 moves between districts.

Figure 1.3.4

Population Exchange with outside the County and between Districts			
	Inflow to County	Outflow from County	Inter-district inflow/outflow
2000	21,008	19,106	10,350
2001	20,915	19,045	9,570
2002	21,122	18,788	9,910
2003	20,910	18,143	9,740

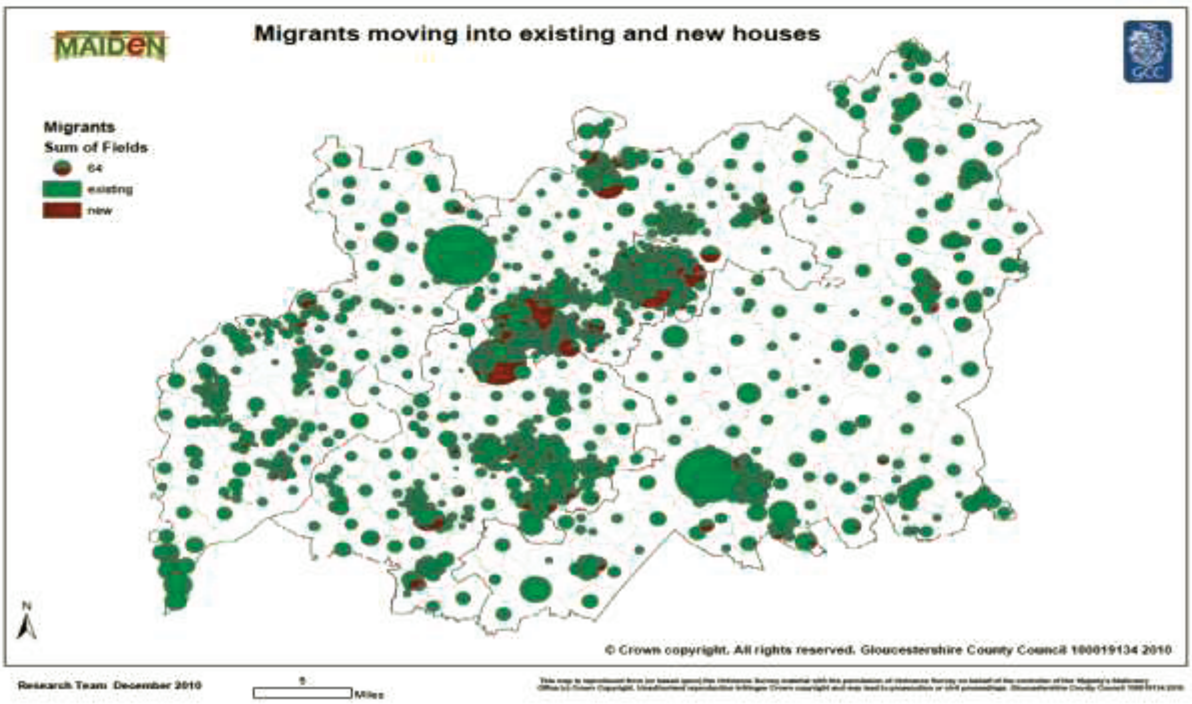
2004	21,574	19,344	9,770
2005	20,101	18,088	9,510
2006	20,187	18,530	9,930
2007	20,845	18,521	11,000
2008	19,262	17,758	10,220
2009	19,649	17,272	9,720
Annual average	20,557	18,460	9,972

Population flows between districts and their connection with housing provision will be examined in later Sections in this report. This section looks at moves between 2006 and 2010 at the county level, using anonymised GP patient register records. Overall, more than 100,000 Gloucestershire residents moved address within Gloucestershire between September 2006 and January 2010; 40% of these moves were very local i.e. within one mile and 70% of these moves were local, within 3 miles.

Just over 22,000 moves within Gloucestershire involved moving from one Local Authority area to another. 4% of these moves were very local (within one mile) and 20% of these moves were local (within 3 miles).

Figure 1.3.5 below further shows the destinations of migrants into Gloucestershire during that period, identifying numbers moving into existing and new housing.

Figure 1.3.5



There were almost 66,000 people living in Gloucestershire in January 2010 who were not living in the County in September 2006 (excludes under 3 year olds who may have been born here or may have moved here as infants). The map above shows that at the County level, the large majority (94.1%) of in-migrants from outside the County moved to existing dwelling stock, compared with 5.9% who moved to new housing developments. The corresponding proportions for 'in-County' movers are 93.5% and 6.5%.

'Out-of-County' moves most commonly have Cheltenham as their destination, whilst for 'in-County' moves Gloucester is the most common destination. Almost 1 in 5 'Out-of-County' moves have Cotswold as their destination, compared to one-in-ten Cotswold destinations for 'In-County' moves.

Movers into Gloucestershire from outside the County are a little younger, on average, than 'in-County' movers, although this is not the case for Gloucester destinations. 'In-County' moves are slightly more likely than 'Out-of-County' moves to involve a child.

Figure 1.3.6

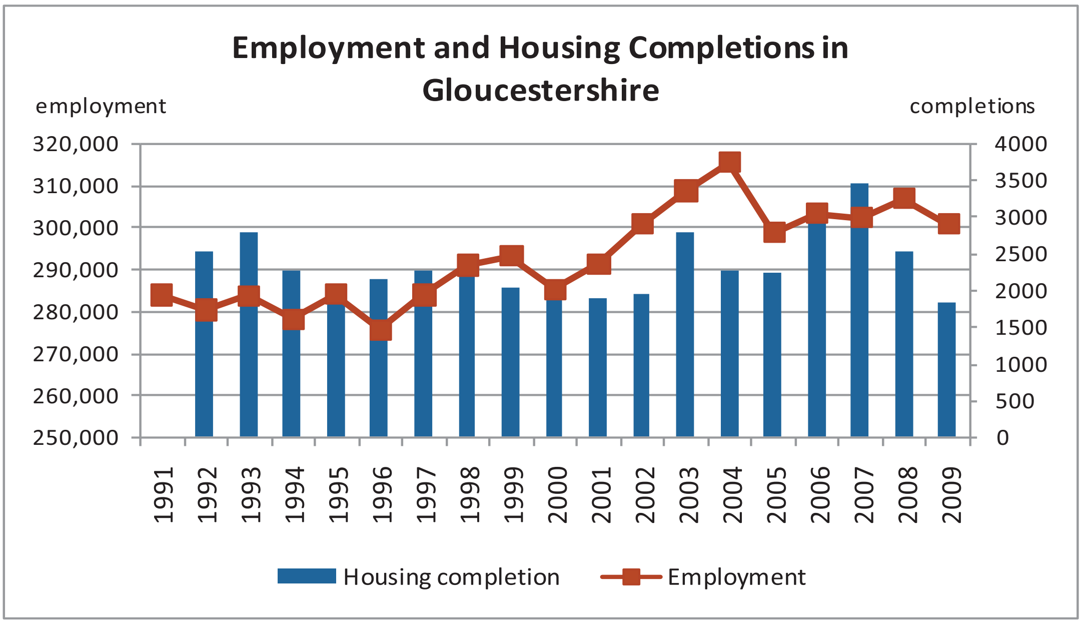
Local Authority destination	'Out-of-County' movers	% of 'Out-of-County' movers	average age of 'Out-of-County' movers	% of 'Out-of-County' movers who are children	'in-County' movers	% of 'in-County' movers	average age of 'in-County' movers	% of 'in-County' movers that are children
Cheltenham	17166	26.1	28.7	16.2	21707	21.3	34.1	17.4
Cotswold	12052	18.3	35.5	17.2	11136	10.9	38.2	19.1
Forest of Dean	8109	12.3	33.5	20.0	12011	11.8	35.6	20.6
Gloucester	11042	16.8	29.4	19.6	24404	24.0	32.6	20.7
Stroud	10479	15.9	33.9	20.2	18757	18.4	36.5	19.6
Tewkesbury	7007	10.6	34.5	19.6	13839	13.6	35.6	20.1
COUNTY	**65855**		**32.6**	**18.8**	**101854**		**35.4**	**19.6**

1.3.4 Employment and commuting

The overall employment level in Gloucestershire was on an upward trend between 1991 and 2004 when the number of jobs peaked at 316,000. Between 2004 and 2005 employment reduced sharply before it rose steadily until 2008. The latest employment figures confirm the adverse effect of the current recession on the local economy. The number of jobs fell in 2009 and is estimated to be just around 300,000.

Comparison between housing and employment trends in the county seems to indicate some associations. The increase or reduction of new housing completions appears to be generally followed by a rise or fall in employment. However, it is not clear to what extent both might be linked through other factors, e.g. the state of the local economy.

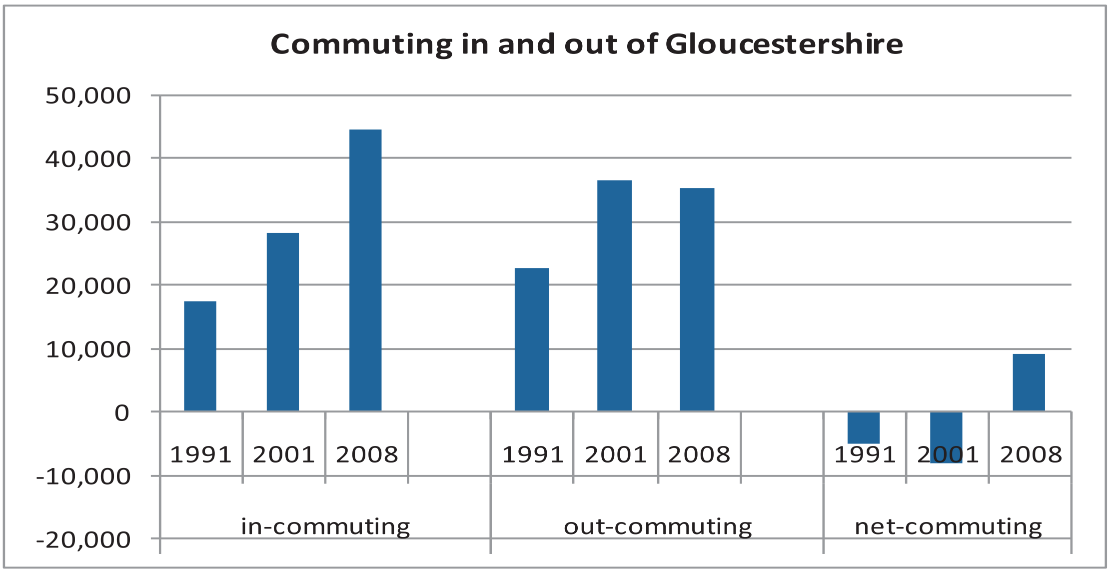
Figure 1.3.7



Available data on commuting suggest that there are some impacts of employment on out-commuting at the County level. For instance, during the years of economic growth in 2001-2008, the overall increase in employment coincided with a reduction of out-commuting over the same period.

Related to this is the continued increase in the level of in-commuting during this period. It is estimated that the number of in-commuters travelling from outside the county to work in Gloucestershire increased from 28,000 to 44,000 between 1991 and 2008. This is consistent with the data that suggest that in 2008, 85% of local jobs in Gloucestershire were taken up by local residents, down from 88% in 2001.

Figure 1.3.8


Commuting in and out of Gloucestershire
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
1991
2001
2008
1991
2001
2008
1991
2001
2008
in-commuting
out-commuting
net-commuting

Part 2 - Trend Analysis

The following sections set out the findings from the time series analysis on the relationship between housing, population and employment for each of the six Gloucestershire districts, namely Cheltenham, Cotswold, Forest of Dean, Gloucester, Stroud and Tewkesbury.

Section 2.1 Cheltenham

2.1.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 7,258 new dwellings were delivered in Cheltenham, averaging 400 a year. According to the 2001 Census dwellings data and subsequent housing completion records, the total number of dwellings in Cheltenham is estimated to be around 54,100 as at 2009/10.

House building rates in Cheltenham, however, were not uniform throughout the period. Average housing completion during 1992-1997, for instance, was about 300 a year and this increased to 390 in 1998-2003. Recent deliveries showed more fluctuations and the number of new housing peaked, at 930, in 2006 when the Regional Spatial Strategy came into force. In 2008 and 2009, however, the annual average dropped rapidly to below 300 due to the recession.

Over the same period 1992-2009, total population increase in Cheltenham is estimated to be 9,200, reaching 116,200 in 2009. Household formation also increased, by about 6,600 to just below 52,000 in 2009. The large increase in household numbers relative to population growth was largely attributable to falling average household size, which is in line with national and county trends. The average number of persons per dwelling in Cheltenham was estimated to be around 2.15 in 2009, down from 2.37 in 1991.

Comparison of dwellings and household trends in Cheltenham suggest that the overall provision of new dwellings in Cheltenham has been in pace with household formations since 1991. Households as a proportion of dwellings is now estimated to be around 96.0%, compared to 96.8% in 1991.

Figure 2.1.3 shows the relative change in housing completions, population and household numbers in Cheltenham since 1992. It shows that the most recent household/dwelling ratios have been around 96:100, similar to those in the early 2000s.

Figure 2.1.1

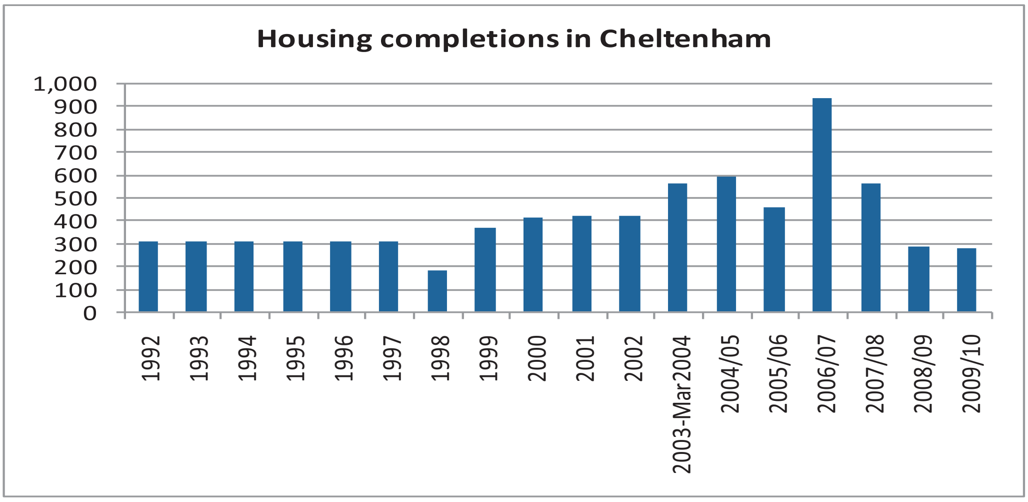
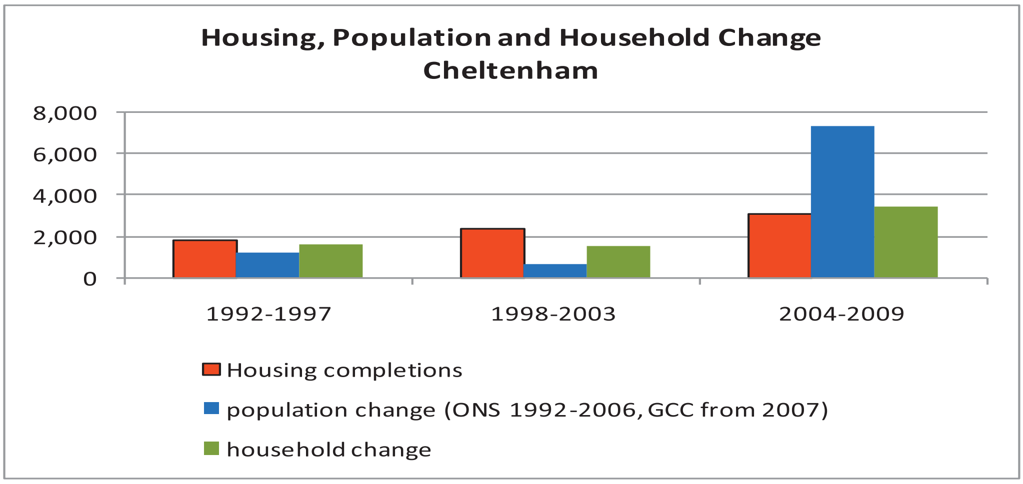


Figure 2.1.2

	Housing, population and households - Cheltenham									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	45,200	49,800	50,490	51,050	51,640	52,090	53,030	53,580	53,870	54,140
Population	107,010	110,020	109,590	108,870	109,280	110,340	110,910	114,480	115,300	116,240
Households	43,770	48,160	48,400	48,480	49,000	49,480	49,430	51,190	51,510	51,950
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Households as % dwellings	96.8%	96.7%	95.9%	95.0%	94.9%	95.0%	93.2%	95.5%	95.6%	96.0%
Population per dwelling	2.37	2.21	2.17	2.13	2.12	2.12	2.09	2.14	2.14	2.15

Figure 2.1.3



2.1.2 Indigenous and migrant demand for housing

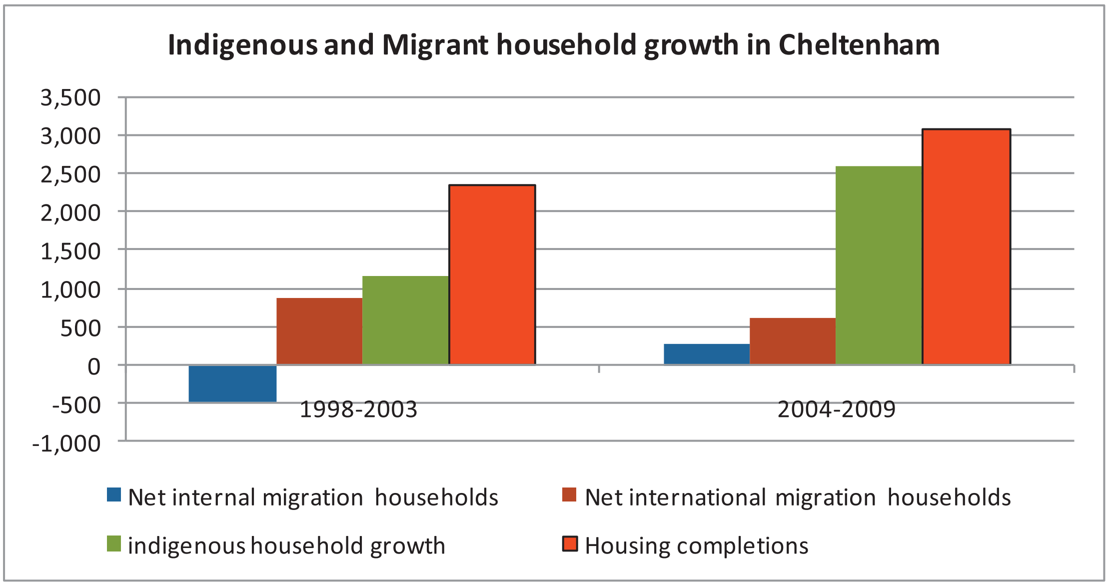
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 5,020 new households were formed in Cheltenham. In the same period, net migration to Cheltenham was estimated to be around 2,650 and the associated number of households arising from net migration was estimated to be around 1,270. The differential, i.e. about 3,750 households, is taken as the estimated number of households formed from within the indigenous population.

Figure 2.1.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that demand for housing from the indigenous population has increasingly become the driving force behind the local housing market. In 2004-2009, 75% of new households were formed from within the indigenous population, compared to 25% of new households attributable to net migration.

Figure 2.1.4



2.1.3 Housing and inter-district migration

This section examines the population dynamics between Cheltenham and other districts within Gloucestershire, and their possible link with housing provision in the district.

Over the past 10 years, Cheltenham received an average of 6,600 internal migrants per annum from within the UK, and exported similar number of people to other areas within the country. Typically, around 30% of the inflow originated from within Gloucestershire and about 35% of the outflow was to other districts within the county.

Figure 2.1.5 shows internal migration trends to Cheltenham in the past 10 years, with associated housing completions over the same period. It can be seen that the majority of internal migration to Cheltenham was from outside Gloucestershire, averaging around 4,700 people a year. This put Cheltenham as the favourite location in Gloucestershire for migrants from outside the county.

Within the county, inward migration to Cheltenham has been primarily from Tewkesbury, which ranged between 750 and 930 people a year. There has also been a gradual upward trend in inward migration from Gloucester, reaching 500 people in three consecutive years between 2007 and 2009. It seems that there is no clear link between new housing completions in Cheltenham and inward migration, suggesting that the existing housing stock may have played a key role in attracting migration. There, however, appears to be some connection between new completions and out-migration to outside Gloucestershire; the more completions, the less outflows to outside the county.

Taking into account both in and out-migration, the largest net inflow to Cheltenham was from outside the county, averaging about 380 a year. Within the county, population exchange between Cheltenham and other districts was broadly balanced. The only exception is with Tewkesbury, to which the outflow from Cheltenham is significantly higher than the inflow, with a net outflow of 450 people in 2009.

Figure 2.1.5

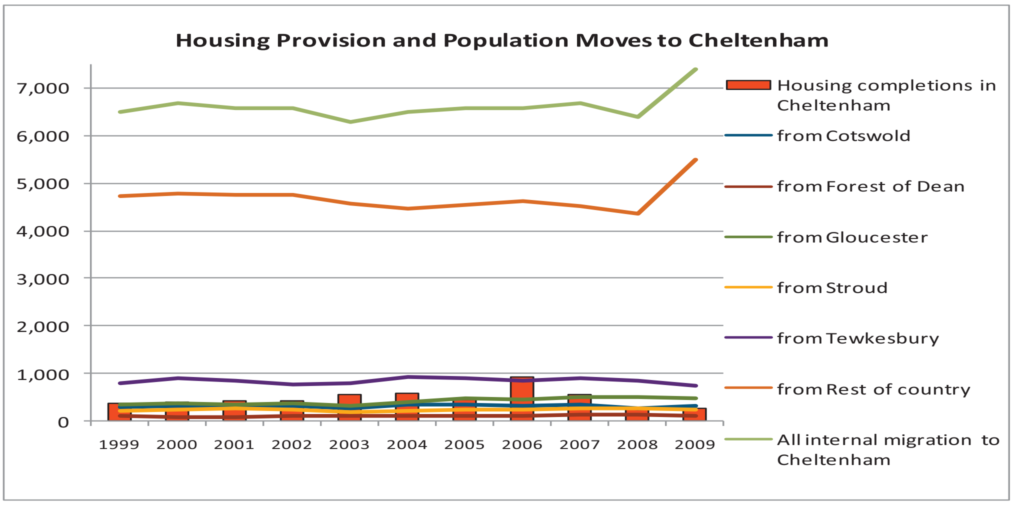


Figure 2.1.6

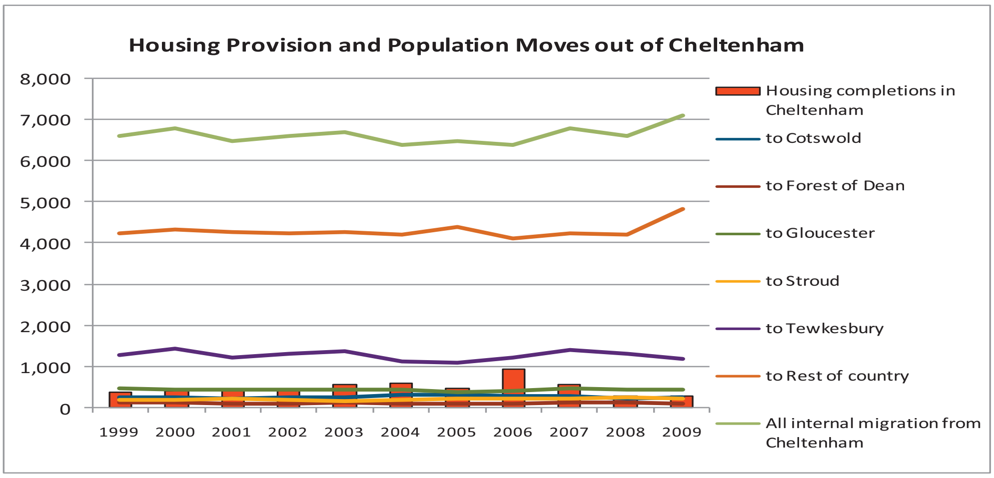
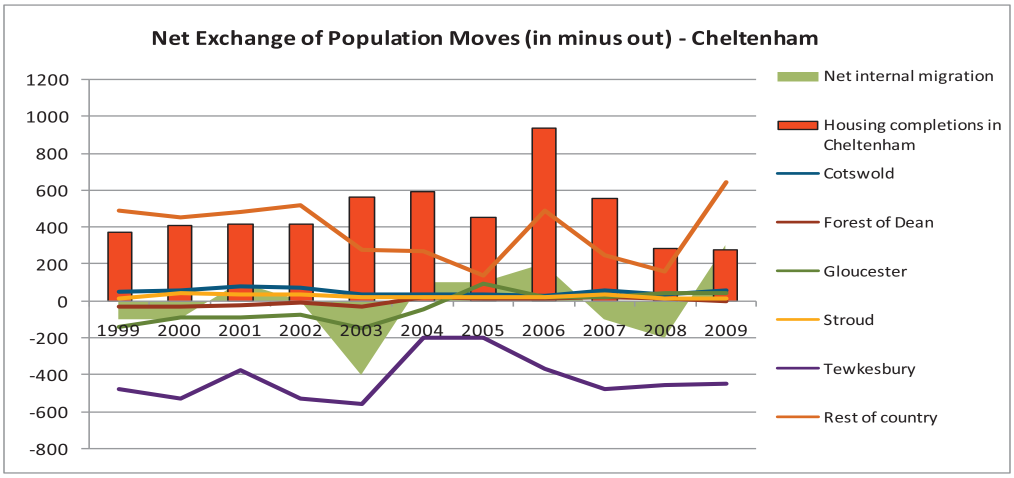


Figure 2.1.7



2.1.4 Migration to new housing developments in Cheltenham – Case studies

The methodology this study used to 'profile' the residents of new developments has been to

- Identify the new postcodes created for addresses within the new development
- Identify the residents of these postcodes at January 2010, through an encrypted and anonymized version of the GP patient register
- To trace these residents in the GP patient register, again encrypted and anonymized, for September 2006.

If a 2010 resident has moved to the new development from within Gloucestershire then we can identify their place of origin in 2006. If a 2010 resident does not appear in the 2006 register then we assume that they have moved to the new development from outside the County. The 'profile' of 2010 residents and their origins excludes children aged 3 years or under at 2010, because we can't tell if these children were born at a new development postcode, or moved there from Out-of-County.

Case studies

GCHQ Oakley Site, Off Priors Road, Cheltenham (known now as Oakley – adjacent to the current scheme of Battledown Park)

and

Persimmon Gardens (former allotment land Welch Road / Howell Road)

Using the methods outlined above it was found that

- Around two-thirds of residents of these two new developments in Cheltenham had previously lived elsewhere in Gloucestershire.
- Almost half of residents had moved fewer than 3 miles to live at these new developments.
- Very nearly half of residents of these new developments had previously been resident within Cheltenham.
- People who moved to these two new developments from within Gloucestershire were ever so slightly younger, on average, than people who moved there from beyond Gloucestershire.

- New residents from within Gloucestershire were a little more likely than their 'Out of County' counterparts to bring children with them.

Figure 2.1.8: Distance moved to selected new developments in Cheltenham	GCHQ Oakley n	%	Persimmon Gardens n	%
'in-county' moves under a mile	91	17.4	45	22.5
'in-county' moves between 1 & 3 miles	156	29.8	49	24.5
'in-county' moves between 3 & 10 miles	65	12.4	24	12.0
'in-county' moves more than 10 miles	22	4.2	19	9.5
total 'in County' movers	334	63.9	137	68.5
no move	0	0	0	0.0
migrants from Out of County	189	36.1	63	31.5
total moving to	523		200	

Figure 2.1.9: District of origin of movers to selected new developments in Cheltenham	GCHQ Oakley n	%	Persimmon Gardens n	
'in county' movers from Cheltenham	246	47.0	94	47.0
'in county' movers from Cotswold	10	1.9	8	4.0
'in county' movers from Forest of Dean	4	0.8	6	3.0
'in county' movers from Gloucester	19	3.6	9	4.5
'in county' movers from Stroud	7	1.3	5	2.5
'in county' movers from Tewkesbury	48	9.2	15	7.5
'Out of County' movers	189	36.1	63	31.5

Figure 2.1.10: Ages of movers to selected new developments in Cheltenham	GCHQ Oakley	Persimmon Gardens, Cheltenham
mean age of 'in County' movers	28.8	30.1
% of 'in County' movers who are children	21.0	9.5
mean age of 'Out of County' in migrants	29.1	31.0
% of 'Out of County' in migrants who are children	19.9	7.6

2.1.5 Housing, employment and commuting

Cheltenham is the second largest economic centre in Gloucestershire, providing about a fifth of all employment in the county. However, employment level in the district experienced a significant decline in 2005 and the number of jobs has since stalled. Total employment is estimated to be around 61,700 in 2009, compared to 69,300 in 1991. The largest economic sectors in the district are public sector, distribution & retail and finance.

The relationship between housing and employment in Cheltenham is illustrated in Figure 2.1.11. Figures 2.1.12 to 2.1.14 provide further data on commuting trends, which are influenced by job markets and housing.

It seems that the steady rise in dwellings in Cheltenham is contrary to the general downward trends in employment. The link between new housing supply and employment in Cheltenham has not been clear cut either. The increase or decrease in housing completions had not always linked to a rise or reduction in local employment. Although a slowdown in housing deliveries coincided with a drop in employment in 2008 and 2009, both could be the result of recession.

However, increased housing provision may have contributed to a larger proportion of Cheltenham residents now working locally (from 70% in 2001 to 77% in 2008), as indicated by the commuting patterns in the past 20 years. This is despite that commuting volumes, both in- and out-, continued to increase. The increase in in-commuting is most marked from Tewkesbury, which may be linked to the high level of out-migration from Cheltenham to Tewkesbury (See Section 2.6.3). There has also been a marked increase in in-commuting from outside the County since 2001, notably from Swindon.

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.1.11

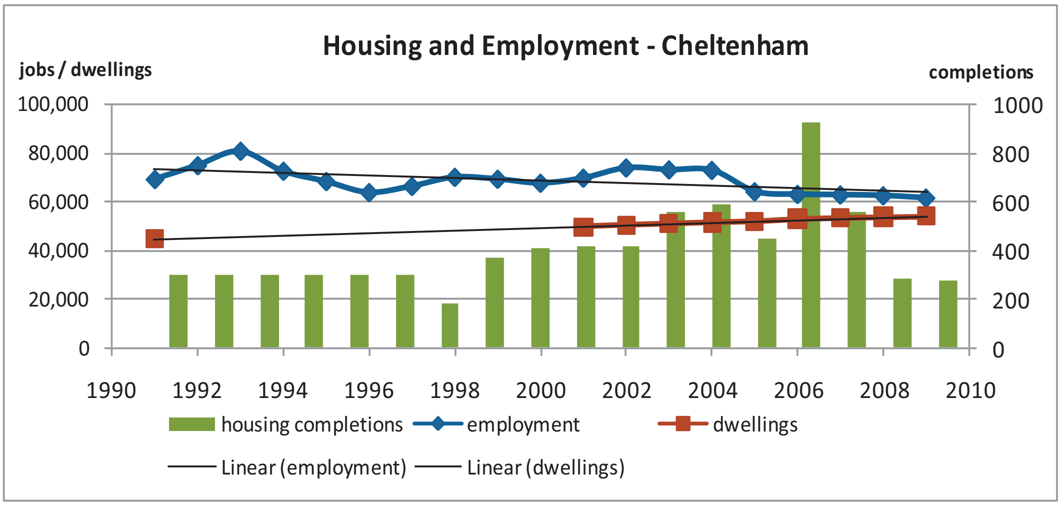


Figure 2.1.12

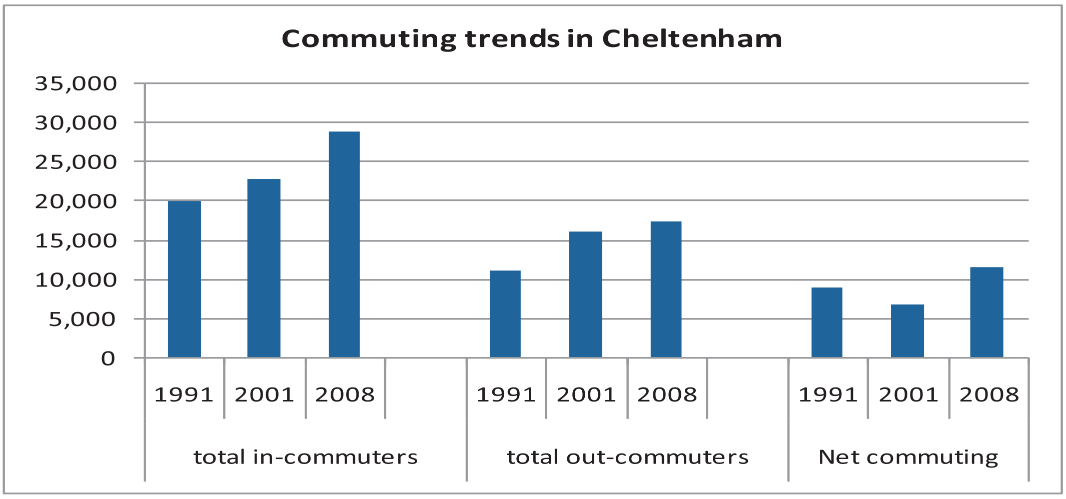


Figure 2.1.13

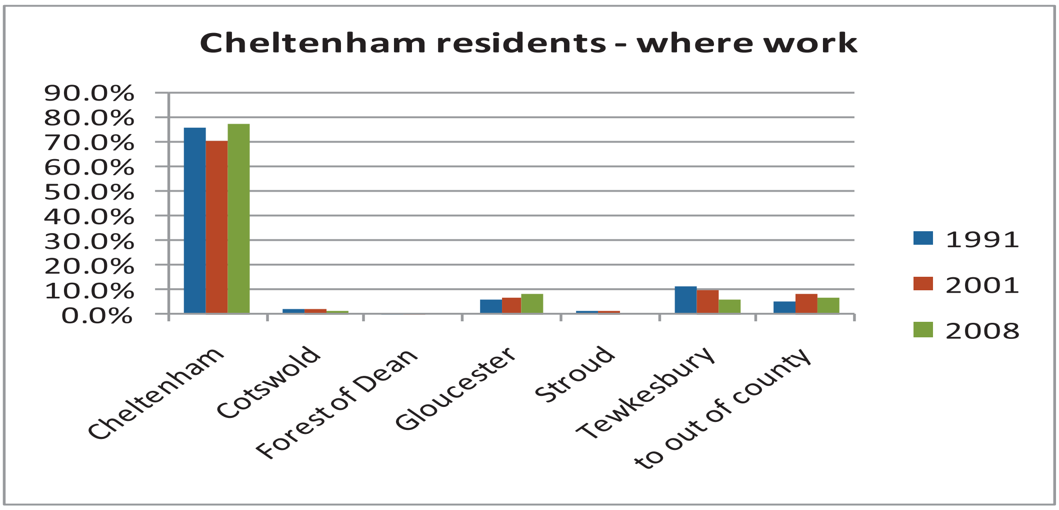
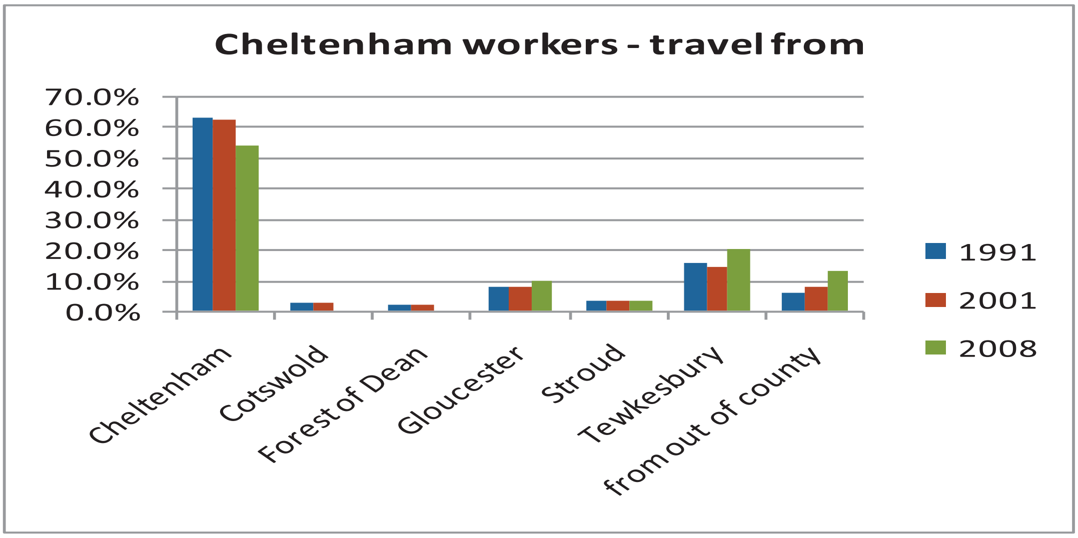


Figure 2.1.14



Section 2.2 Cotswold

2.2.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 5,389 new dwellings were delivered in Cotswold, averaging 300 a year. According to the 2001 Census dwellings data and subsequent housing completion records, the total number of dwellings in Cotswold is estimated to be around 39,100 as at 2009.

Overall, average house building rate in Cotswold has been on a downward trend. Average housing completion in Cotswold reduced from about 330 a year in 1992-1997 to 310 in 1998-2003, and further to 260 in 2004-2009. The latest number of new housing delivery was 177 in 2009/10, the second lowest in the county, after the Forest of Dean.

Over the same period 1992-2009, population in Cotswold increased by 9,200 to 84,000. Household formation also increased, by 6,100 to just 37,000 in 2009. The large increase in the number of households relative to population growth was largely attributable to falling average household size, which is in line with national and county trends. The average number of persons per dwelling in Cotswold was estimated to be around 2.15 in 2009, down from 2.26 in 1991.

Comparison of dwellings and household trends in Cotswold shows that households as a proportion of dwellings is now estimated to be around 94.5%, compared to 91.4% in 1991. Despite this, the margin of dwellings over households in Cotswold is the largest in the county.

Figure 2.2.3 shows the relative change in housing completions, population and household numbers in Cotswold since 1992. It confirms the relative high household formation rates in Cotswold relative to dwelling provision in recent years.

Figure 2.2.1

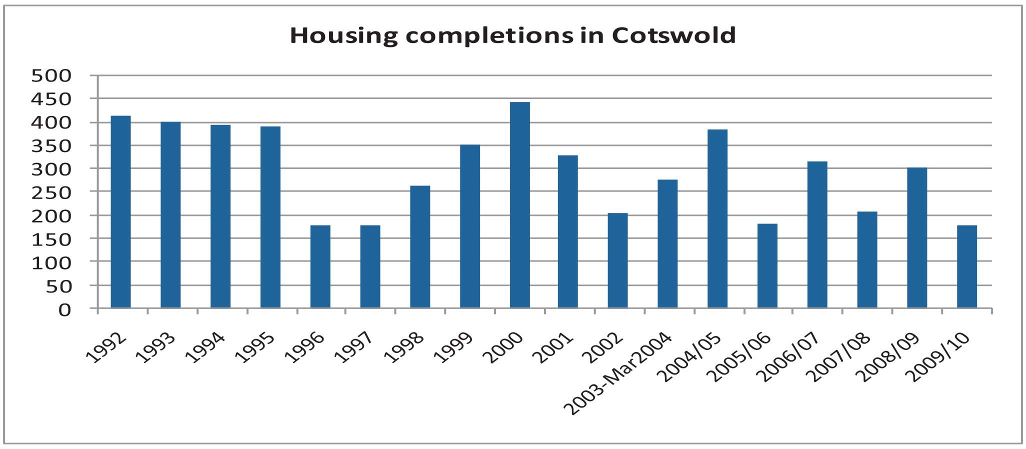
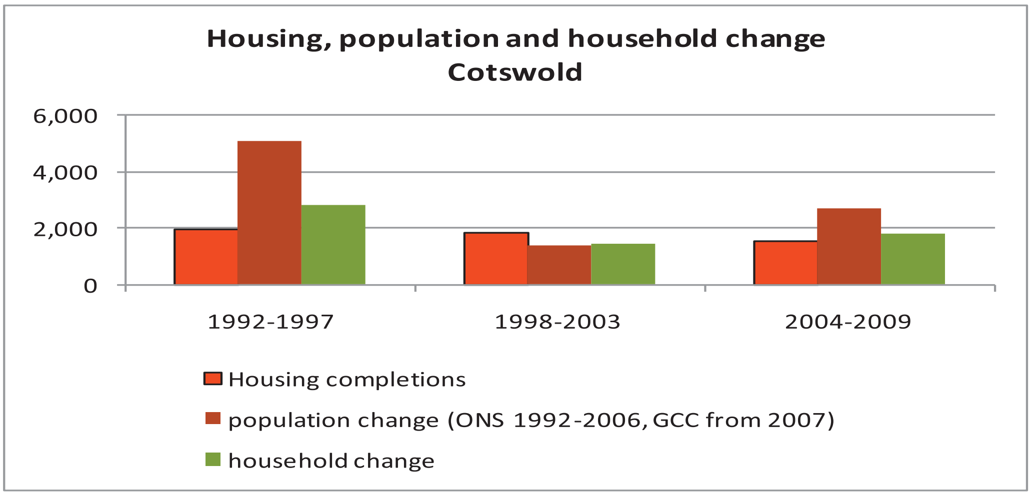


Figure 2.2.2

	Housing, population and households - Cotswold									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	33,070	36,800	37,230	37,500	37,890	38,070	38,390	38,600	38,900	39,080
Population	74,830	80,390	80,510	81,320	82,090	82,500	82,940	84,790	84,380	84,030
Households	30,230	34,430	34,640	35,100	35,560	35,800	35,960	36,710	36,640	36,920
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Households as % dwellings	91.4%	93.6%	93.0%	93.6%	93.9%	94.0%	93.7%	95.1%	94.2%	94.5%
Population per dwelling	2.26	2.18	2.16	2.17	2.17	2.17	2.16	2.20	2.17	2.15

Figure 2.2.3



2.2.2 Indigenous and migrant demand for housing

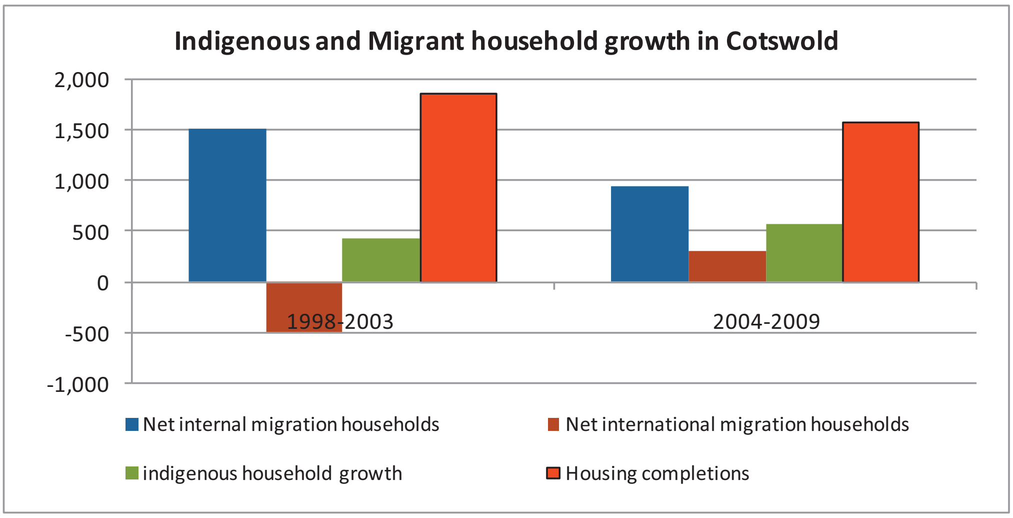
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 3,280 new households were formed in Cotswold. In the same period, net migration to Cotswold was estimated to be around 4,860 and the associated number of households arising from the net migration was estimated to be around 2,270. The differentials, i.e. about 1,000 households, are taken as the estimated number of households formed from within the indigenous population.

Figure 2.2.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that net migration is the key driving force behind the housing market in Cotswold. In 2004-2009, 68% of new households are attributable to net migration, which is the highest proportion in the county. This compares to 32% that were formed from within the indigenous population.

Figure 2.2.4



2.2.3 Housing and inter-district migration

This section examines the population dynamics between Cotswold and other districts within Gloucestershire, and their possible link with housing provision in the district.

Over the past 10 years, Cotswold received an average of 4,900 internal migrants per annum from within the UK, and exported about 4,500 people to other areas within the UK. The level of population exchange between Cotswold and other districts in the County was low. On average, only 15% of the inward migration to Cotswold originated from other Gloucestershire districts and just 21% of the outflow from Cotswold was to other districts within the county. These are the lowest percentages of all districts.

Figure 2.2.5 shows internal migration trends to Cotswold in the past 10 years, with associated housing completions over the same period. It can be seen that the majority of internal migration to Cotswold was from outside Gloucestershire, averaging around 4,100 people a year. This has put Cotswold as the second favourite location for migrants from outside the county, after Cheltenham.

Within the county, most of the population exchange took place with Cheltenham and Stroud, from where it received around 250-300 inward migrants a year each. However, outflow from Cotswold to these two districts regularly outweighed the inflow, resulting in small net outflow almost every year. Notably, Cotswold's outflow to Cheltenham and Stroud has been highly responsive to new housing completions in the two districts, with the number of out-migrants reaching 360 to both districts in 2007, when new completions peaked.

Inflow trends to Cotswold, on the other hand, did not seem to correlate with the level of new completions in the district, indicating that the existing housing stock may have played a key role in attracting migrants. Perhaps the exception is Stroud where outflow to Cotswold fluctuates more or less in accordance with the supply of new housing in Cotswold.

Although the level of population exchange between Cotswold and other county districts is relatively low, Cotswold is unique in the sense that it is a net exporter to every other Gloucestershire districts in most part of the past 10 years. No other districts exhibited this migration pattern.

Figure 2.2.5

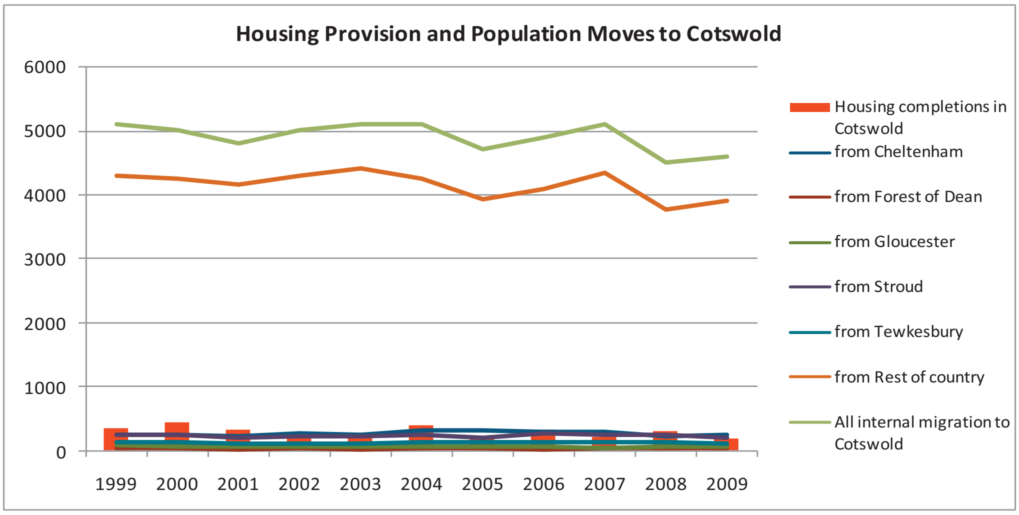


Figure 2.2.6

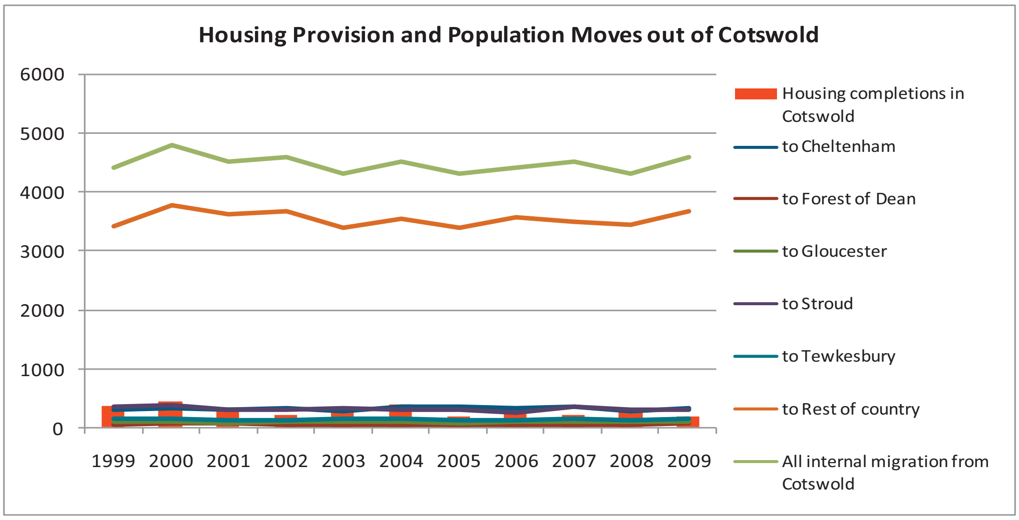
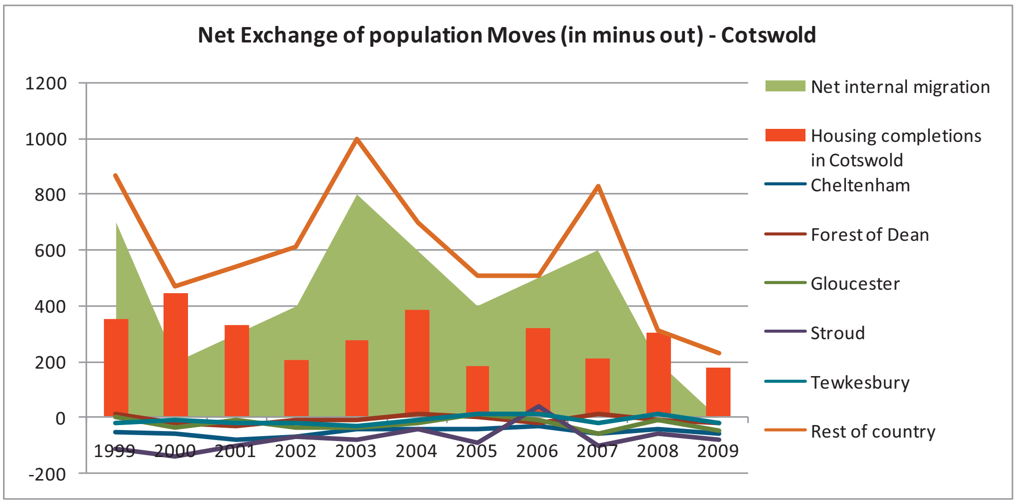


Figure 2.2.7



2.2.4 Migration to new housing developments in Cotswold – Case studies

The methodology this study used to 'profile' the residents of new developments has been to

- Identify the new postcodes created for addresses within the new development
- Identify the residents of these postcodes at January 2010, through an encrypted and anonymized version of the GP patient register
- To trace these residents in the GP patient register, again encrypted and anonymized, for September 2006.

If a 2010 resident has moved to the new development from within Gloucestershire then we can identify their place of origin in 2006. If a 2010 resident does not appear in the 2006 register then we assume that they have moved to the new development from outside the County. The 'profile' of 2010 residents and their origins excludes children aged 3 years or under at 2010, because we can't tell if these children were born at a new development postcode, or moved there from Out-of-County.

Case studies

Land to the rear of Coach and Horses *(know now as Bourton Chase)*, Stow Road, Bourton on the Water

and

Land at Stratton Mills *(also known as Newland Mills)*

Using the methods outlined above it was found that

- A little over half of residents of these two new developments in Cotswold had previously lived elsewhere in Gloucestershire. The Coach & Horses development has very nearly as many 'Out of County' movers resident as people whose previous residence was in Gloucestershire.
- Four out of ten residents of these two new developments had previously lived within three miles of their new home; the Stratton Mills development appears to have a slightly more local 'market' (45% of

residents with origins within 3 miles) than the Coach & Horses development (37.4%).

- Residents of these two new developments came almost entirely either from within Cotswold District or from beyond Gloucestershire.

- The 'in County' movers to these two new developments are noticeably younger, on average, than the 'Out of County' in-migrants who have moved there. 'In County' movers are also more likely, particularly at the Coach & Horses development, than 'Out of County' in-migrants, to bring children with them.

Figure 2.2.8: Distance moved to selected new developments in Cotswold	Coach & Horses		Stratton Mills	
	n	%	n	%
'in-county' moves under a mile	31	22.3	4	10.0
'in-county' moves between 1 & 3 miles	21	15.1	14	35.0
'in-county' moves between 3 & 10 miles	13	9.4	5	12.5
'in-county' moves more than 10 miles	8	5.8	3	7.5
total 'in County' movers	73	52.5	26	65.0
no move	0	0.0	0	0.0
migrants from Out of County	66	47.5	14	35.0
total moving to	139		40	

Figure 2.2.9: District of origin of movers to selected new developments in Cotswold	Coach & Horses		Stratton Mills	
	n	%	n	%
'in county' movers from Cheltenham	5	3.6	0	0.0
'in county' movers from Cotswold	65	46.8	23	57.5
'in county' movers from Forest of Dean	0	0.0	0	0.0
'in county' movers from Gloucester	1	0.7	0	0.0
'in county' movers from Stroud	0	0.0	3	7.5
'in county' movers from Tewkesbury	2	1.4	0	0.0
'Out of County' movers	66	47.5	14	35.0

Figure 2.2.10: Ages of movers to selected new developments in Cotswold	Coach & Horses	Stratton Mills
mean age of 'in County' movers	32.6	31.7
% of 'in County' movers who are children	21.9	15.4
mean age of 'Out of County' in migrants	36.5	36.9
% of 'Out of County' in migrants who are children	16.4	14.3

2.2.5 Housing, employment and commuting

Cotswold is one of the smaller economic centres in Gloucestershire, providing about 14% of all employment in the county, which is comparable to Tewkesbury. Employment level in the district has shown a general upward trend, although growth has been less consistent in recent years. The number of jobs is estimated to be around 43,400 in 2009, compared to 34,700 in 1991. Retail, hotels and restaurants are the largest sector in Cotswold, accounting for 31% of all jobs in the district. Other important sectors in the district are the public sector and finance.

The relationship between housing and employment in Cotswold is illustrated in Figure 2.2.11. Figures 2.2.12 to 2.2.14 provide further data on commuting trends, which are influenced by job markets and housing.

The broadly upward trend in local employment is consistent with the gradual rise in dwellings in Cotswold. There also appears to be a discernible link between new housing and employment in Cotswold since 2001; the increase or decrease in housing completions seems to have coincided with a rise or reduction in local employment in the past decade.

Commuting patterns also seem to be consistent with the emerging employment and housing picture; out-commuting level reduced and the proportion of residents working locally increased in 2008 when new completions and local employment rose. At the same time, in-commuting also increased, particularly from out of the county, which is likely to be linked to the rising employment.

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.2.11

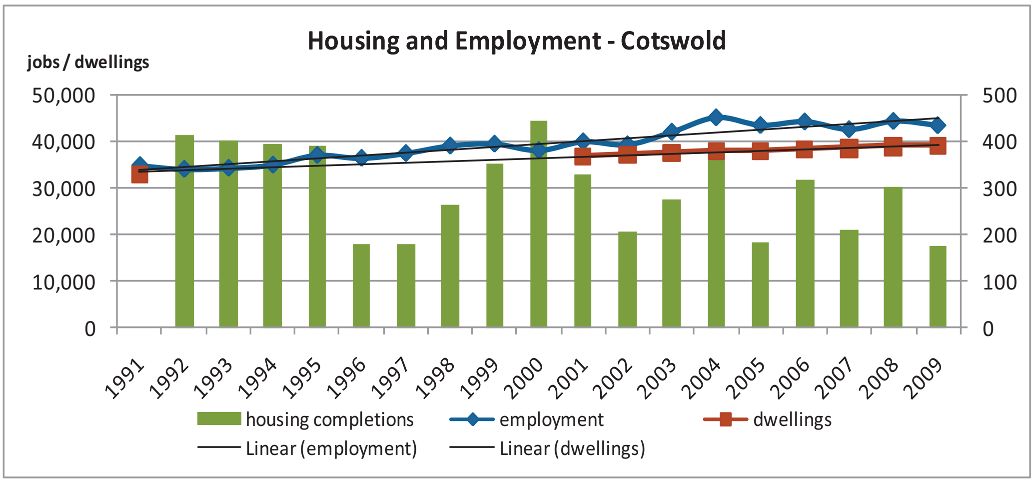


Figure 2.2.12

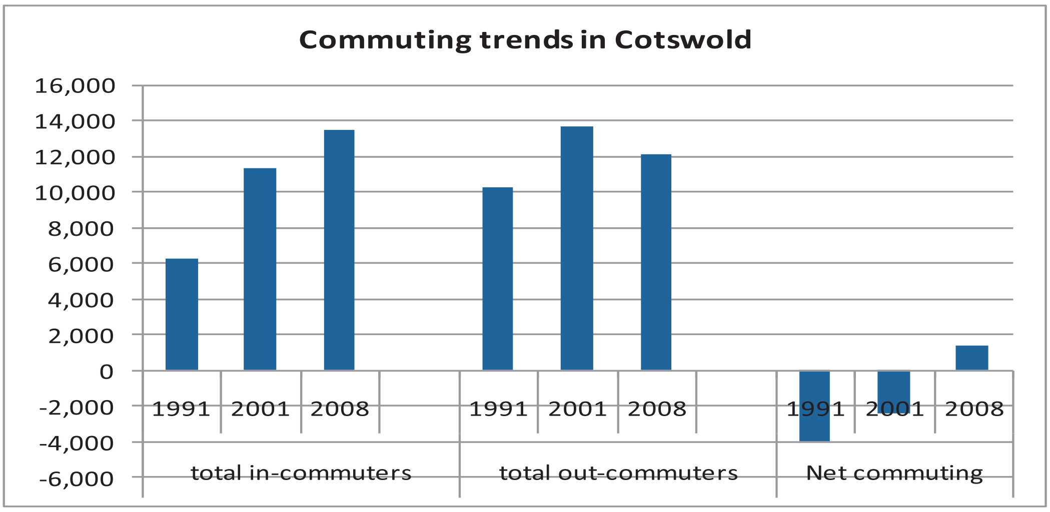


Figure 2.2.13

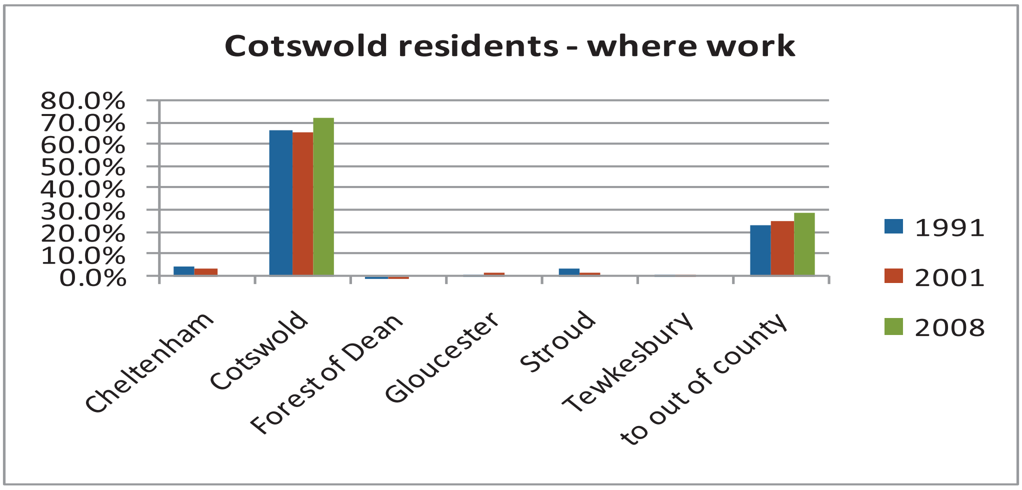
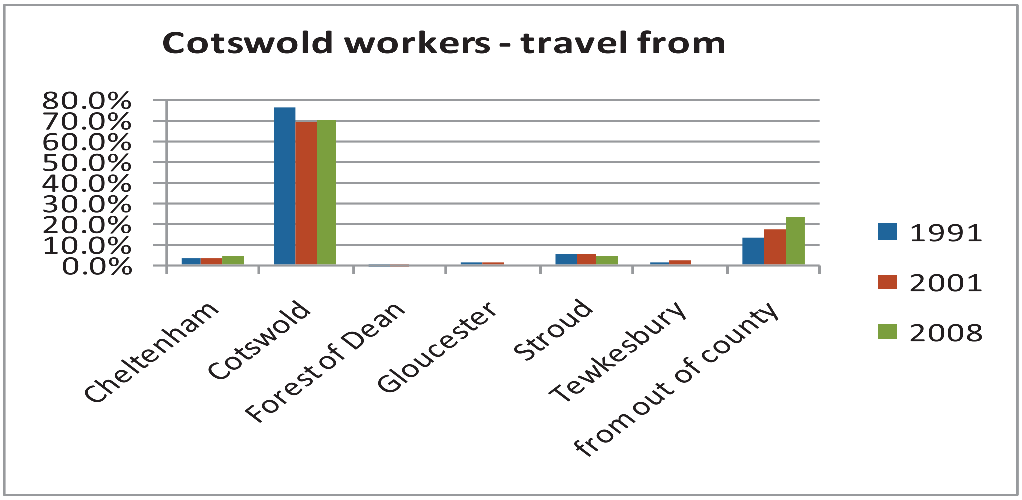


Figure 2.2.14



Section 2.3 Forest of Dean

2.3.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 4,567 new dwellings were delivered in the Forest of Dean, averaging 250 a year, the lowest number among Gloucestershire districts. According to 2001 Census dwellings data and subsequent housing completion records, the total number of dwellings in the Forest is estimated to be around 35,600 as at 2009/10.

House building rates in the Forest of Dean fluctuated throughout the period. Average housing completion during 1992-1997, for instance, was about 300 a year and this reduced to 200 in 1998-2003. Recent deliveries showed that the number of new housing peaked, at 405, in 2007/08 soon after the Regional Spatial Strategy came into force. In 2009/10, however, the annual average dropped rapidly to below 120 due to the recession.

Over the same period 1992-2009, total population increase in the Forest is estimated to be 7,300, reaching 83,100 in 2009. Household formation also increased, by 5,700 to 35,300 in 2009. The large increase in the number of households relative to population growth was largely attributable to falling average household size, which is in line with national and county trends. The average number of persons per dwelling in the Forest was estimated to be around 2.33 in 2009, down from 2.49 in 1991.

Comparison of dwellings and household trends in the Forest of Dean suggests that the rate of provision of new dwellings in the Forest has been increasingly lagging behind household formations in the past 10 years.

Households as a proportion of dwellings is now estimated to be around 99.0%, compared to 95.1% in 1991.

Figure 2.3.3 shows the relative change in housing completions, population and household numbers in the Forest since 1992. It confirms the high household formation rates in Cotswold relative to dwelling provision particularly in recent years.

Figure 2.3.1

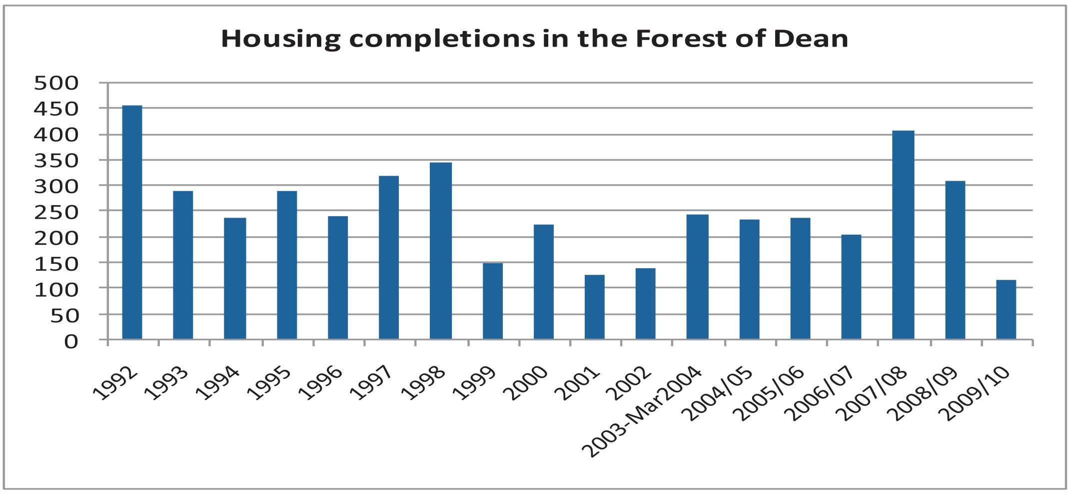
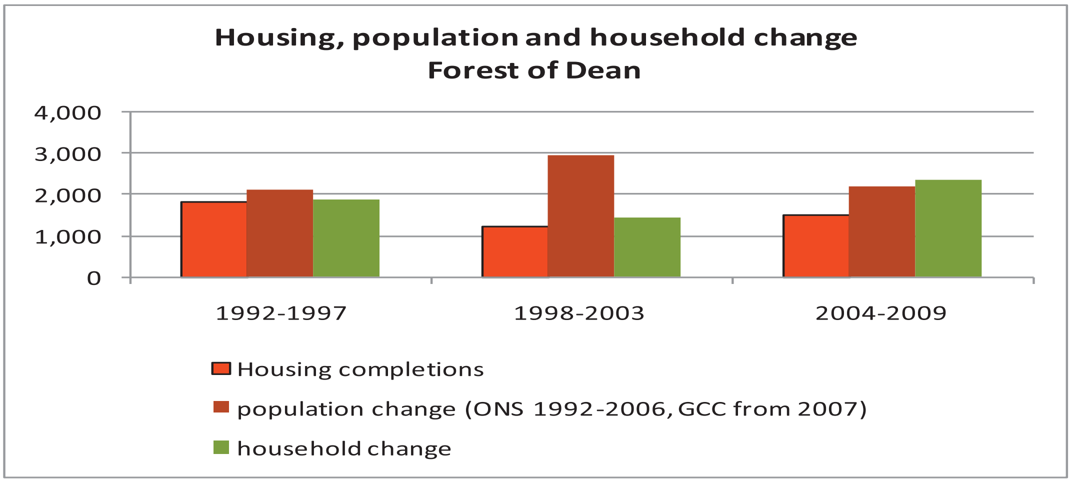


Figure 2.3.2

	Housing, population and households – Forest of Dean									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	30,400	33,640	33,860	34,100	34,340	34,570	34,780	35,180	35,490	35,610
Population	75,820	80,060	80,160	80,880	81,730	82,190	82,410	83,310	83,670	83,090
Households	28,920	32,530	32,710	32,890	33,240	33,430	33,870	34,990	34,940	35,250
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Households as % dwellings	95.1%	96.7%	96.6%	96.5%	96.8%	96.7%	97.4%	99.5%	98.5%	99.0%
Population per dwelling	2.49	2.38	2.37	2.37	2.38	2.38	2.37	2.37	2.36	2.33

Figure 2.3.3



2.3.2 Indigenous and migrant demand for housing

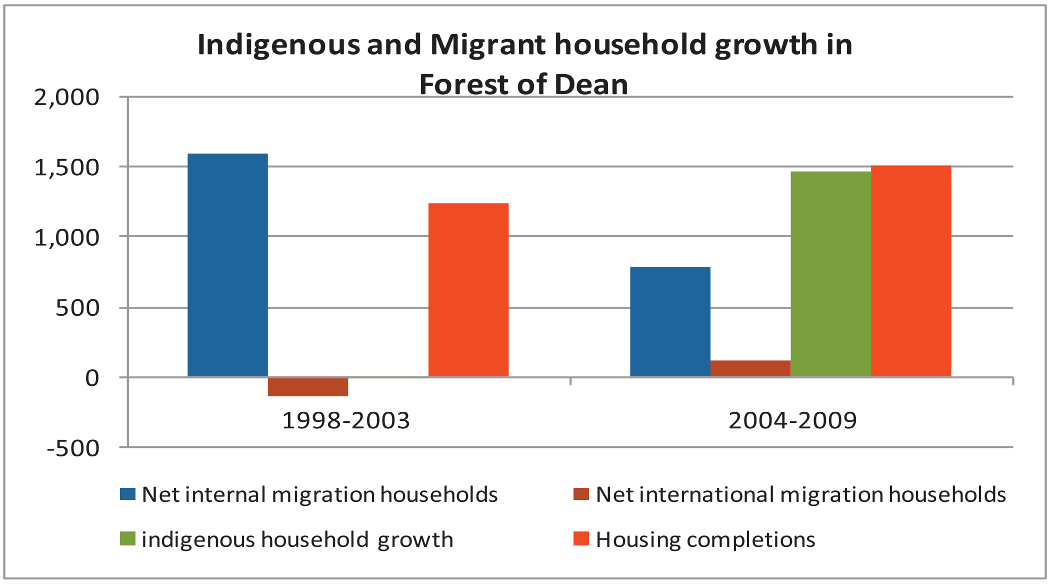
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 3,800 new households were formed in the Forest of Dean. In the same period, net migration to the Forest was estimated to be around 5,380 and the associated number of households arising from net migration was estimated to be around 2,340. The differential, i.e. about 1,450 households, is taken as the estimated number of households formed from within the indigenous population.

Figure 2.3.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that demand for housing from the indigenous population is increasingly more important in the local housing market. In 2004-2009, 62% of new households were formed from within the indigenous population, compared to 38% of new households attributable to net migration.

Figure 2.3.4



2.3.3 Housing and inter-district migration

This section examines the population dynamics between the Forest and other districts within Gloucestershire, and their possible link with housing provision in the district.

Over the past 10 years, the Forest received an average of 3,800 internal migrants per annum from within the UK, and exported about 3,400 people to other areas within the UK. Population exchange between the Forest and rest of the county is low. On average, only about 22% of the inflow originated from within Gloucestershire and a similar proportion of the outflow (24%) was to other districts within the county. The proportions are the second lowest in the county, after Cotswold.

Figure 2.3.5 shows internal migration trends to the Forest of Dean in the past 10 years, with associated housing completions over the same period. It can be seen that the majority of internal migration to the Forest was from outside Gloucestershire, averaging around 3,000 people a year.

Within the county, inward migration to the Forest has been primarily from Gloucester, which averaged around 320 people a year since 2005. Inflow from Gloucester, however, was outnumbered by outflow, which averaged about 400 people per annum.

There appears to be a link between the level of inward migration to the Forest and the number of new house build in the district. An increase in new completions was generally connected to an increase in inflow, and vice versa. At the same time, a reduction in new housing delivery in 2009/10 coincided with an increase in outflow to Gloucester, where the number of new house build remained high in comparison.

Taking into account both in and out-migration, net migration in the Forest has fallen markedly from a gain of 400 people in 2007/08 to a net loss of 100 in 2009/10, as inward migration reduced.

Figure 2.3.5

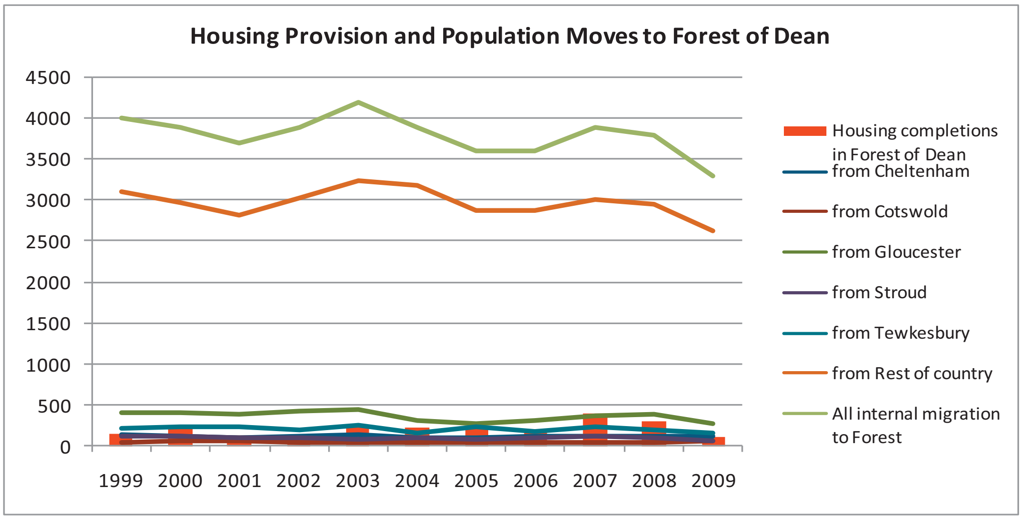


Figure 2.3.6

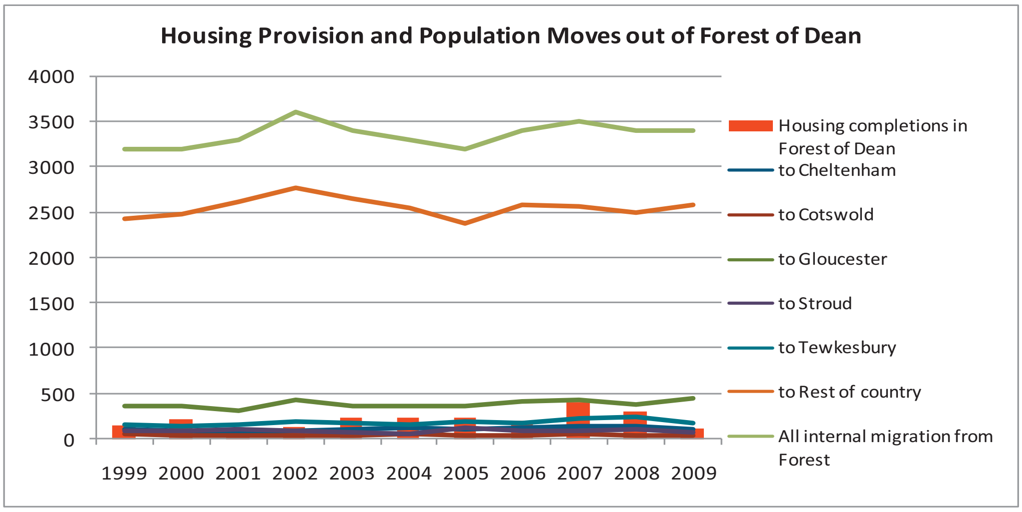
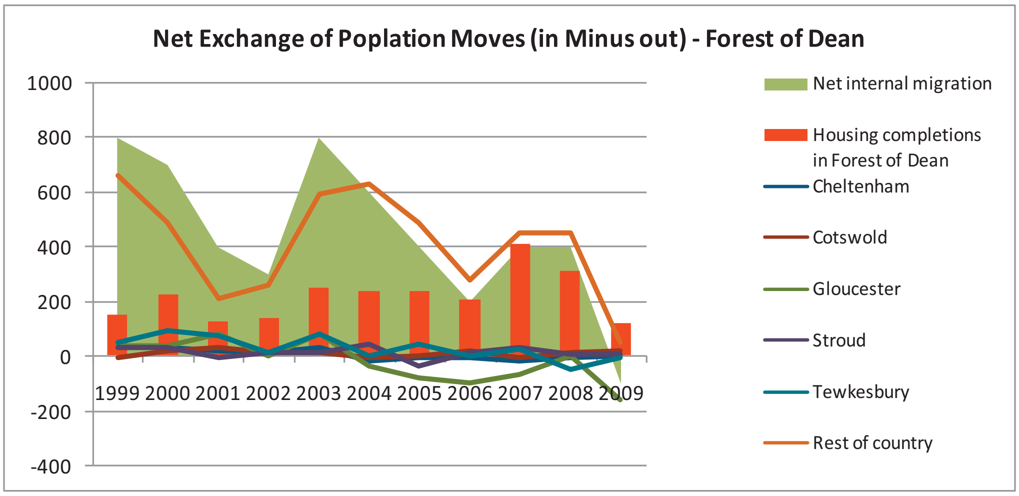


Figure 2.3.7



2.3.4 Housing, employment and commuting

Forest of Dean is the smallest economic centre in Gloucestershire, providing just under 10% of all employment in the county. Employment level in the district has also shown a general downward trend. The number of jobs is estimated to be around 27,500 in 2009, compared to 30,700 in 1991. The public sector is the largest employer in the Forest, accounting for nearly 30% of all jobs in the district. Other important sectors in the district are distribution / retail and manufacturing.

The relationship between housing and employment in the Forest is illustrated in Figure 2.3.8. Figures 2.3.9 to 2.3.11 provide further data on commuting trends, which are influenced by job markets and housing.

There does not seem to be an apparent link between housing and employment in the Forest of Dean. The steady increase in dwellings in the district has not coincided with an increase in employment, which may be linked to the findings that the majority of new households are formed from within the indigenous population (Section 2.3.2). Instead, data suggest that Forest of Dean is a net out-commuting area, with 36% of its residents travel for employment, particularly to Gloucester and outside Gloucestershire.

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.3.8

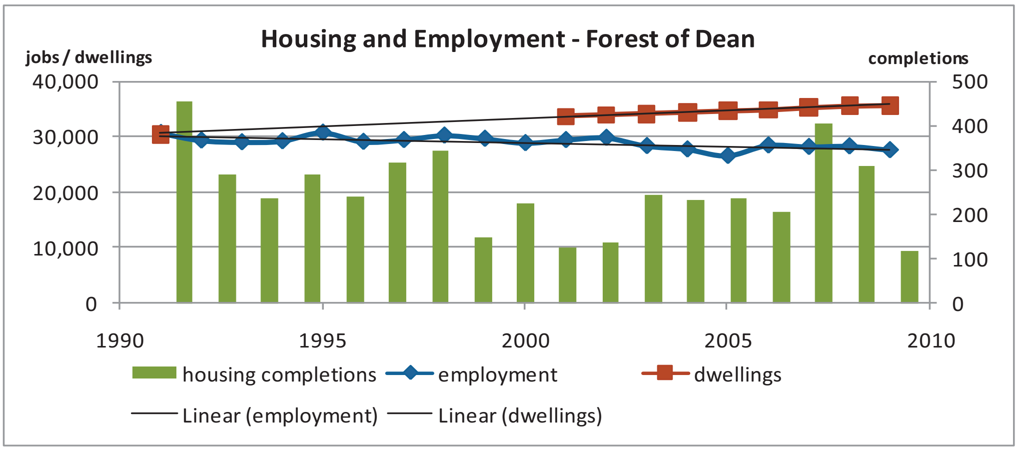


Figure 2.3.9

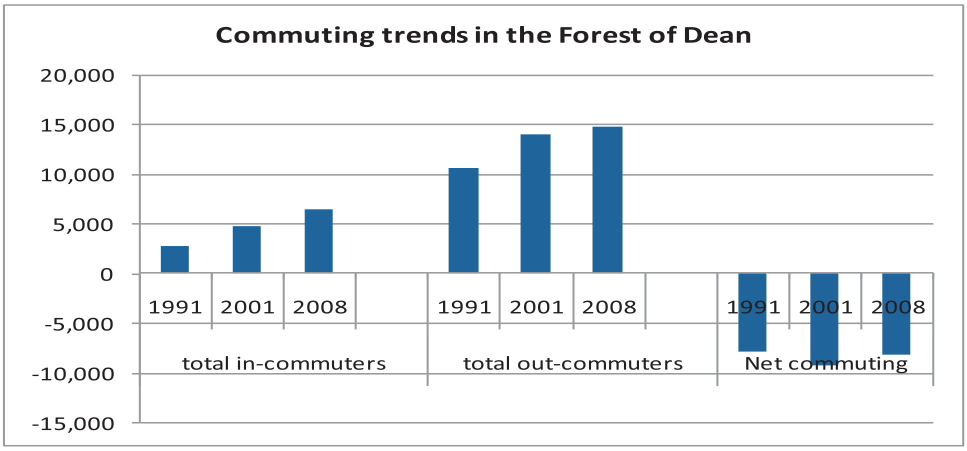


Figure 2.3.10

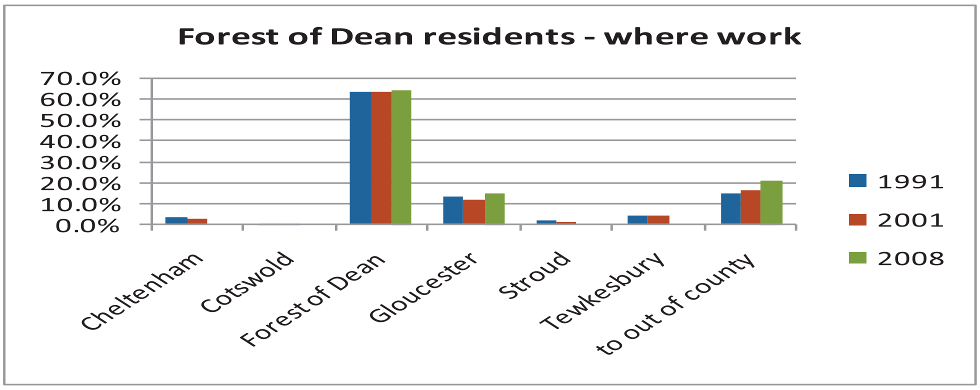
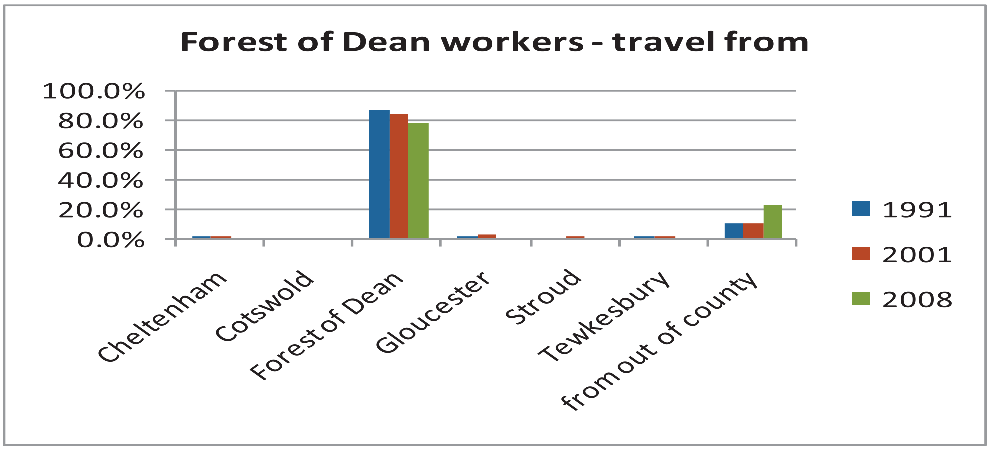


Figure 2.3.11



Section 2.4 Gloucester

2.4.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 10,881 new dwellings were delivered in Gloucester, averaging 600 a year. It is estimated that by 2009/10, the total number of dwellings in Gloucester was around 52,700, according to the 2001 Census dwellings data and subsequent housing completion records.

House building rates in Gloucester were not uniform, however, and fluctuated across the 18-year period to 2009. The average number of housing completions during 1992-1997, for instance, was about 610 a year, reduced to 410 in 1998-2003. However, housing delivery in the district has already started to increase significantly in 2005, prior to the introduction of the Regional Spatial Strategy. House building rate peaked in 2007 (1,050 new dwellings), and although it has since slowed significantly due to the recession, the number of new completions, at around 600, was comparatively high by comparison with other districts.

During the same period 1992-2009, population in Gloucester increased by 17,000 to 120,500. Household formation also increased, by 10,400 to nearly 51,500 in 2009. The large scale of household increase relative to population growth is largely attributable to the trends towards falling household size, which is in line with national and county trends. The average number of persons per dwelling in Gloucester was estimated to be around 2.29 in 2009, down from 2.50 in 1991.

Comparison of dwellings, population and household trends in Gloucester suggests that the provision of new dwellings in Gloucester has been broadly in pace with household formations although there are signs that the market is tightening in recent years. Households as a proportion of dwellings is now estimated to be around 97.6%, compared to 97.1% in 1991.

Figure 2.4.3 further shows the relative change in housing completions, population and household numbers in Gloucester since 1992. It confirms the relatively high household formations in Gloucester compared to dwelling provision in recent years.

Figure 2.4.1

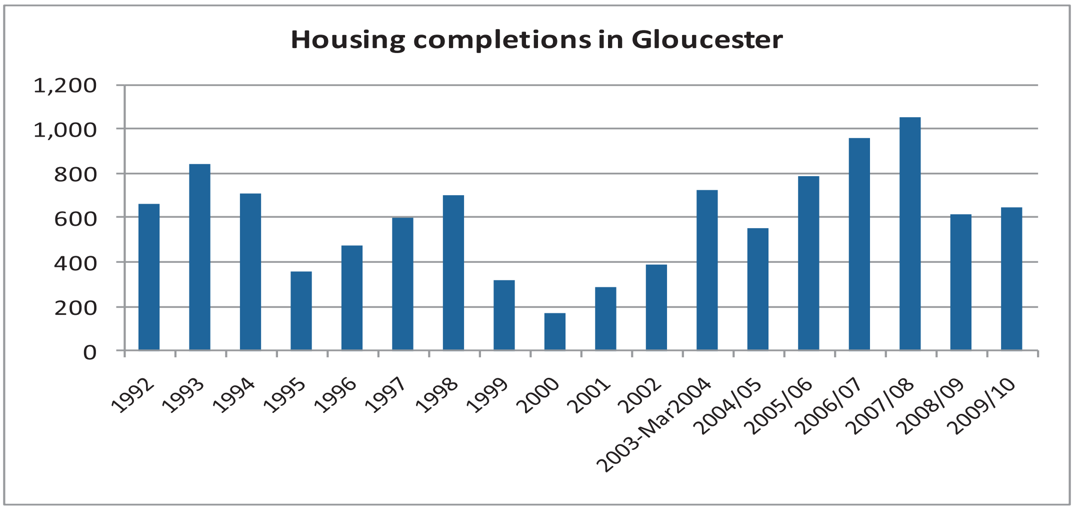
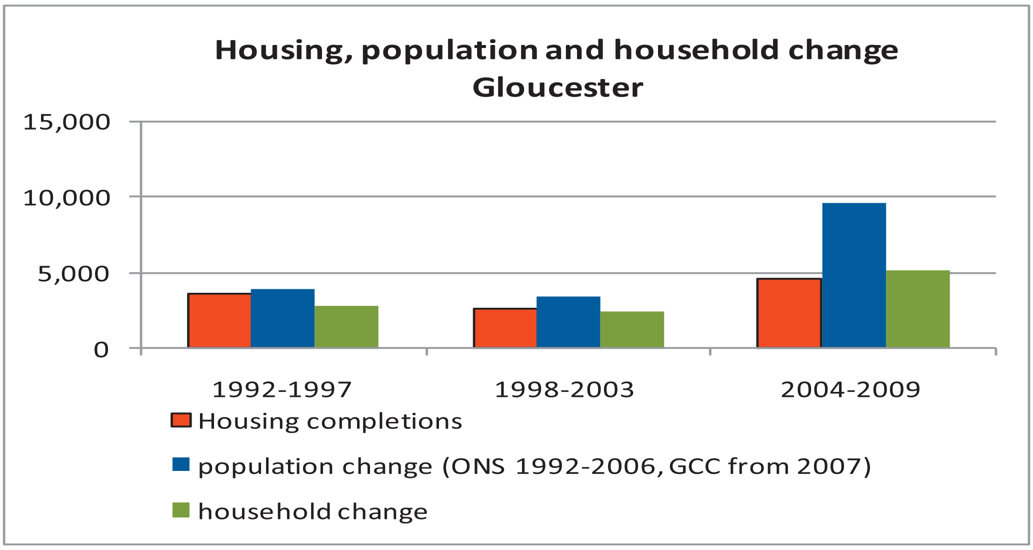


Figure 2.4.2

	Housing, population and households Gloucester									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	41,480	46,780	47,370	48,090	48,650	49,440	50,400	51,450	52,070	52,720
Population	103,500	109,950	110,260	110,950	111,850	112,850	113,870	116,540	119,710	120,500
Households	40,280	45,750	46,040	46,310	46,750	47,070	48,080	49,090	50,710	51,480
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Household as % of dwelling	97.1%	97.8%	97.2%	96.3%	96.1%	95.2%	95.4%	95.4%	97.4%	97.6%
Population per dwelling	2.50	2.35	2.33	2.31	2.30	2.28	2.26	2.27	2.30	2.29

Figure 2.4.3



2.4.2 Indigenous and migrant demand for housing

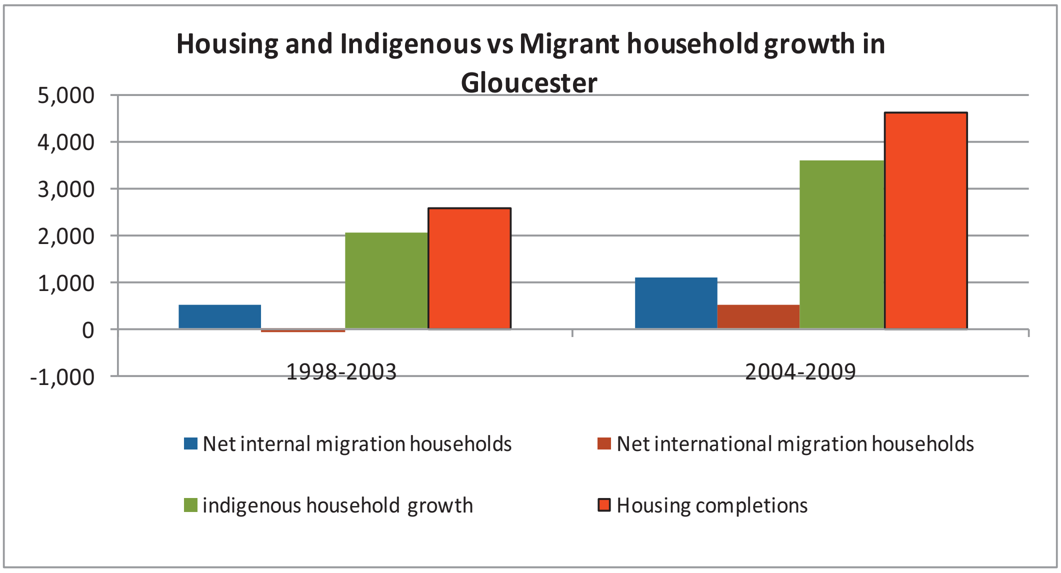
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 7,630 new households were formed within Gloucester. In the same period, net migration in Gloucester was estimated to be totalling 4,550 and the associated number of households arising from net migration was estimated to be around 2,010. The differential, i.e. about 5,620, is taken as an estimate of household formations from within the indigenous population.

Figure 2.4.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that demand for housing from the indigenous population continued to be the driving force behind the local housing market, despite the growing number of net migrant households in recent years. In 2004-2009, 69% of new households were formed from within the indigenous population, compared to 31% of new households attributable to net migration.

Figure 2.4.4



2.4.3 Housing and inter-district migration

This section examines the population dynamics between Gloucester and other districts within Gloucestershire, and its possible link with housing provision in Gloucester.

On average, Gloucester received about 5,200 internal migrants from within the UK and exported around 5,000 people to other areas within the UK each year in the past decade. There is a high level of population exchange between Gloucester and other districts in the County. Typically, nearly half (48%) of the inflow to Gloucester originated from other Gloucestershire districts and about 46% of the outflow was to other districts within the county. These are the highest percentages of all districts.

Figure 2.4.5 shows internal migration trends to Gloucester in the past 10 years, with associated housing completions over the same period. On average about 2,700 of in-migrants to Gloucester are from outside the county annually, compared to about 2,500 from within the county. Within Gloucestershire, Gloucester is a favourite location for migrants from Stroud and Tewkesbury whose moves are found to be highly responsive to the new housing supply in Gloucester. Conversely, Stroud and Tewkesbury have also been the favoured locations for Gloucester out-migrants in the past decade.

Taking into account both in- and out-migration, the most recent data, however, suggest that the largest net inflow to Gloucester was from the Forest of Dean, reaching 160 in 2009, overtaking Tewkesbury and Stroud.

Another emerging trend is that the overall net internal migration to Gloucester (including the exchange with out of county) has dropped rapidly after 2007 when housing delivery started to decrease. By 2009, the net internal migration was zero.

Figure 2.4.5

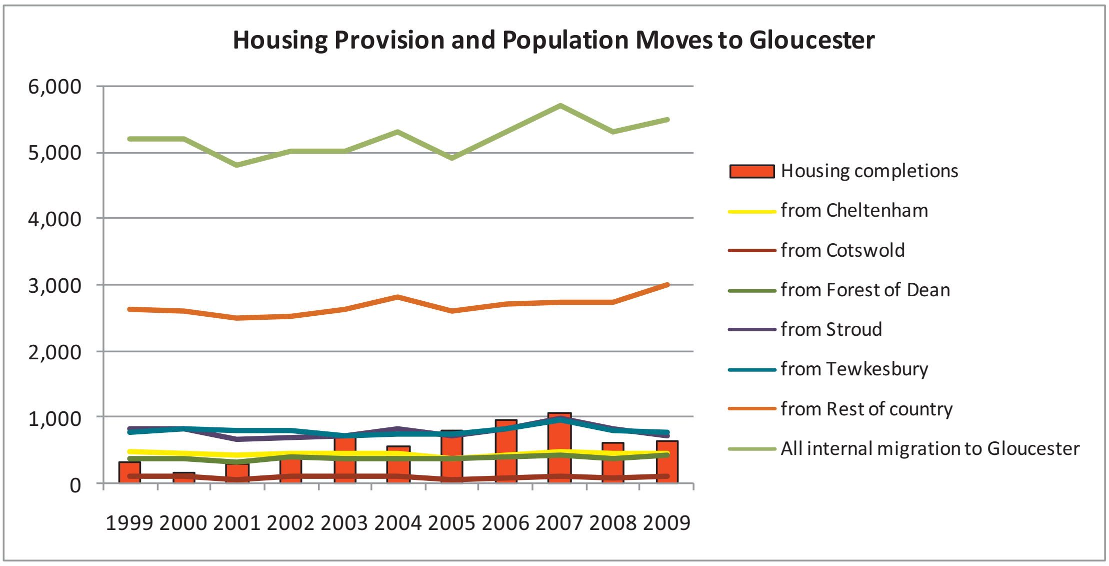


Figure 2.4.6

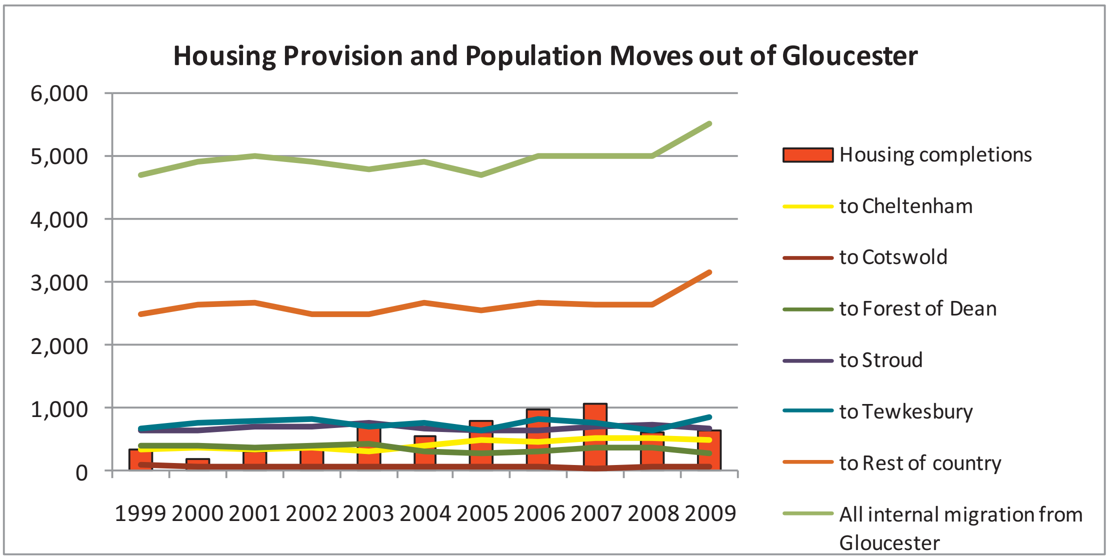
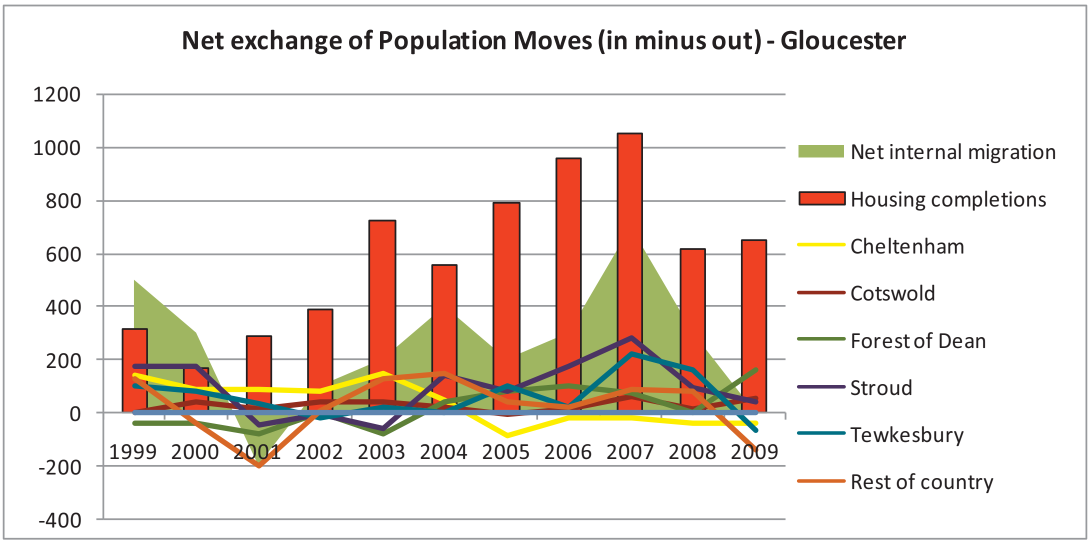


Figure 2.4.7



2.4.4 Migration to new housing developments in Gloucester – Case studies

The methodology this study used to ‘profile’ the residents of new developments has been to

- Identify the new postcodes created for addresses within the new development
- Identify the residents of these postcodes at January 2010, through an encrypted and anonymized version of the GP patient register
- To trace these residents in the GP patient register, again encrypted and anonymized, for September 2006.

If a 2010 resident has moved to the new development from within Gloucestershire then we can identify their place of origin in 2006. If a 2010 resident does not appear in the 2006 register then we assume that they have moved to the new development from outside the County. The ‘profile’ of 2010 residents and their origins excludes children aged 3 years or under at 2010, because we can’t tell if these children were born at a new development postcode, or moved there from Out-of-County.

Case studies

Kingsway, Quedgeley

and

Awebridge Way

Using the methods outlined above it was found that

- Most movers to the Kingsway and Awebridge Way developments had origins within Gloucestershire. Almost three-quarters of Awebridge Way residents had moved fewer than 3 miles (42% in Kingsway).
- Three-quarters of movers to Awebridge Way, and nearly half of movers to Kingsway, had previous addresses in Gloucester itself. People have moved to Kingsway from all Gloucestershire districts
- In-County movers to both Kingsway and Awebridge Way are younger, on average, then their 'Out-of-County' counterparts – and more likely to have children with them when they move.

Figure 2.4.8: Distance moved to selected new developments in Gloucester	Kingsway		Awebridge Way	
	n	%	n	%
'in-county' moves under a mile	378	18.1	54	45.0
'in-county' moves between 1 & 3 miles	504	24.1	33	27.5
'in-county' moves between 3 & 10 miles	535	25.6	12	10.0
'in-county' moves more than 10 miles	139	6.7	1	0.8
total 'in County' movers	1594	76.4	100	83.3
no move	38	1.8	0	0.0
migrants from Out of County	493	23.6	20	16.7
total moving to	2087		120	

Figure 2.4.9: District of origin of movers to selected new developments in Gloucester	Kingsway		Awebridge Way	
	n	%	n	%
'in county' movers from Cheltenham	48	2.3	2	1.7
'in county' movers from Cotswold	8	0.4	0	0.0
'in county' movers from Forest of Dean	51	2.4	0	0.0
'in county' movers from Gloucester	954	45.7	91	75.8
'in county' movers from Stroud	341	16.3	5	4.2
'in county' movers from Tewkesbury	192	9.2	2	1.7
'Out of County' movers	493	23.6	20	16.7

Figure 2.4.10: Ages of movers to selected new developments in Gloucester	Kingsway	Awebridge Way
mean age of 'in County' movers	27.4	27.7
% of 'in County' movers who are children	30.9	31.0
mean age of 'Out of County' in migrants	28.3	28.5
% of 'Out of County' in migrants who are children	26.5	25.0

2.4.5 Housing, employment and commuting

Gloucester is the largest economic centre in Gloucestershire, providing nearly a quarter (24.2%) of all employment in the county. Although local employment experienced a rise during early-mid 2000s, the number of jobs has since gradually reduced. The current employment level is estimated to be around 72,000 as at 2009, compared to 69,400 in 1991. The district is heavily reliant on public sector for employment, which accounts for more than a third of its jobs (35.7%). Other important industries in the district are distribution & retail and finance.

The relationship between housing and employment in Gloucester is illustrated in Figure 2.4.11. Figures 2.4.12 to 2.4.14 provide further data on commuting trends, which are influenced by job markets and housing.

In Gloucester, there does not appear to be a clear link between housing provision and employment growth. The relatively high level of housing completions since mid-2000, for instance, did not seem to have linked to an increase in employment, which has actually reduced. During the same period, the proportion of Gloucester residents working locally remained stable at 66%, and out-commuting increased, particularly to Cheltenham and out of County. There has also been a considerable increase in in-commuting, however, due to an increase in commuters from Cheltenham and out of the county (mainly South Gloucestershire and Bristol).

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.4.11

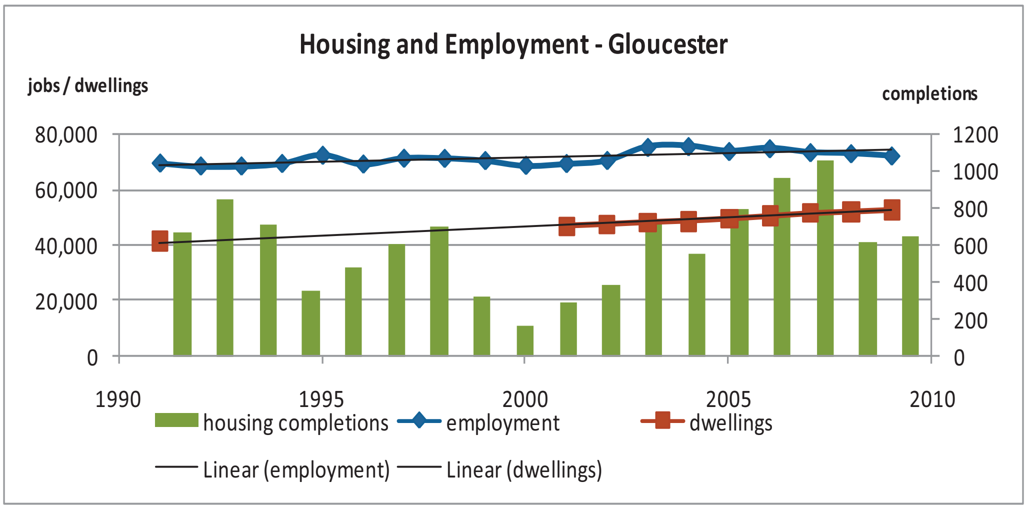


Figure 2.4.12

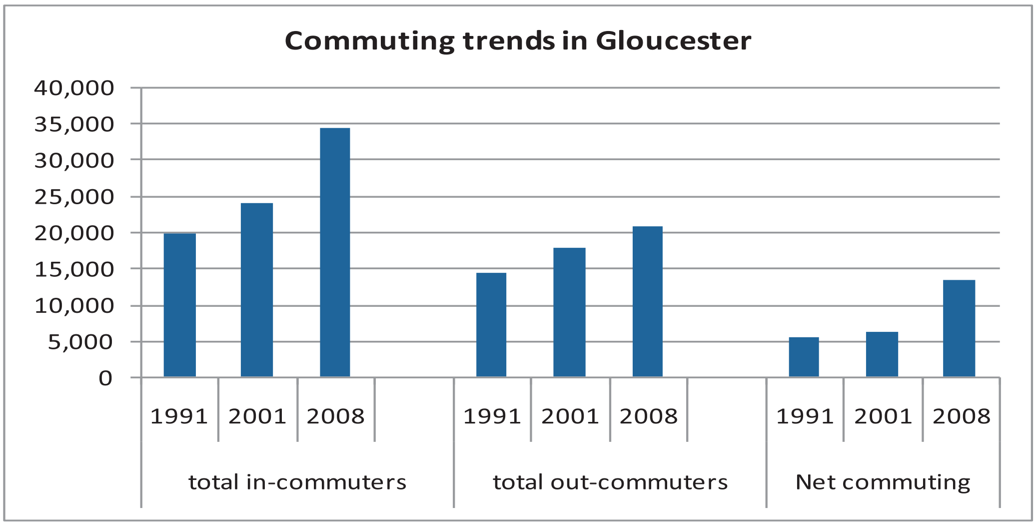


Figure 2.4.13

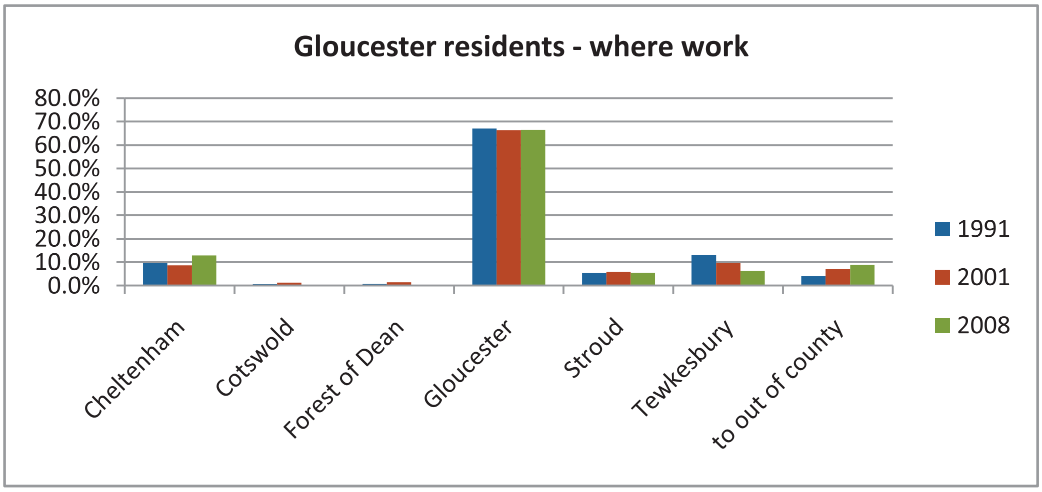
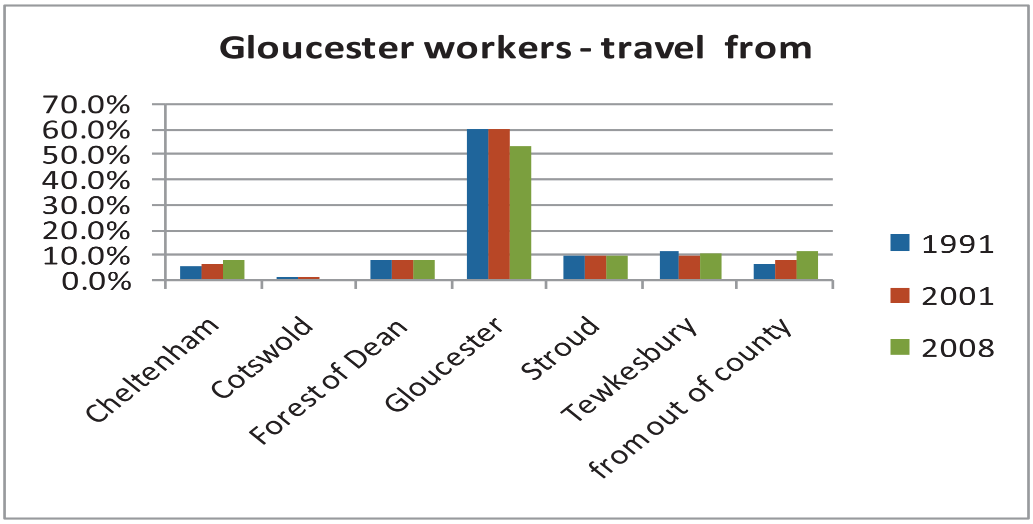


Figure 2.4.14



Section 2.5 Stroud

2.5.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 7,105 new dwellings were delivered in Stroud, averaging 400 a year. According to the Census 2001 dwellings data and subsequent housing completion records, the total number of dwellings in Stroud is estimated to be around 49,500 as at 2009/10.

House building rates in Stroud, however, were not uniform during the period. Average housing completion during 1992-1997, for instance, was about 360 a year and this increased to 420 in 1998-2003. Recent deliveries showed that the number of new housing completions peaked, at 560, in 2007/08 soon after the Regional Spatial Strategy came into force. In 2009, however, the annual average dropped rapidly to below 320 due to the recession.

Over the same period 1992-2009, population in Stroud increased by 10,300 to 114,400. Household formation also increased, by about 6,900, to 48,300 in 2009. The large increase in the number of households relative to population growth was largely attributable to falling average household size, which is in line with national and county trends. The average number of persons per dwelling in Stroud was estimated to be around 2.31 in 2009, down from 2.46 in 1991.

Comparison of dwellings and household trends suggest that the rate of household formation in Stroud rose faster than the provision of new dwellings in recent years. Households as a proportion of dwellings is now estimated to be around 97.6%, compared to 95.7% in 1991.

Figure 2.5.3 shows the relative change in housing completions, population and household numbers in Stroud since 1992. It shows that household formations in Stroud in the past five years were higher than dwelling provision, contrary to the trends in the previous 5-year period.

Figure 2.5.1

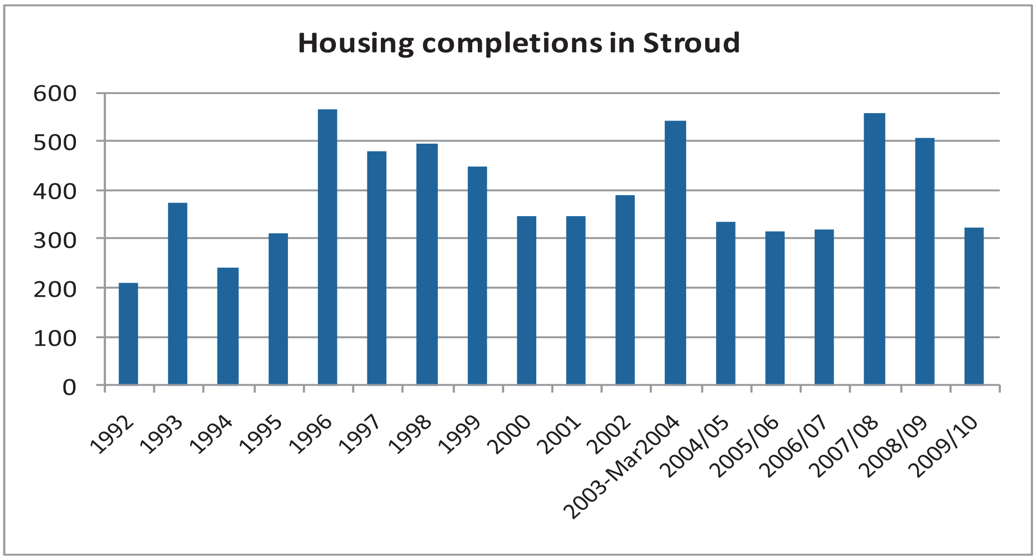
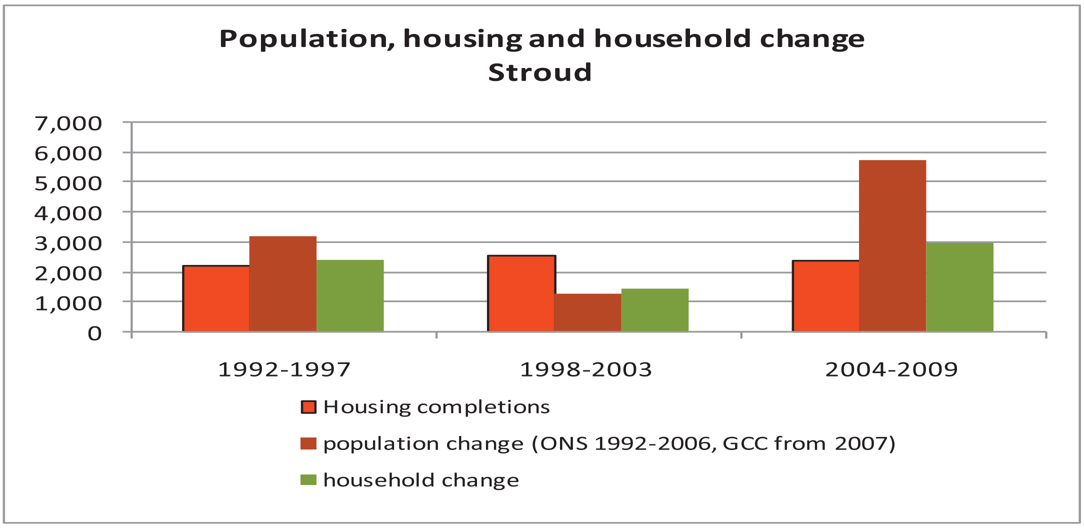


Figure 2.5.2

	Housing, population and households - Stroud									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	42,400	45,960	46,580	47,120	47,450	47,770	48,090	48,650	49,150	49,480
Population	104,100	108,060	108,120	108,620	109,120	109,680	109,870	113,870	113,850	114,400
Households	40,570	44,610	44,990	45,320	45,670	45,990	46,230	47,800	47,940	48,300
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Households as % dwellings	95.7%	97.1%	96.6%	96.2%	96.2%	96.3%	96.1%	98.3%	97.5%	97.6%
Population per dwelling	2.46	2.35	2.32	2.31	2.30	2.30	2.28	2.34	2.32	2.31

Figure 2.5.3



2.5.2 Indigenous and migrant demand for housing

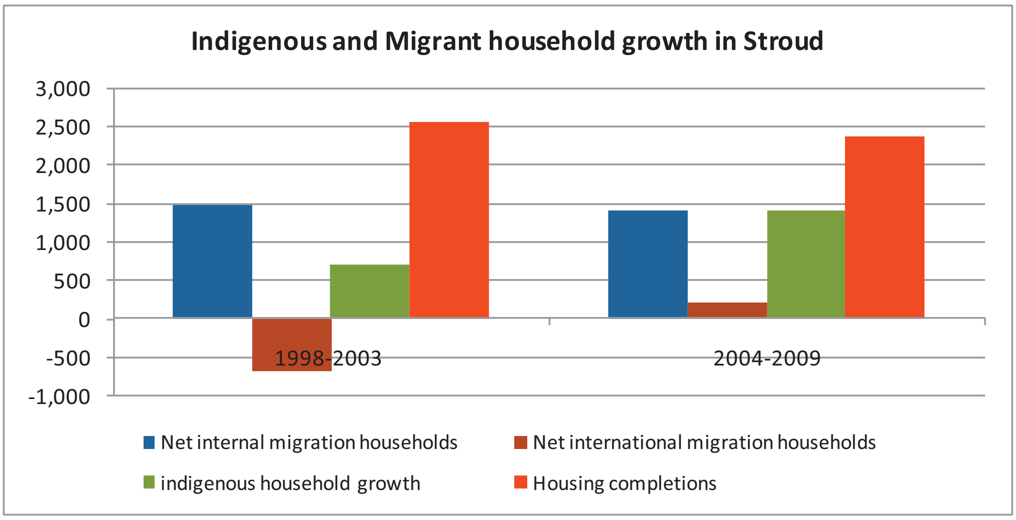
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 4,400 new households were formed in Stroud. In the same period, net migration to Stroud was estimated to be around 5,440 and the associated number of households arising from the net migration was estimated to be around 2,360. The differential, i.e. about 2,080 households, is taken as the estimated number of households formed from within the indigenous population.

Figure 2.5.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that the proportion of household growth that can be attributed to net migration is relatively high in Stroud. In 2004-2009, an estimated 53% of new households were attributable to net migration, compared to 47% that were formed from within the indigenous population. However, demand for housing from the indigenous population in the local housing market has grown in the last five years compared to previous years.

Figure 2.5.4



2.5.3 Housing and inter-district migration

This section examines the population dynamics between Stroud and other districts within Gloucestershire, and their possible link with housing provision in the district.

Over the past 10 years, Stroud received an average of about 4,900 internal migrants per annum from within the UK, and exported about 4,300 people to other areas within the UK. Typically, around 30% of the inflow originated from within Gloucestershire and about 35% of the outflow was to other districts within the county.

Figure 2.5.5 shows internal migration trends to Stroud in the past 10 years, with associated housing completions over the same period. It can be seen that the majority of internal migration to Stroud was from outside Gloucestershire, averaging about 3,400 people a year. This has put Stroud as the third favourite location in Gloucestershire for migrants from outside the county, after Cheltenham and Cotswold.

Within the county, inward migration to Stroud has been primarily from Gloucester, which ranged between 650 and 730 people per annum since 2005. There has also been significant number of migrants from Cotswold and Cheltenham, averaging 300 and 230 respectively since 2005. The largest outflow was to outside Gloucestershire but Gloucester is the main destination within the county, averaging around 800 a year over the past 5 years.

There appears to be some relationship between new completions in Stroud and the level of inward migration from outside the county, from Gloucester and from Cotswold. Outflow from Cotswold to Stroud, in particular, is found to be consistently linked to the supply of new housing in Stroud. In contrast, the increase/decrease in completions did not seem to have resulted in a corresponding reduction/rise in outflow from Stroud.

Taking into account both in and out-migration, Stroud has consistently experienced a net gain in internal migration. This is largely due to the net flow from outside the county, although the number has reduced from 640 to 540 in the past 3 years.

Within the county, population exchange between Stroud and other districts was broadly balanced. The large net outflow to Gloucester that was seen in 2007 also seems to have halted, as new builds in Gloucester reduced.

Figure 2.5.5

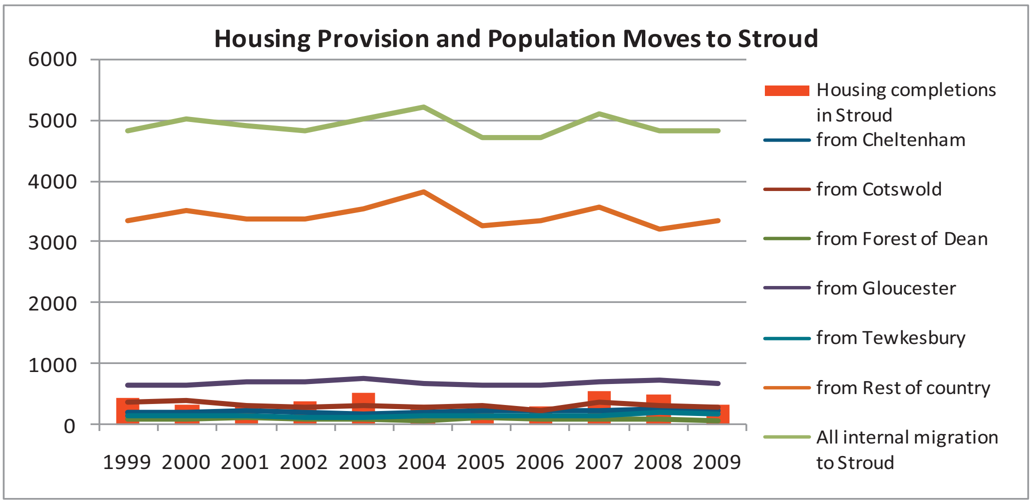


Figure 2.5.6

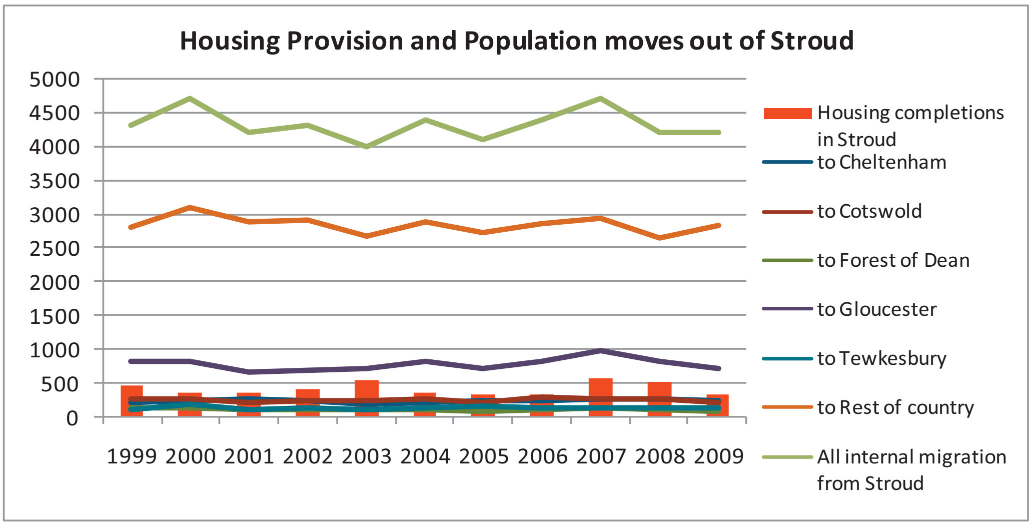
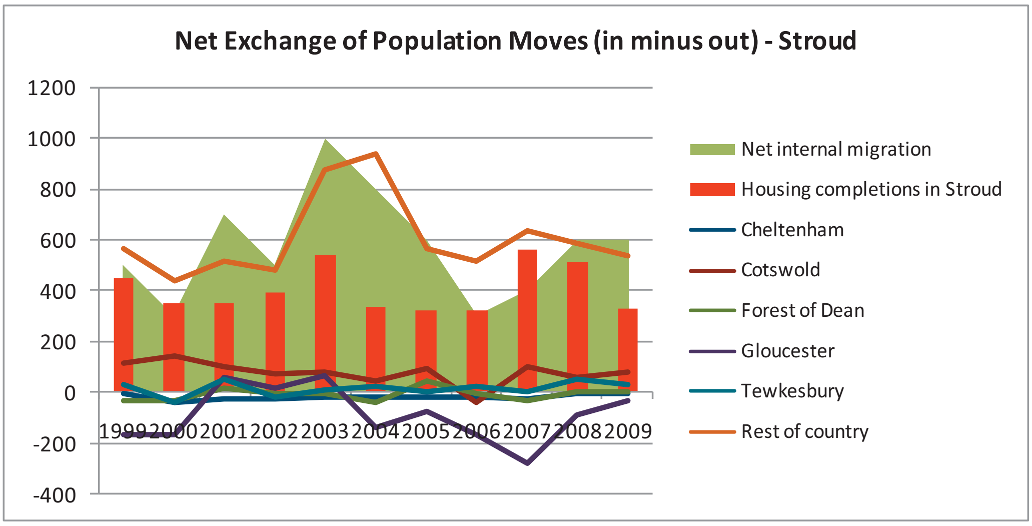


Figure 2.5.7



2.5.4 Migration to new housing developments in Stroud – a case study

The methodology this study used to 'profile' the residents of new developments has been to

- Identify the new postcodes created for addresses within the new development
- Identify the residents of these postcodes at January 2010, through an encrypted and anonymized version of the GP patient register
- To trace these residents in the GP patient register, again encrypted and anonymized, for September 2006.

If a 2010 resident has moved to the new development from within Gloucestershire then we can identify their place of origin in 2006. If a 2010 resident does not appear in the 2006 register then we assume that they have moved to the new development from outside the County. The 'profile' of 2010 residents and their origins excludes children aged 5 years or under at 2010, because we can't tell if these children were born at a new development postcode, or moved there from Out-of-County.

Case study

Stroud College (Orchard Leaze, Stratford Road)

Using the methods outlined above it was found that

- Most people who have moved to the new development at the Stroud College site have moved from within Gloucestershire, the large majority of these from within Stroud District itself. Well over half of movers came from a previous address within 3 miles.
- Local movers to the Stroud College site were younger, on average, than Out-of-County migrants – but were no more likely to have children with them.

Figure 2.5.8: Distance moved to selected new developments in Stroud	Stroud College site	
	n	%
'in-county' moves under a mile	23	33.8
'in-county' moves between 1 & 3 miles	18	26.5
'in-county' moves between 3 & 10 miles	9	13.2
'in-county' moves more than 10 miles	4	5.9
total 'in County' movers	54	79.4
no move	0	0.0
migrants from Out of County	14	20.6
total moving to	68	

Figure 2.5.9: District of origin of movers to selected new developments in Stroud	Stroud	
	n	%
'in county' movers from Cheltenham	2	2.9
'in county' movers from Cotswold	3	4.4
'in county' movers from Forest of Dean	0	0.0
'in county' movers from Gloucester	1	1.5
'in county' movers from Stroud	48	70.6
'in county' movers from Tewkesbury	0	0.0
'Out of County' movers	14	20.6

Figure 2.5.10: Ages of movers to selected new developments in Stroud	Stroud College
mean age of 'in County' movers	26.9
% of 'in County' movers who are children	16.7
mean age of 'Out of County' in migrants	35.8
% of 'Out of County' in migrants who are children	17.1

2.5.5 Housing, employment and commuting

Stroud is the third largest economic centre in Gloucestershire, providing about 18% of all employment in the county. Although the number of jobs reduced in 2009, the overall employment in Stroud has shown an upward trend. The number of jobs is estimated to be around 53,200 in 2009, compared to 46,500 in 1991. The largest employers are the public sector, followed by manufacturing and finance.

The relationship between employment and housing in Stroud is illustrated in Figure 2.5.11. Figures 2.5.12 to 2.5.14 provide further data on commuting trends, which are influenced by job markets and housing.

It seems that there has been some association between the level of employment in Stroud and the amount of new housing completions in the district. The rise in housing delivery in 1996, 2003 and 2007 and a reduction in 2001 and 2009, for instance, coincided with an increase and decrease in employment in the corresponding years.

The increase in employment may have also resulted in a marked increase in in-commuting to the district. Data suggest that the increase in travel-to-work to Stroud was mainly attributable to an increase in in-commuting from outside Gloucestershire. Out-commuting level, on the other hand, has been relatively stable since 2001. At the same time, an estimated 67% of the working age population in Stroud worked locally in 2008, the third highest percentage in the County.

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.5.11

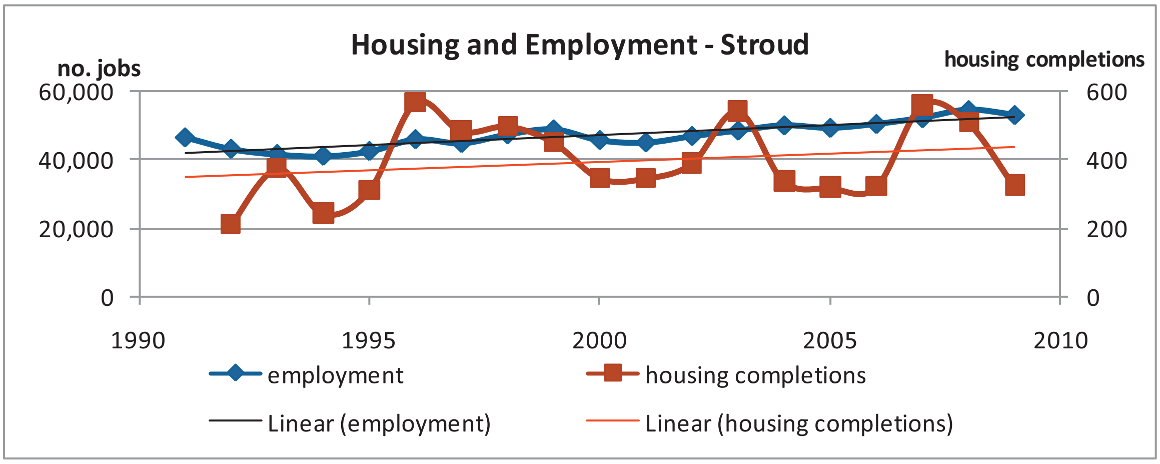


Figure 2.5.12

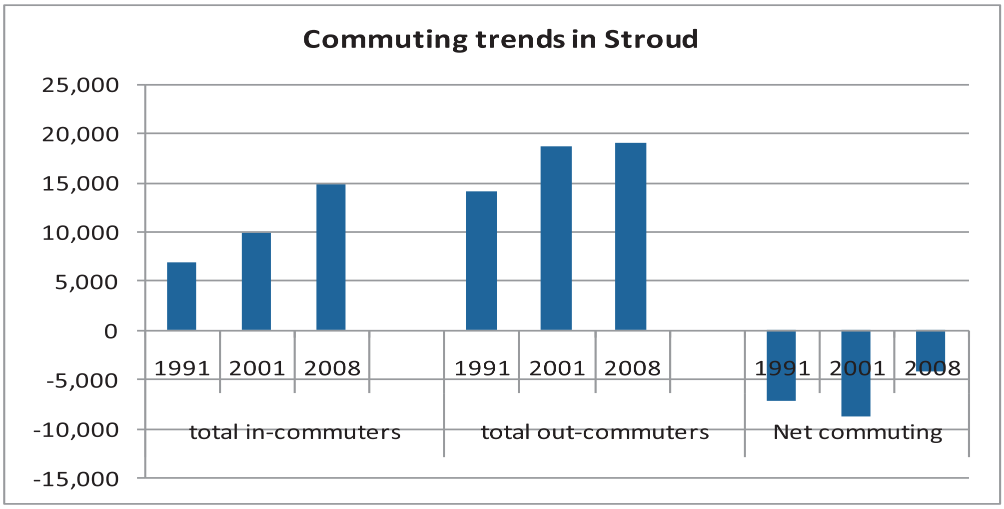


Figure 2.5.13

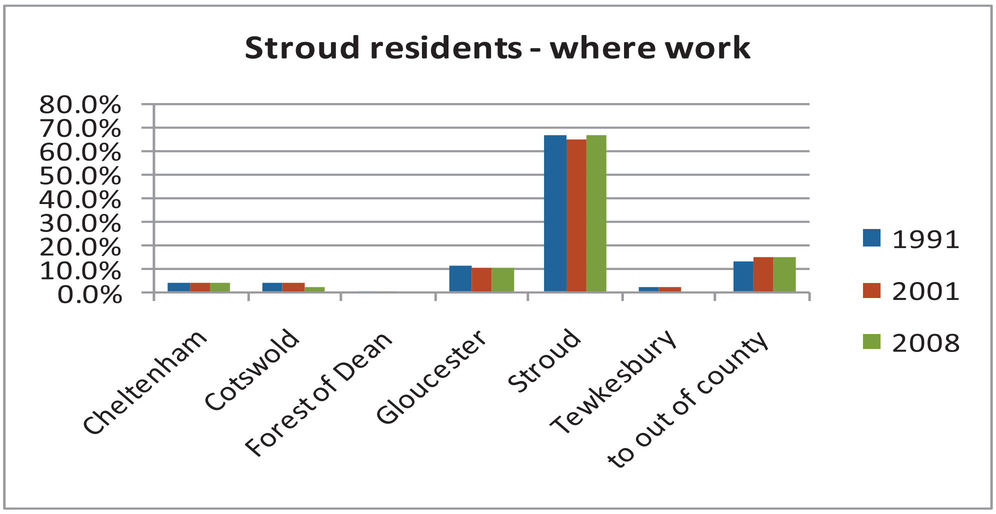
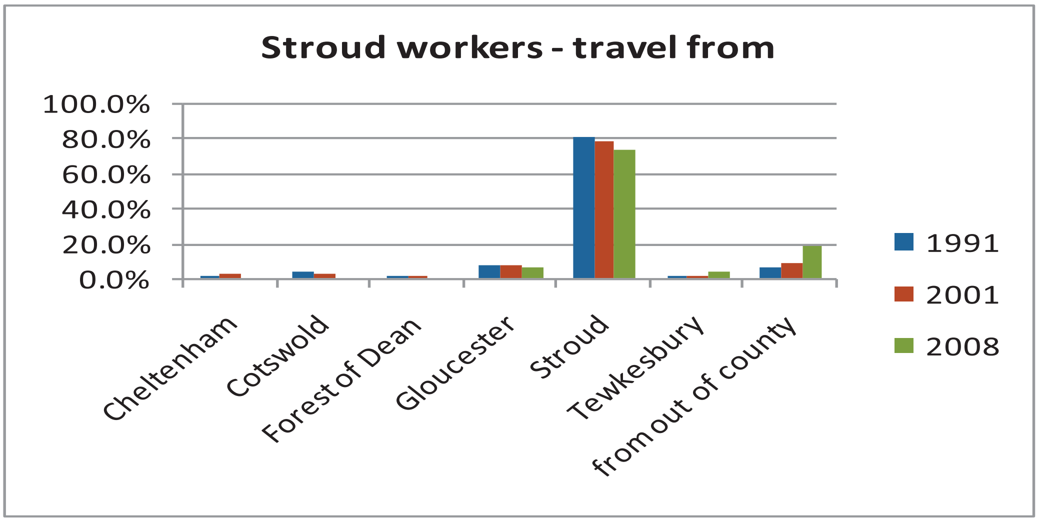


Figure 2.5.14



Section 2.6 Tewkesbury

2.6.1 Housing, population and household formation

Between 1992 and 2009/10, a total of 7,534 new dwellings were delivered in Tewkesbury, averaging 420 a year. It is estimated that by 2009/10, the total number of dwellings in Tewkesbury was around 36,900, according to the 2001 Census and subsequent housing completions data.

Overall, house building rates in Tewkesbury were fairly stable in the 10 years to 2003, with an average completion of 400 per annum. The number of new dwellings then dropped significantly in 2004 to below 200. Since then, there were large fluctuations in the delivery, rising from about 300-400 prior to the introduction of the Regional Spatial Strategy to nearly 700 in 2007, before reducing to 300 in 2009 due to the recession.

During the same period 1992-2009, total population increase in Tewkesbury is estimated to be 10,500, reaching 81,300 in 2009. Household formation also increased, by 6,600 to a total of 35,000 in 2009. The large scale of household increase relative to population growth is largely attributable to the trends towards falling household size, which is in line with national and county trends. The average number of persons per dwelling in Tewkesbury was estimated to be around 2.20 in 2009, down from 2.46 in 1991.

Comparison of dwellings and household trends in Tewkesbury suggest that the rate of new dwellings provision in Tewkesbury has been higher than household formations since early 2000s. Household as a proportion of dwelling is now estimated to be around 94.9%, compared to 97.1% in 2001.

Figure 2.6.3 further shows the relative change in housing completions, population and household numbers in Tewkesbury since 1992. It confirms that the pace of dwelling provision in Tewksbury has been ahead of household formation since 1998 but they are more aligned in recent years.

Figure 2.6.1

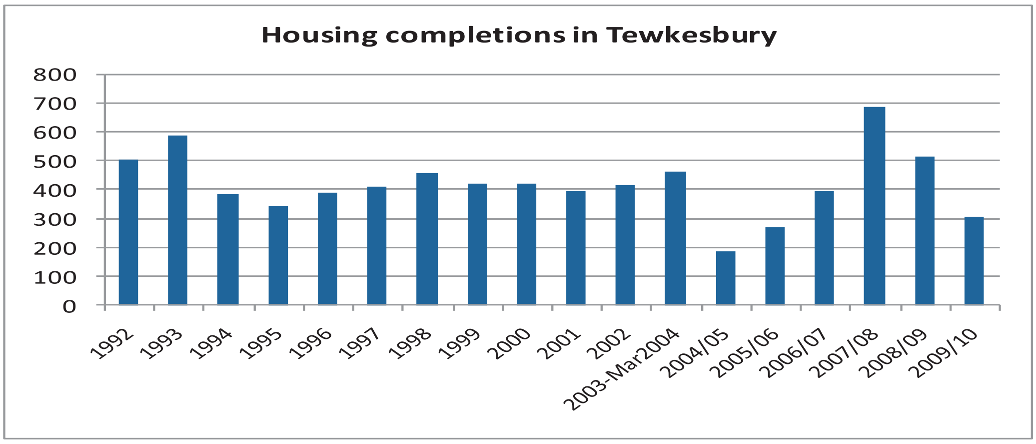
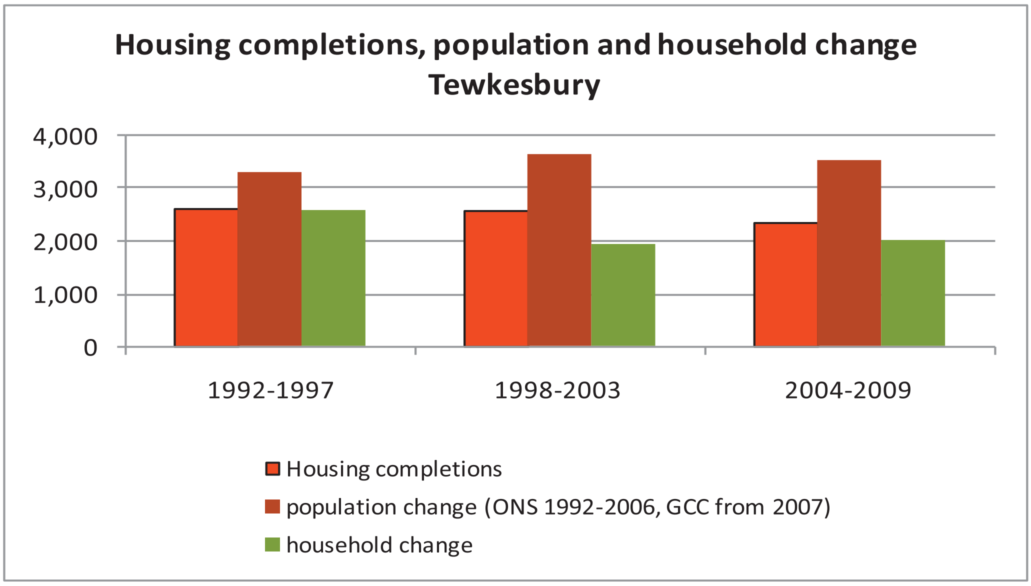


Figure 2.6.2

	Housing, population and households Tewkesbury									
	Census 1991	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009
Dwellings	28,780	33,410	34,090	34,550	34,740	35,010	35,400	36,080	36,600	36,900
Population	70,720	76,520	77,240	77,710	78,330	78,720	79,370	80,650	80,730	81,260
Households	27,920	32,430	32,700	32,980	33,310	33,430	33,670	34,640	34,650	35,000
	1991	2001	2002	2003	2004	2005	2006	2007	2008	2009
Households as % dwellings	97.0%	97.1%	95.9%	95.5%	95.9%	95.5%	95.1%	96.0%	94.7%	94.9%
Population per dwelling	2.46	2.29	2.27	2.25	2.25	2.25	2.24	2.24	2.21	2.20

Figure 2.6.3



2.6.2 Indigenous and migrant demand for housing

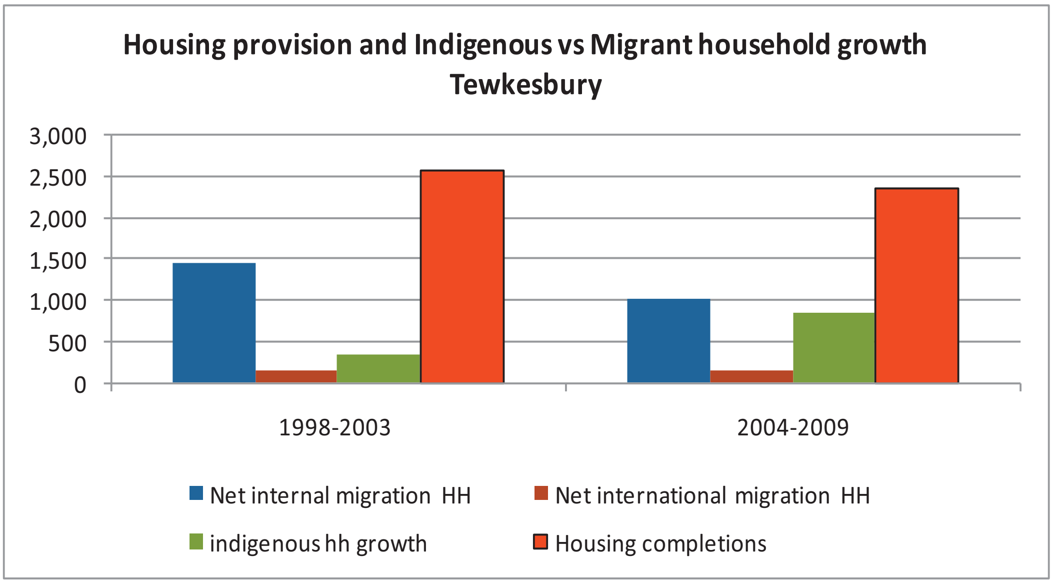
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

There is no direct data with which to establish the level of new household formation arising from within the indigenous population. Estimates have been derived from data available on household change and migration, with some assumptions about household size.

Overall, between 1998 and 2009, an estimated 4,000 new households were formed in Tewkesbury and the associated number of households arising from the net migration was estimated to be around 2,800. The differential, i.e. about 1,200 households, is taken as the estimated number of households formed from within the indigenous population.

Figure 2.6.4 shows the breakdown in indigenous and migrant household formations for the period 1998-2003 and 2004-2009 respectively. It indicates that the proportion of household formations attributable to migrants is relatively high compared to most other districts in Gloucestershire. In 2004-2009, about 58% of new households were attributable to net migration (second highest in the county) and an estimated 42% of new households were formed from within the indigenous population. Compared to the period 1998-2003, however, indigenous household growth has increased and become more important in the local housing market.

Figure 2.6.4



2.6.3 Housing and inter-district migration

This section examines the population dynamics between Tewkesbury and other districts within Gloucestershire, and their possible link with housing provision in the district.

Over the past 10 years, Tewkesbury received an average of 4,800 internal migrants per annum from within the UK, and exported about 4,300 people to other areas within the UK. Typically, about half of the inflow originated from within Gloucestershire and a similar proportion of the outflow was to other districts within the county.

Figure 2.6.5 shows internal migration trends to Tewkesbury in the past 10 years, with associated housing completions over the same period. It can be seen that the average number of internal migrants to Tewkesbury from outside Gloucestershire was around 2,300 people a year.

Within the county, inward migration to Tewkesbury has been primarily from Cheltenham, which averaged nearly 1,300 people a year. The moves from Cheltenham to Tewkesbury are found to be highly responsive to the new housing completions in Tewkesbury. There was also a significant number of inward migrants from Gloucester, reaching 850 people in 2009.

The largest outflow from Tewkesbury was to outside the county but within Gloucestershire, outflow from Tewkesbury to Gloucester has increased and now equalled the outflow to Cheltenham.

Taking into account both in- and out-migration, Tewkesbury has consistently experienced a net gain in internal migration in the last decade. The largest net inflow to Tewkesbury was from Cheltenham, which rose to between 450 and 480 people in the past three years. The large net outflow to Gloucester that was seen during 2007-2008 seems to have reversed, with Tewkesbury now receiving a marginal net inflow from Gloucester.

Figure 2.6.5

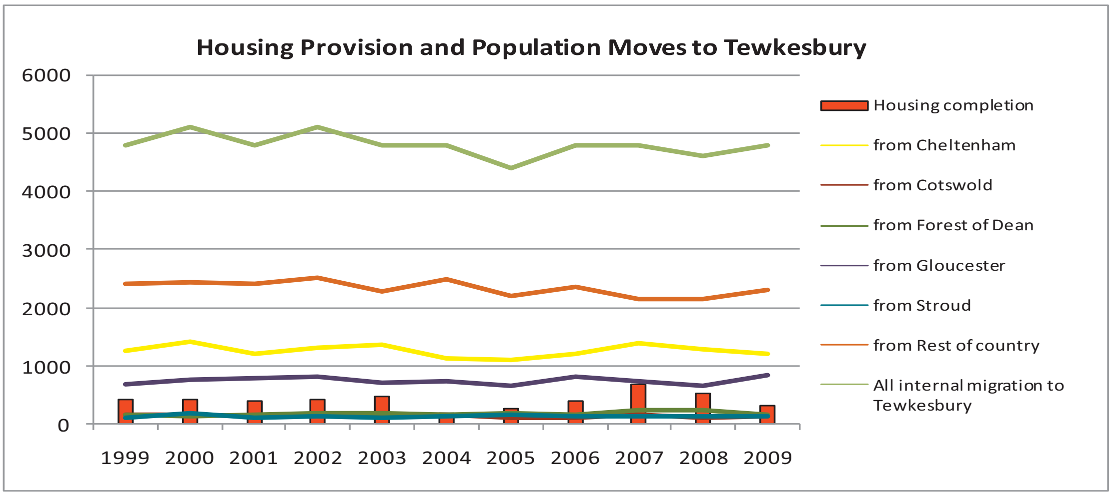


Figure 2.6.6

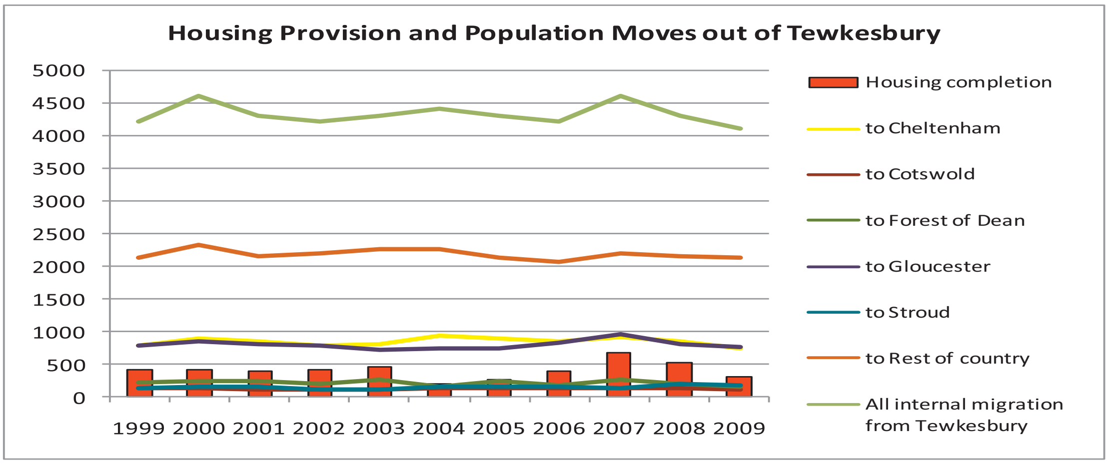
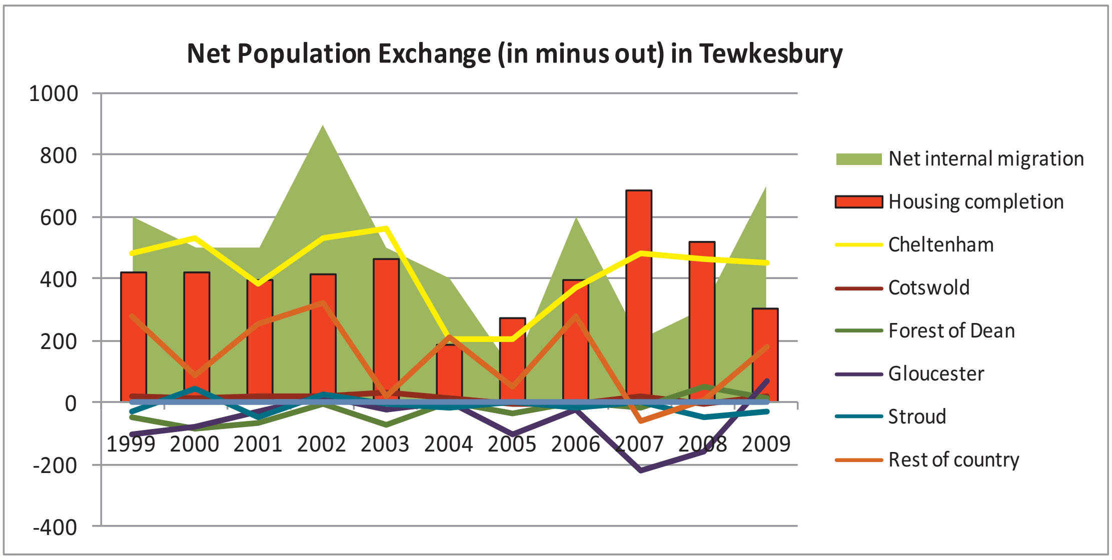


Figure 2.6.7



2.6.4 Migration to new housing developments in Tewkesbury – Case studies

The methodology this study used to 'profile' the residents of new developments has been to

- Identify the new postcodes created for addresses within the new development
- Identify the residents of these postcodes at January 2010, through an encrypted and anonymized version of the GP patient register
- To trace these residents in the GP patient register, again encrypted and anonymized, for September 2006.

If a 2010 resident has moved to the new development from within Gloucestershire then we can identify their place of origin in 2006. If a 2010 resident does not appear in the 2006 register then we assume that they have moved to the new development from outside the County. The 'profile' of 2010 residents and their origins excludes children aged 5 years or under at 2010, because we can't tell if these children were born at a new development postcode, or moved there from Out-of-County.

Case studies

Land off Bredon Road

and

Former Shell Site *(now known as Centurion Way)*, Hucclecote Road

- More than a third of movers to the Bredon Road development in Tewkesbury had a previous address outside the County, reflecting that the development is located close to the County boundary. Just under half of movers to Bredon Road came from within 3 miles AND within Gloucestershire.

- Nearly three-quarters of movers to the Shell site, Brockworth, had moved fewer than three miles – a quarter of movers less than a mile. More of the Shell site residents had a previous address in Gloucester City than in Tewkesbury Borough itself. The Bredon Road development drew residents from all Gloucestershire Districts.

- The age profile of the Bredon Road development demonstrates that at least part of the development is serving a particular 'older' market. Around one-in-eight movers to Bredon Road were children, whereas four-in-ten movers to the Shell site were children. There is a marked contrast in the age profile of local compared to Out-of-County movers to the Shell site.

Figure 2.6.8: Distance moved to selected new developments in Tewkesbury	Bredon Road		Shell site	
	n	%	n	%
'in-county' moves under a mile	51	20.4	15	27.3
'in-county' moves between 1 & 3 miles	68	27.2	24	43.6
'in-county' moves between 3 & 10 miles	29	11.6	10	18.2
'in-county' moves more than 10 miles	9	3.6	0	0.0
total 'in County' movers	157	62.8	49	89.1
no move	0	0.0	0	0.0
migrants from Out of County	93	37.2	6	10.9
total moving to	250		55	

Figure 2.6.9: District of origin of movers to selected new developments in Tewkesbury	Bredon Road		Shell site	
	n	%	n	%
'in county' movers from Cheltenham	15	6.0	4	7.3
'in county' movers from Cotswold	1	0.4	0	0.0
'in county' movers from Forest of Dean	1	0.4	0	0.0
'in county' movers from Gloucester	6	2.4	25	45.5
'in county' movers from Stroud	3	1.2	0	0.0
'in county' movers from Tewkesbury	131	52.4	20	36.4
'Out of County' movers	93	37.2	6	10.9

Figure 2.6.10: Ages of movers to selected new developments in Tewkesbury	Bredon Road	Shell site
mean age of 'in County' movers	46.0	22.0
% of 'in County' movers who are children	13.4	38.8
mean age of 'Out of County' in migrants	47.9	55.0
% of 'Out of County' in migrants who are children	12.6	0.0

2.6.5 Housing, employment and commuting

Tewkesbury is the second smallest economic centre in Gloucestershire, providing about 14% of all employment in the county. Despite this, employment in Tewkesbury has shown a general upward trend although the latest employment figure has decreased due to the recession. The number of jobs in 2009 is estimated to be around 43,000, compared to 33,400 in 1991. The largest industrial sector in the district is manufacturing, followed by distribution & retail, finance and the public sector.

The relationship between housing and employment in Tewkesbury is illustrated in Figure 2.6.11. Figures 2.6.12 to 2.6.14 provide further data on commuting trends, which are influenced by job markets and housing.

It can be seen that the generally upward trend in employment in Tewkesbury has coincided with a general increase in dwelling numbers in the past 20 years. However, while an increase in housing provision has been linked to a rise in employment in some years, the connection has not been consistent in many years. The increased commuting, both in- and out-, has probably complicated the association.

Between 1991 and 2008, out-commuting increased rapidly with more than 60% of people now travelling out for employment. This is the largest proportion of any districts in the county. Over half of the out-commuting is to Cheltenham, which may be linked to the high level of inward-migration from Cheltenham to Tewkesbury (See Section 2.1.3).

At the same time, in-commuting also increased, largely due to an increased travelling-to-work from outside Gloucestershire. Despite this, the proportion of local jobs taken up by local residents also increased, from 45% in 1991 to 52% in 2008.

The complex link between housing and employment is likely to continue as the balance of migration and commuting will continue to be affected by housing as well as non-housing factors. These non-housing factors include employment opportunities in local and other areas, house prices in local and travel-to-work areas, lifestyle, schools, access to public transport and single or dual earner family etc.

Figure 2.6.11

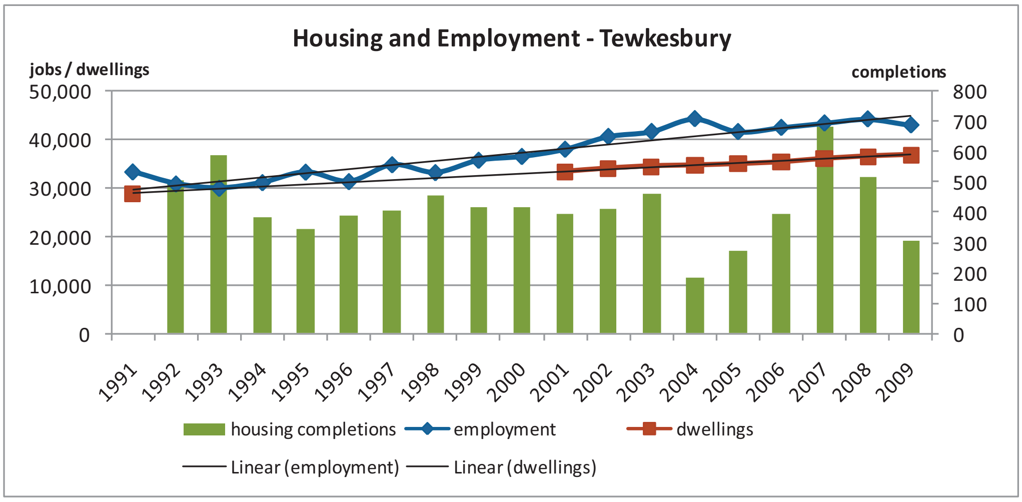


Figure 2.6.12

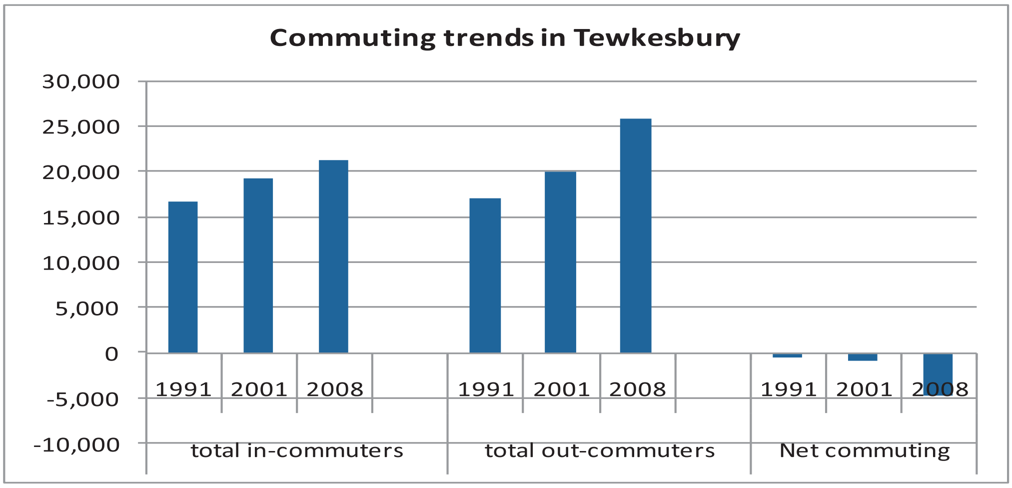


Figure 2.6.13

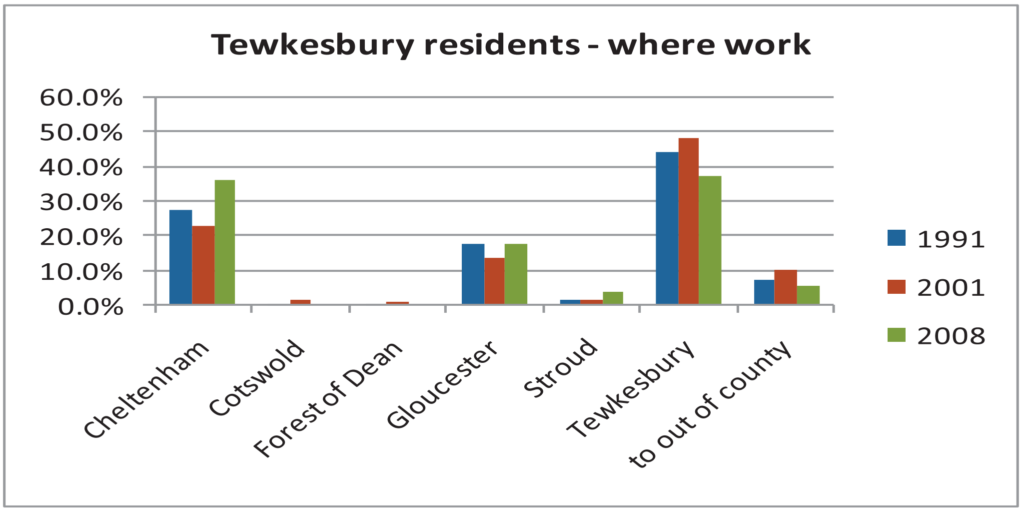
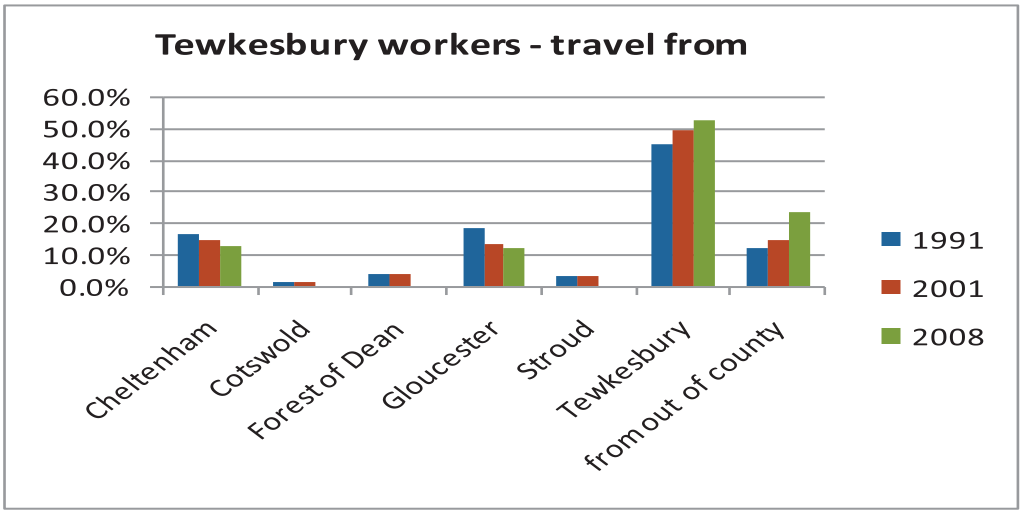


Figure 2.6.14



Part 3 - Population and Household Projections

Section 3.1 Trend-based and Employment-based projections

Based on locally derived statistics in fertility, mortality and migration, Gloucestershire County Council produces local projections on population and household numbers on a regular basis. The projections make use of the commonly-used forecasting suite of POPGROUP software as a basic tool[3]. The suite includes software to forecast population and household by using an established forecasting method known as the 'Cohort Component Model' to project changes. The methodology starts with a base population at a fixed time. It then considers components of change (fertility, mortality and migration), and ages the population on for the duration of the projection period. Projections of household numbers are derived by applying the latest 2008-based age-specific headship rates released by the Department for Community and Local Government to the projected population.

The latest local projections, produced by the County Council in 2010, were trend-based, i.e. based on current trends of growth and therefore did not reflect the possible effect of intervening policies or changing circumstances. The trend-based projection results for the county and districts, with associated assumptions and methodology, were detailed in a report published in June 2010[4].

As part of this study, Gloucestershire County and district planning authorities commissioned an additional projection scenario based on forecast employment growth to examine the possible effect of employment on future population and household numbers, in comparison with the trend-based scenario. To this end, the study incorporates the latest employment growth forecast produced by the Cambridge Econometrics Local Economy Forecasting Model (Section 3.2) into the POPGROUP forecasting modelling suite to produce an employment-based projection scenario for all Gloucestershire districts.

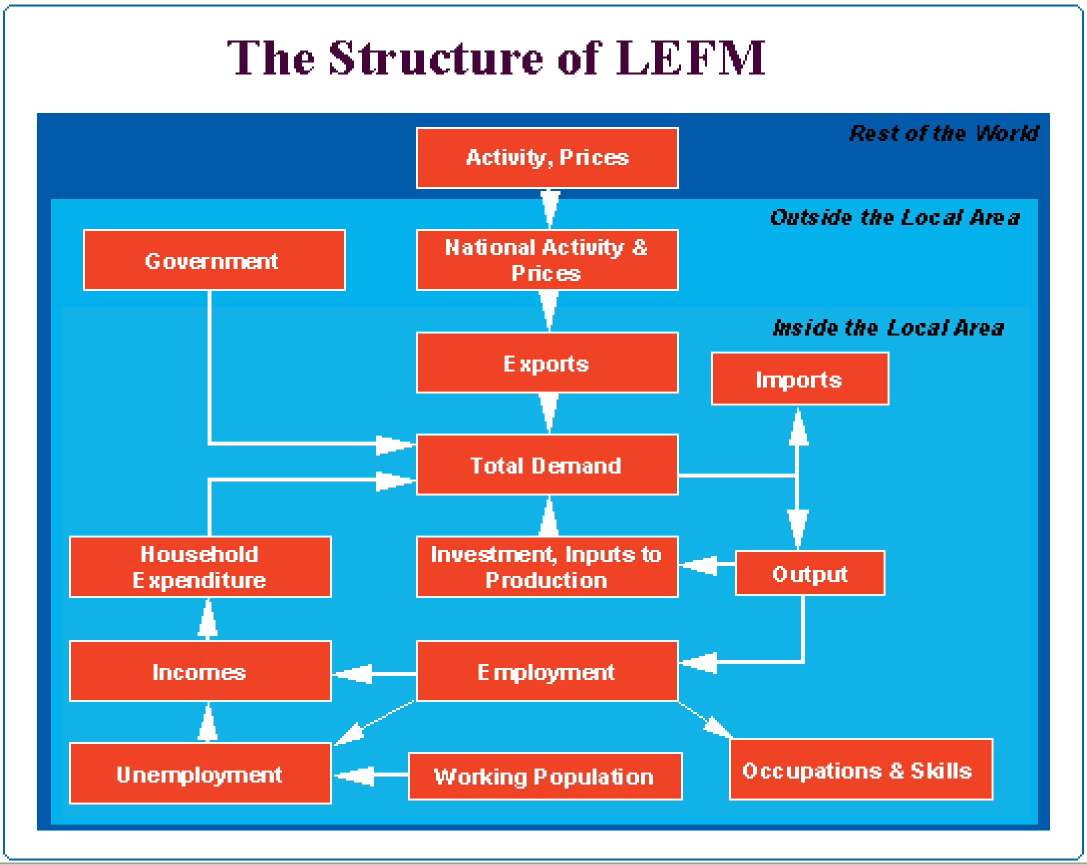
[3] http://www.ccsr.ac.uk/popgroup/index.html

[4] http://www.gloucestershire.gov.uk/inform/index.cfm?articleid=94725

Section 3.2 Employment Forecast and Cambridge Econometrics Local Economy Forecasting Model

The Local Economy Forecasting Model (LEFM) has been developed to forecast economic activity in local areas in a way that is consistent with regional and national forecasts. Although the model includes a number of econometric relationships, lack of data currently precludes the estimation of a complete model in the conventional sense. Many of the relationships are therefore imposed by assumption, based on the broader regional or national models estimated by Cambridge Econometrics and the Institute for Economic Research (University of Warwick)). LEFM should therefore be regarded primarily as a simulation model rather than an accurate econometric representation of a local economy.

The structure of the LEFM as shown in the diagram below follows the accounting matrix adopted in the Cambridge Economics Multisectoral Dynamic Model of the UK economy.



The critical elements of the structure are the estimates of a full flow matrix of expenditure components for the local area. At the model's heart is an analysis of the extent to which local output and employment depend on spending within the local area, or on markets outside the local area. The model follows the conventional System of National Accounts (SNA) accounting structure, distinguishing consumers' expenditure, investment, government consumption, intermediate purchases by industries and trade flows on the basis of information available locally and regionally.

The model solution has as its key inputs national and regional results from Cambridge Econometrics and Institute for Economic Research national/regional macroeconomic forecast and assumptions for trends in local area industries' share of the local market and of national production.

The main input assumptions used in LEFM include forecasts for the UK and region in which the local economy lies for selected variables, including components of domestic final expenditure, components of personal incomes, gross output, employment, projected changes in occupational structure and forecasts for the local economy. Outputs of the model include forecasts for gross output, final expenditure, personal incomes and **employment**.

In this study, the latest employment forecasts produced by the LEFM for districts are used as a constraint in the POPGROUP projection software to generate an employment-based population and household projection scenario for each district.

For further information about the LEFM and contacts please visit the following site:

http://www2.warwick.ac.uk/fac/soc/ier/publications/software/lefm

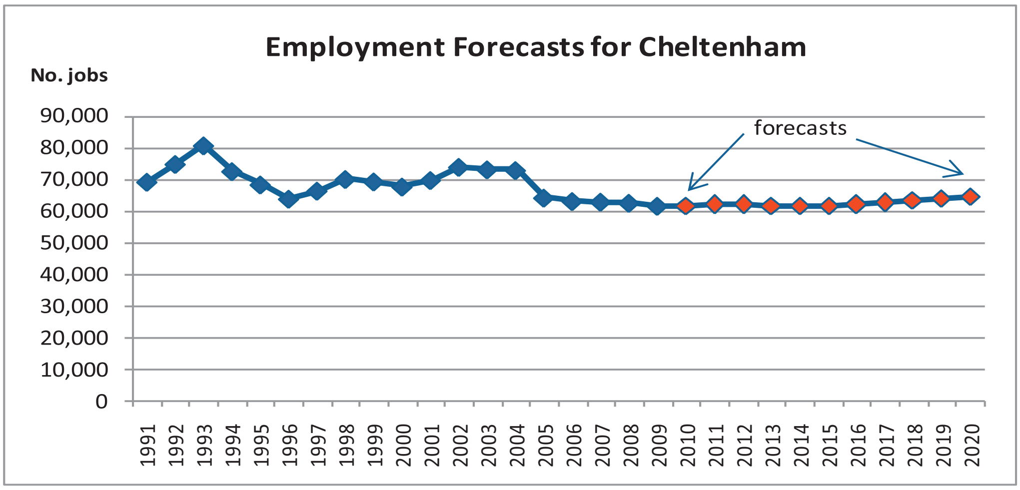
The following Sections set out the projection results from trend-based and employment-based scenarios on population and household numbers for each district. It is worth noting that projections based on employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from trend-based projections, which are based on the current population growth trends.

In this study, employment-based projections provide projections up to year 2020 in accordance with the duration of the latest Cambridge Econometric local economic forecasting period. The following sections therefore compare employment-based and trend-based projected figures up to year 2020. Trend-based projections up to year 2031 are provided separately in Tables 11 and 12 in the Appendix at the end of this report.

Section 3.3 Projections for Cheltenham

The latest Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for Cheltenham for the next 10 years anticipate that employment will fall gradually until 2015 when it is expected to start to increase. Forecast employment for Cheltenham is that the number of jobs will reduce from the current 61,700 to 61,600 in 2015 and then increase to 64,800 in 2020. Overall, the number of jobs is forecast to increase by 3,100 between 2009 and 2020.

Figure 3.3.1



Employment-based projections suggest that population in Cheltenham is expected to increase to 121,300 by 2020, compared to 121,900 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 57,200, compared to 57,500 based on current trends.

Figure 3.3.2

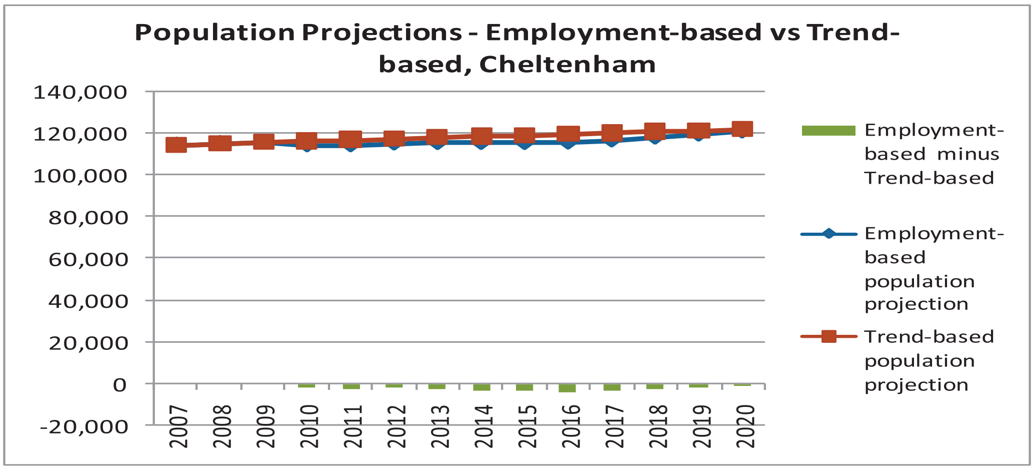


Figure 3.3.3

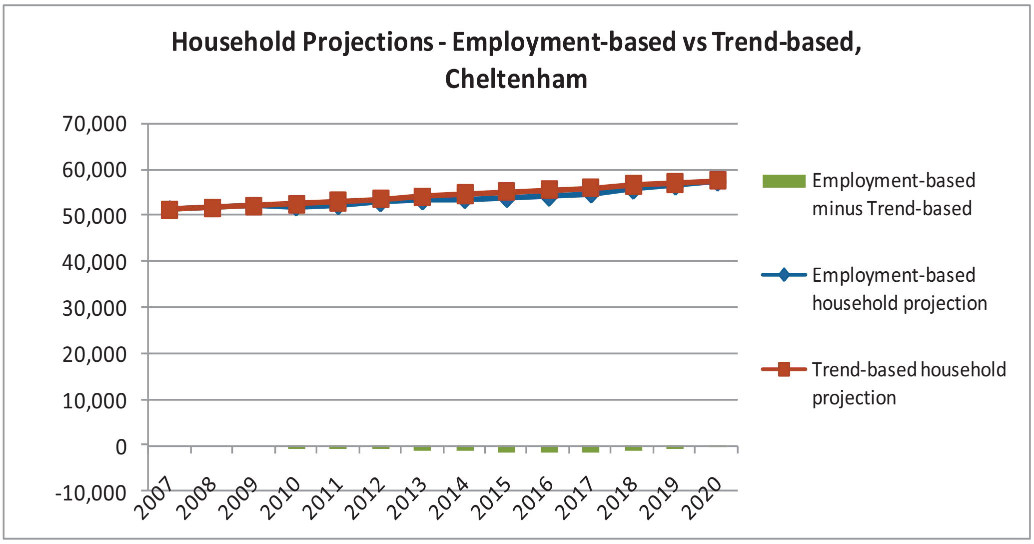


Figure 3.3.4

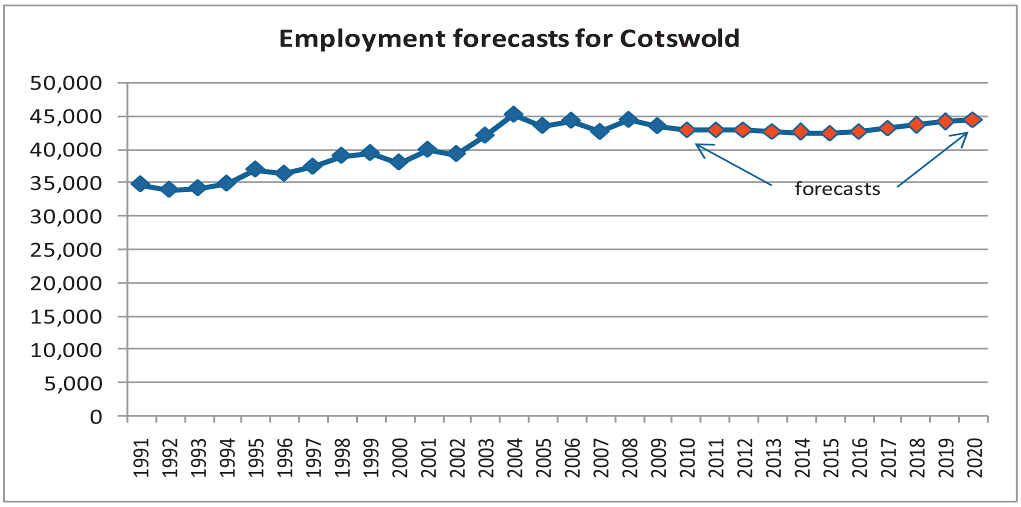
	Population and Household Projections (Employment-based vs Trend-based) Cheltenham											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected population												
Employment-based	115,800	114,600	114,600	115,500	115,700	115,700	115,700	115,900	116,900	118,300	119,800	121,300

Trend-based	115,800	116,400	116,900	117,500	118,000	118,500	119,100	119,700	120,200	120,800	121,300	121,900
Projected households												
Employment-based	51,900	51,700	52,000	52,700	53,100	53,300	53,600	53,900	54,600	55,400	56,300	57,200
Trend-based	51,900	52,400	52,900	53,500	54,000	54,500	55,000	55,500	56,000	56,500	57,000	57,500

Section 3.4 Projections for Cotswold

The latest Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for Cotswold for the next 10 years anticipate that employment will fall gradually until 2015 when it will start to increase. Forecast employment for Cotswold is that the number of jobs will reduce from the current 43,400 to 42,500 in 2015 and then increase to 44,500 in 2020. Overall, the number of jobs is forecast to increase by about 1,000 between 2009 and 2020.

Figure 3.4.1



Projections based on employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from the trend-based projections, which is based on current population growth trends.

Employment-based projections suggest that population in Cotswold is expected to increase to 88,200 by 2020, compared to 87,700 based on current growth trends.

The corresponding household numbers projected under the employment-based scenario is 40,700, compared to 40,500 based on current trends.

Figure 3.4.2

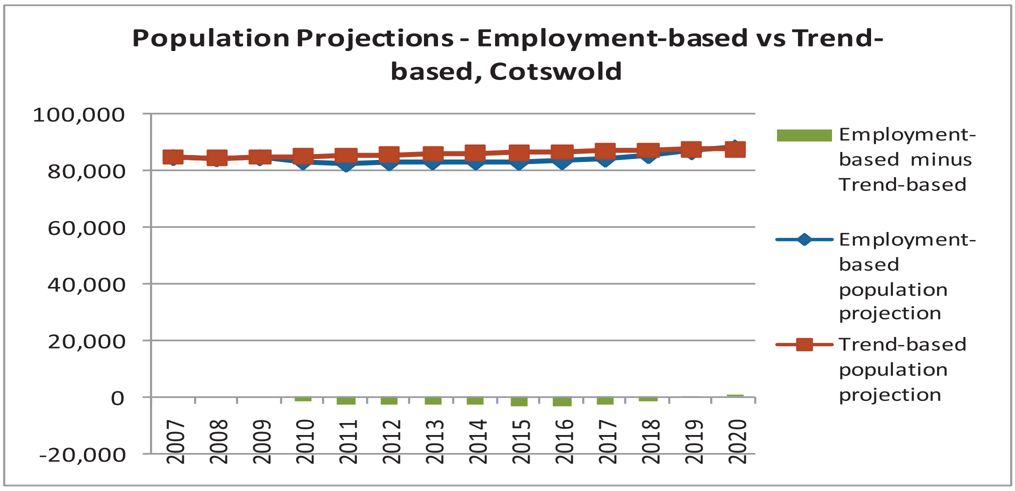


Figure 3.4.3

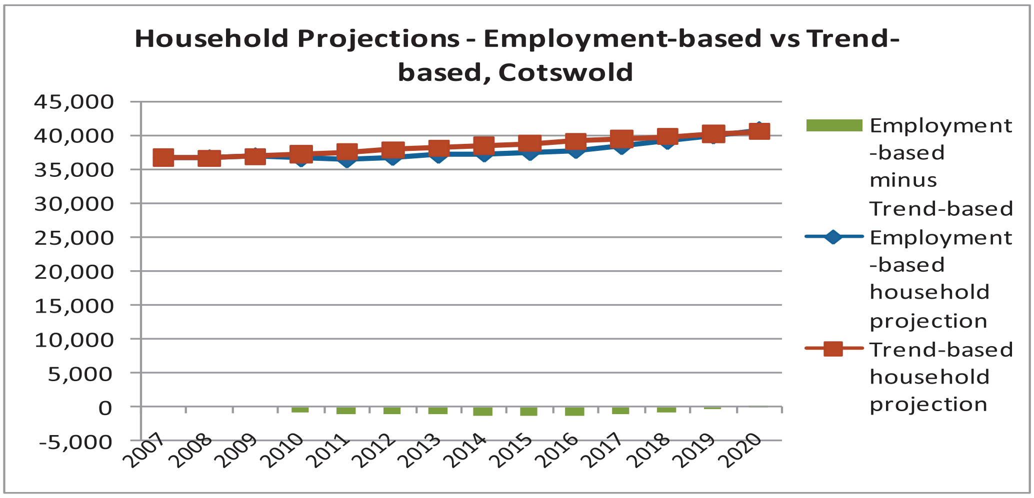


Figure 3.4.4

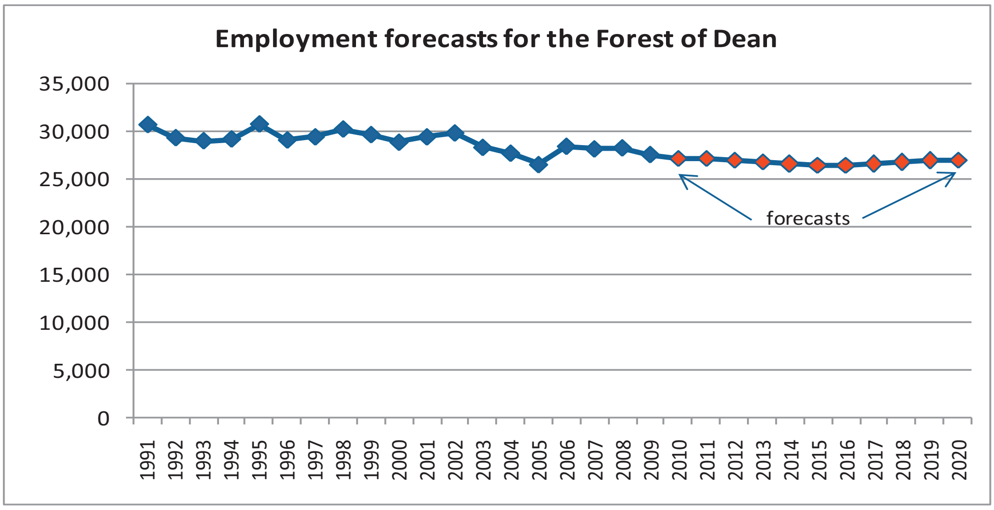
	Population and Household Projections (Employment-based vs Trend-based) Cotswold											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected population												
Employment-based	84,700	83,300	82,500	83,000	83,300	83,300	83,200	83,400	84,300	85,500	86,900	88,200
Trend-based	84,700	85,100	85,400	85,700	86,000	86,200	86,500	86,700	87,000	87,200	87,500	87,700

Projected households												
Employment-based	36,900	36,600	36,400	36,800	37,100	37,300	37,500	37,800	38,400	39,100	39,900	40,700
Trend-based	36,900	37,200	37,500	37,800	38,100	38,500	38,800	39,100	39,500	39,800	40,200	40,500

Section 3.5 Projections for Forest of Dean

The latest Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for the Forest of Dean for the next 10 years anticipate that employment will fall gradually until 2015 when it is expected start to increase slightly. Forecast employment for the Forest is that the number of jobs will reduce from the current 27,500 to 26,400 in 2016 and then increase to 27,000 in 2020, which would still be below the current employment level. Overall, the number of jobs is forecast to reduce by 500 between 2009 and 2020 and the Forest is the only district in Gloucestershire that a job loss is anticipated during that period.

Figure 3.5.1



Projections based on employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from the trend-based projections, which is based on the current population growth trends.

Employment-based projections suggest that population in the Forest is expected to increase to 85,000 by 2020, compared to 87,000 based on current growth trends.

The corresponding household numbers projected under the employment-based scenario is 37,800, compared to 38,600 based on current trends.

Figure 3.5.2

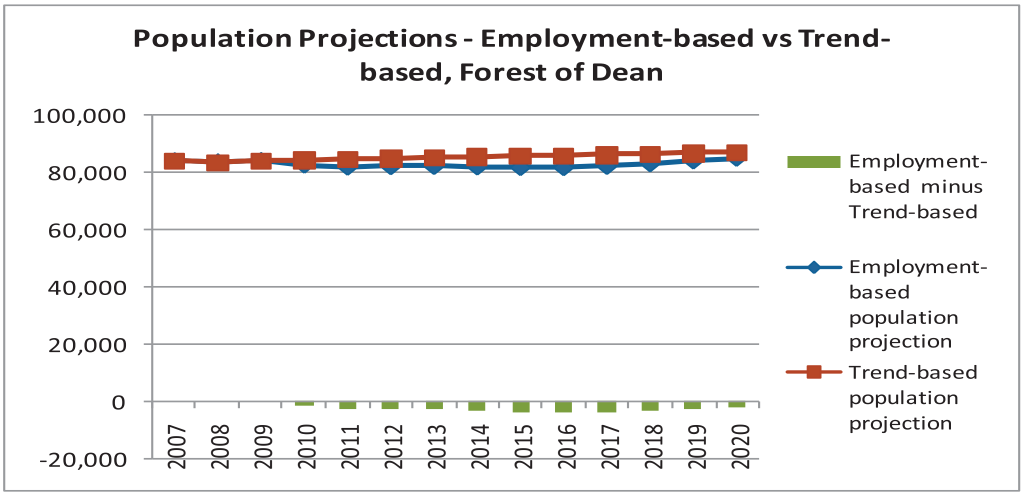


Figure 3.5.3

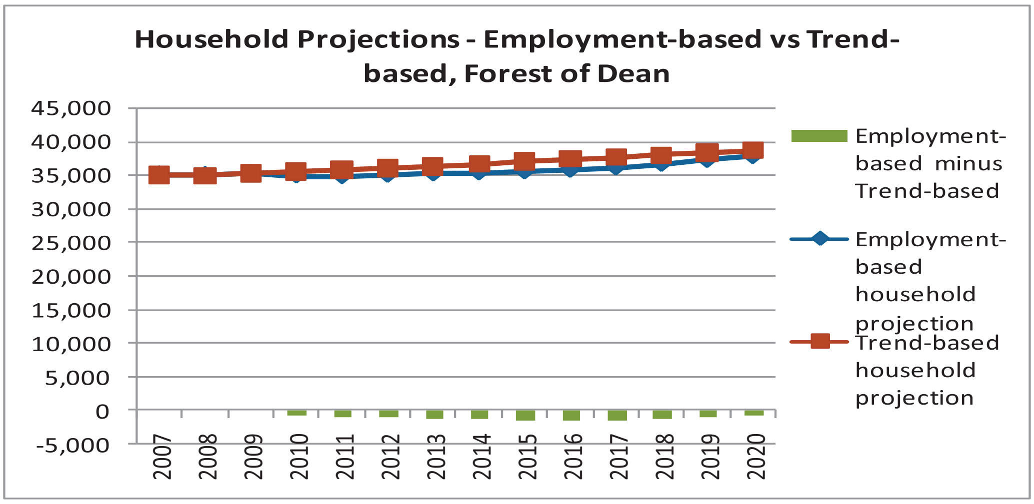


Figure 3.5.4

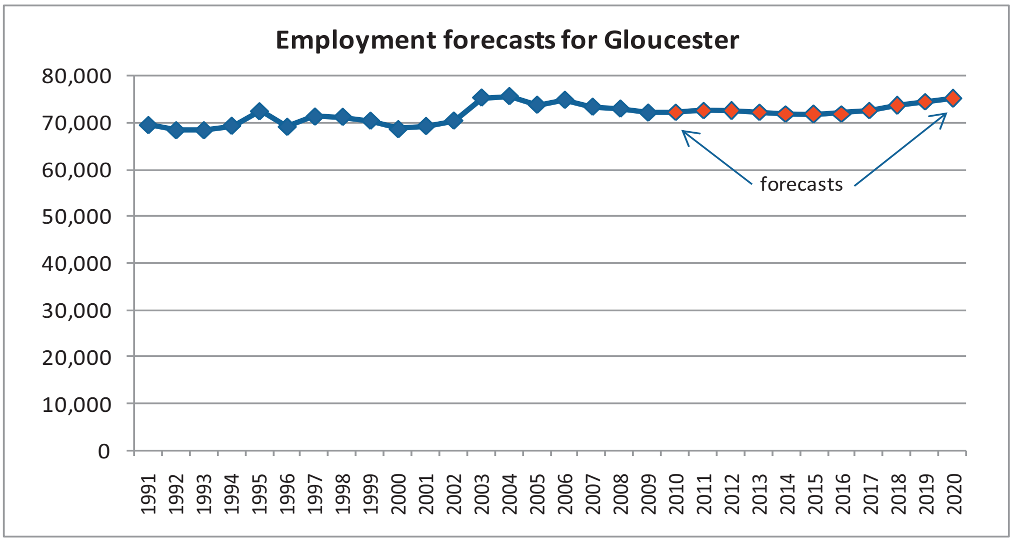
	Population and Household Projections (Employment-based vs Trend-based) Forest of Dean											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected population												
Employment-based	84,100	82,600	81,900	82,100	82,200	82,000	81,800	81,700	82,200	83,100	84,100	85,000
Trend-based	84,100	84,400	84,800	85,000	85,300	85,600	85,800	86,100	86,300	86,600	86,800	87,000

Projected households												
Employment-based	35,300	34,900	34,800	35,000	35,200	35,400	35,500	35,800	36,100	36,600	37,200	37,800
Trend-based	35,300	35,500	35,800	36,000	36,300	36,600	36,900	37,300	37,600	37,900	38,200	38,600

Section 3.6 Projections for Gloucester

The latest Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for Gloucester for the next 10 years anticipate that employment will increase moderately initially and then fall gradually until 2015 when it is expected to rise. Forecast employment for Gloucester is that the number of jobs will reduce from the current 72,000 to 71,600 in 2015 and then increase to 75,000 in 2020. Overall, the number of jobs is forecast to increase by just below 3,000 between 2009 and 2020.

Figure 3.6.1



Projections based on forecast employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from the trend-based projections, which is based on current population growth.

Employment-based projections suggest that the population in Gloucester is expected to increase to 126,700 by 2020, compared to 136,200 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 56,600, compared to 60,600 based on current trends.

Figure 3.6.2

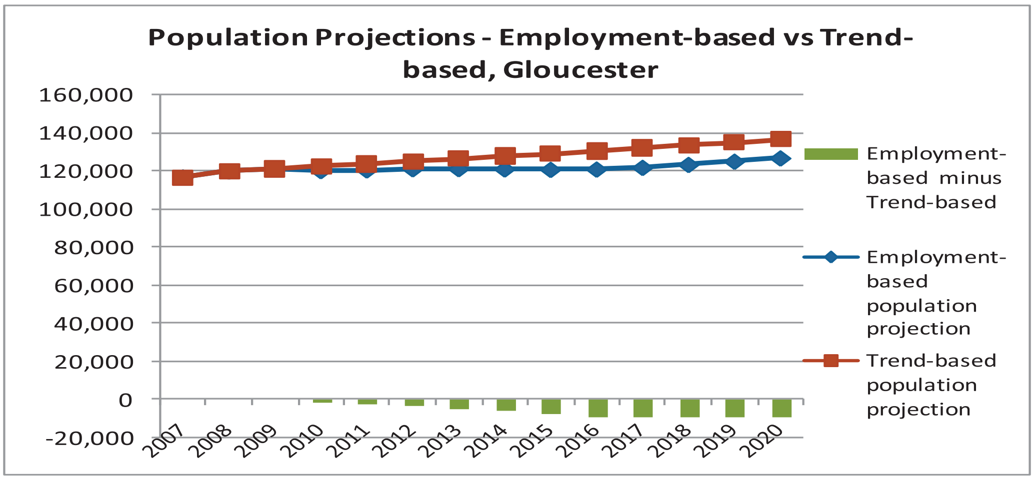


Figure 3.6.3

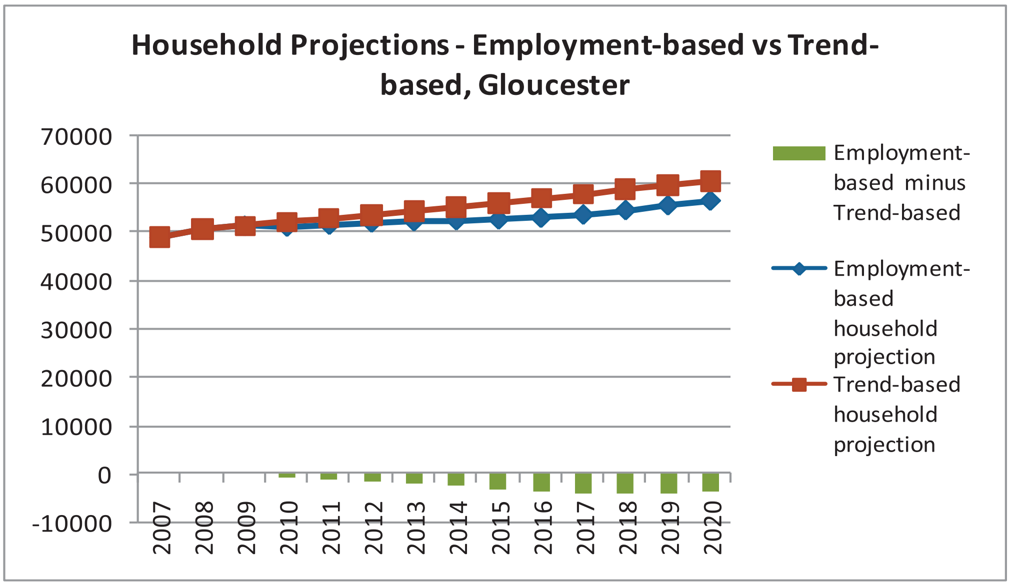


Figure 3.6.4

	Population and Household Projections (Employment-based vs Trend-based) Gloucester											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected population												

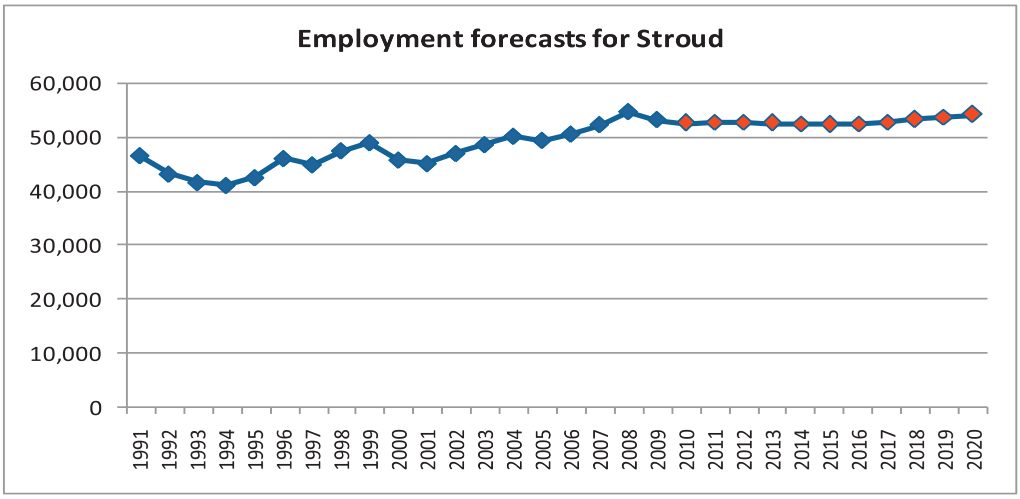
Employment -based	121,100	119,900	120,300	120,900	121,000	120,800	120,600	120,700	121,700	123,200	124,900	126,700
Trend-based	121,100	122,300	123,600	124,800	126,200	127,500	128,900	130,400	131,800	133,300	134,800	136,200
Projected households												
Employment -based	51,500	51,300	51,700	52,200	52,400	52,600	52,800	53,100	53,800	54,700	55,700	56,600
Trend-based	51,500	52,200	53,000	53,700	54,500	55,300	56,100	57,000	57,900	58,800	59,700	60,600

Section 3.7 Projections for Stroud

The following paragraphs compare the projection results from both scenarios on population and household numbers for Stroud. It is worth noting that projections based on employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from trend-based projections, which are based on the current population growth trends.

The Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for Stroud for the next 10 years anticipate that employment will fluctuate between now and 2018 when the number of jobs is expected to start to grow more consistently. Forecast employment for Stroud is that the number of jobs will reduce from the current 53,200 to 52,800 in 2017 and then increase to 54,100 in 2020. Overall, the number of jobs is forecast to increase by just below 1,000 between 2009 and 2020.

Figure 3.7.1



Projections based on employment growth (employment-based) provide figures for the population that will result if the forecast employment requirements are met, assuming that the current balance of commuting continues. This differs from the trend-based projections, which is based on the current population growth trends.

Employment-based projections suggest that population in Stroud is expected to increase to 117,900 by 2020, compared to 119,800 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 52,400, compared to 53,200 based on current trends.

Figure 3.7.2

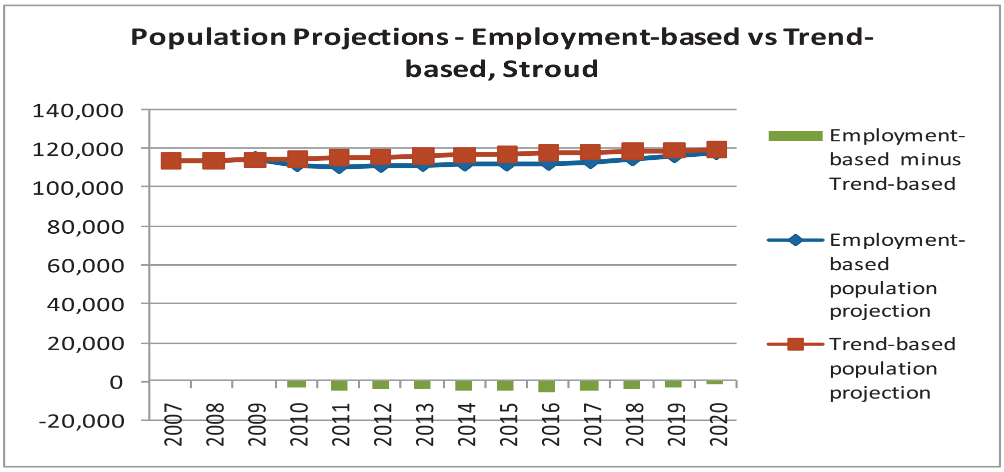


Figure 3.7.3

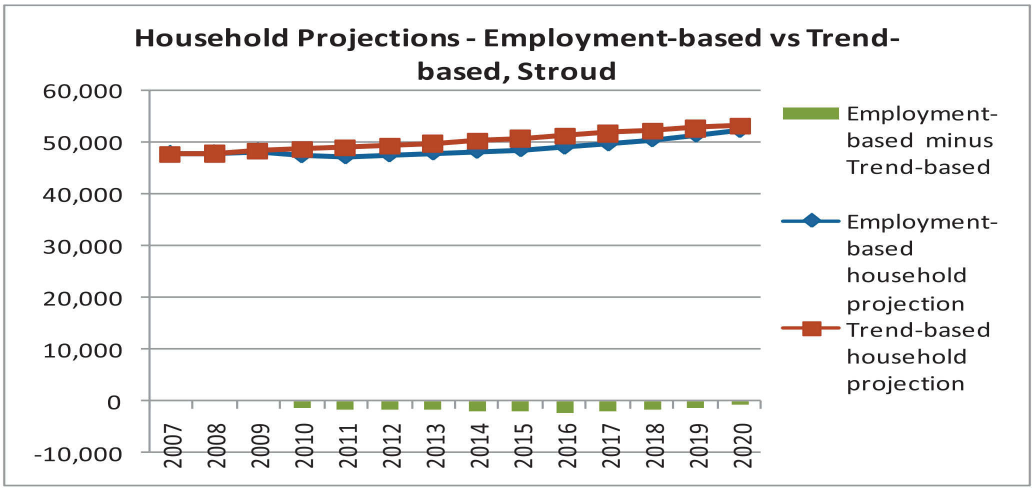


Figure 3.7.4

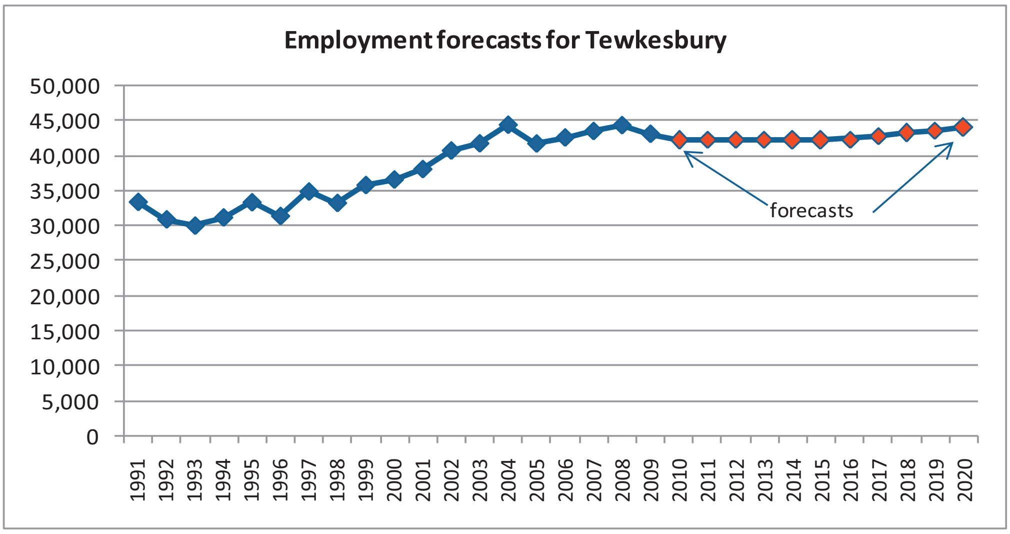
	Population and Household Projections (Employment-based vs Trend-based) Stroud											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected												

population												
Employment-based	114,400	111,700	110,700	111,300	111,800	112,000	112,000	112,300	113,300	114,700	116,300	117,900
Trend-based	114,400	114,900	115,400	115,900	116,400	116,900	117,400	117,800	118,300	118,800	119,300	119,800
Projected households												
Employment-based	48,300	47,500	47,300	47,700	48,100	48,400	48,700	49,200	49,800	50,600	51,500	52,400
Trend-based	48,300	48,700	49,100	49,400	49,800	50,300	50,800	51,300	51,800	52,200	52,700	53,200

Section 3.8 Projections for Tewkesbury

The Cambridge Econometric local economic forecasts produce employment forecast until 2020. The forecasts for Tewkesbury for the next 10 years anticipate that employment will fall steadily until 2014 when it will start to increase. Forecast employment for Tewkesbury is that the number of jobs will reduce from the current 43,000 to 42,200 in 2014 and then increase to 44,000 in 2020. Overall, the number of jobs is forecast to increase by 1,000 between 2009 and 2020.

Figure 3.8.1



Employment-based projections suggest that the population in Tewkesbury is expected to increase to 84,600 by 2020, compared to 85,800 based on current growth trends. The corresponding household numbers projected under the employment-based scenario is 38,100, compared to 38,600 based on current trends.

Figure 3.8.2

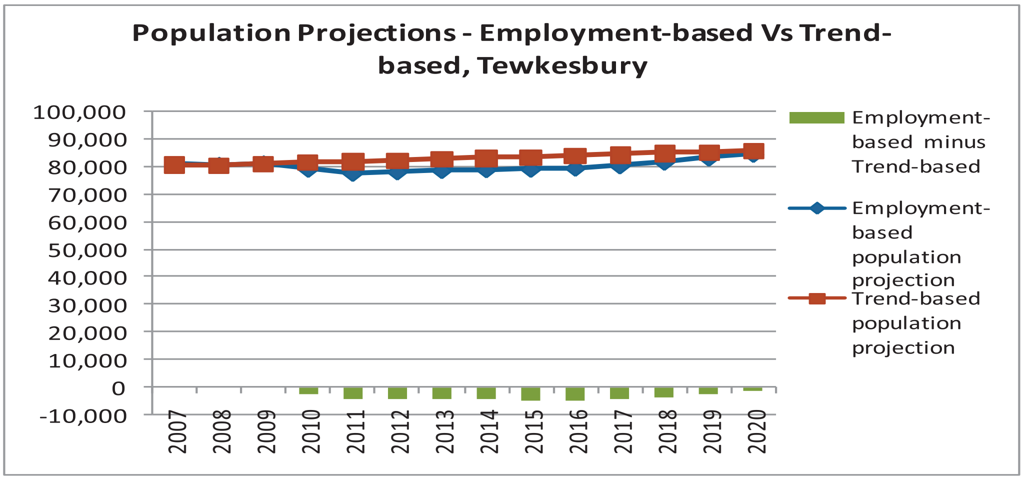


Figure 3.8.3

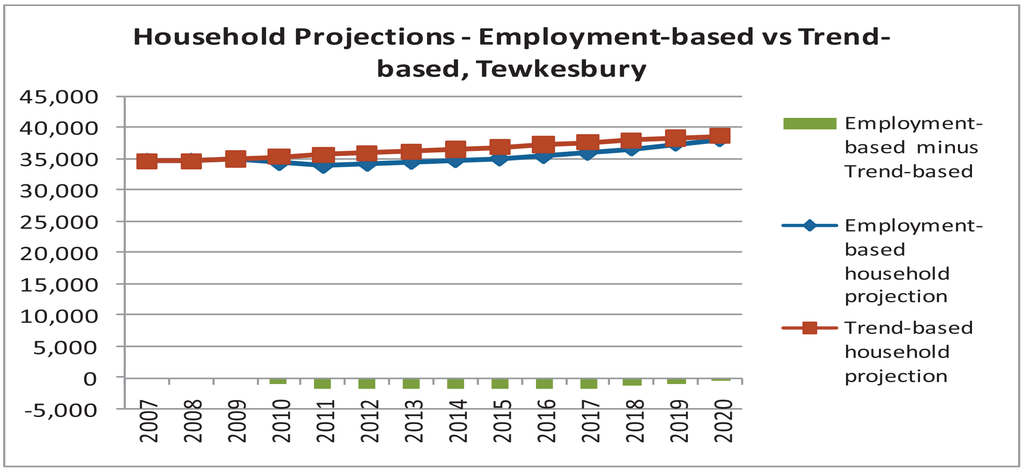


Figure 3.8.4

	Population and Household Projections (Employment-based vs Trend-based) - Tewkesbury											
	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Projected population												
Employment -based	81,300	79,100	77,700	78,200	78,700	79,000	79,100	79,500	80,400	81,700	83,200	84,600
Trend-based	81,300	81,700	82,100	82,500	82,900	83,300	83,700	84,100	84,500	84,900	85,400	85,800
Projected households												

Employment -based	35,000	34,300	33,900	34,200	34,500	34,800	35,100	35,400	35,900	36,700	37,400	38,100
Trend-based	35,000	35,300	35,600	35,900	36,200	36,500	36,900	37,200	37,600	37,900	38,300	38,600

Appendix - Supporting data and sources

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Table 1 Housing Completion

(Source: Gloucestershire District Planning Authorities)

Notes: Completion data from 1992 to 2002 refer to January-December, Data for 2003 - March 2004 data are 15-months data, data from 2004 refer to April-March

	1992	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Cheltenham	303	303	303	303	303	303	178	369	409	417	417
Cotswold	412	400	394	389	180	180	263	350	441	327	205
Forest of Dean	455	290	238	289	241	317	345	149	225	126	138
Gloucester	665	844	709	359	477	602	700	319	172	290	391
Stroud	211	374	242	311	565	481	496	449	345	345	388
Tewkesbury	504	589	384	342	389	408	457	419	419	393	413
Gloucestershire	2,550	2,800	2,270	1,993	2,155	2,291	2,439	2,055	2,011	1,898	1,952

	2003-Mar2004	*2004/05*	*2005/06*	*2006/07*	*2007/08*	*2008/09*	*2009/10*
Cheltenham	559	590	452	933	556	285	275
Cotswold	276	384	183	316	209	303	177
Forest of Dean	245	233	238	205	405	310	118
Gloucester	727	555	790	962	1,053	618	648
Stroud	540	336	317	319	557	506	323
Tewkesbury	462	186	271	394	684	516	304
Gloucestershire	2,809	2,284	2,251	3,129	3,464	2,538	1,845

Table 2 Population Estimates

(Source: 1991-2006 Office for National Statistics, 2007-2009 Gloucestershire County Council)

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*
Cheltenham	107,010	106,680	106,470	106,970	107,190	107,780	108,220	108,030	108,640	109,500	110,020
Cotswold	74,830	75,720	78,370	79,630	79,880	79,620	79,950	80,090	80,700	80,870	80,390
Forest of Dean	75,820	75,570	75,780	75,750	75,830	76,630	77,930	78,640	79,470	79,800	80,060
Gloucester	103,500	104,360	104,020	104,180	105,480	106,730	107,450	107,980	109,700	110,500	109,950
Stroud	104,100	104,880	104,770	105,480	106,380	106,950	107,330	107,480	107,760	107,910	108,060
Tewkesbury	70,720	71,170	71,920	72,080	72,870	74,100	74,050	74,290	75,300	76,400	76,520
Gloucestershire	535,980	538,380	541,330	544,080	547,630	551,810	554,920	556,510	561,560	564,980	565,000

	2002	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Cheltenham	109,590	108,870	109,280	110,340	110,910	114,480	115,300	116,240
Cotswold	80,510	81,320	82,090	82,500	82,940	84,790	84,380	84,030
Forest of Dean	80,160	80,880	81,730	82,190	82,410	83,310	83,670	83,090
Gloucester	110,260	110,950	111,850	112,850	113,870	116,540	119,710	120,500
Stroud	108,120	108,620	109,120	109,680	109,870	113,870	113,850	114,400
Tewkesbury	77,240	77,710	78,330	78,720	79,370	80,650	80,730	81,260
Gloucestershire	565,890	568,360	572,400	576,300	579,370	593,650	597,640	599,530

Table 3 Household Estimates

(Source: POPGroup Forecasting modelling suite, Gloucestershire County Council)

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*
Cheltenham	45,330	45,460	45,620	46,220	46,320	46,700	46,930	47,020	47,410	47,890	48,180
Cotswold	30,850	31,210	32,370	33,080	33,280	33,420	33,640	33,880	34,210	34,460	34,460
Forest of Dean	29,570	29,740	30,000	30,150	30,320	30,890	31,460	31,790	32,230	32,440	32,620
Gloucester	41,060	41,540	41,560	41,720	42,600	43,370	43,840	44,130	45,220	45,830	45,770
Stroud	41,410	41,940	42,090	42,510	43,100	43,520	43,860	44,050	44,250	44,480	44,670
Tewkesbury	28,440	28,540	29,240	29,450	29,940	30,880	31,030	31,150	31,620	32,210	32,430
Gloucestershire	216,660	218,430	220,880	223,140	225,560	228,780	230,780	232,020	234,950	237,290	238,130

	2002	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Cheltenham	48,400	48,480	49,000	49,480	49,430	51,190	51,510	51,950
Cotswold	34,640	35,100	35,560	35,800	35,960	36,710	36,640	36,920
Forest of Dean	32,710	32,890	33,240	33,430	33,870	34,990	34,940	35,250
Gloucester	46,040	46,310	46,750	47,070	48,080	49,090	50,710	51,480
Stroud	44,990	45,320	45,670	45,990	46,230	47,800	47,940	48,300
Tewkesbury	32,700	32,980	33,310	33,430	33,670	34,640	34,650	35,000
Gloucestershire	239,470	241,080	243,530	245,200	247,250	254,420	256,390	258,910

Notes

Numbers are estimated by the model with the 2008-based headship rates released by the Department for Community and Local Government for districts

Table 4 Internal Migration In and Out
(Source: Office for National Statistics)

Cheltenham	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Internal migration in	6,630	6,609	6,820	6,705	6,777	6,391	6,655	6,685	6,782	6,875	6,563	7,400
Internal migration out	7,040	6,736	6,944	6,655	6,779	6,819	6,582	6,622	6,511	6,881	6,687	7,100
Cotswold	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Internal migration in	5,538	5,258	5,139	4,888	5,124	5,175	5,159	4,840	4,978	5,112	4,610	4,600
Internal migration out	4,941	4,497	4,942	4,615	4,446	4,416	4,662	4,435	4,538	4,624	4,424	4,600
Forest of Dean	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Internal migration in	4,063	4,225	3,968	3,751	3,956	4,217	4,156	3,695	3,609	3,939	3,893	3,300
Internal migration out	3,448	3,448	3,256	3,346	3,605	3,426	3,641	3,238	3,444	3,578	3,495	3,400
Gloucester	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Internal migration in	5,491	5,259	5,259	4,857	5,047	5,020	5,398	5,016	5,354	5,798	5,398	5,500
Internal migration out	5,039	4,755	4,996	5,049	5,008	4,932	5,061	4,850	5,068	5,110	5,059	5,500
Stroud	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Internal migration in	5,015	4,924	5,101	4,961	4,912	5,080	5,249	4,779	4,783	5,170	4,859	4,800
Internal migration out	4,701	4,412	4,742	4,281	4,355	4,146	4,495	4,219	4,476	4,754	4,317	4,200
Tewkesbury	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Internal migration in	4,784	4,854	5,211	4,862	5,187	4,881	4,825	4,506	4,833	4,864	4,659	4,800
Internal migration out	4,554	4,244	4,694	4,368	4,325	4,342	4,477	4,311	4,308	4,635	4,368	4,100

Table 5 Internal Migration Origin and Destination

(Source: Office for National Statistics)

1999	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	310	110	350	210	790
Cotswold	260	-	50	100	260	140
Forest of Dean	140	40	-	400	120	210
Gloucester	490	100	360	-	820	790
Stroud	200	370	90	650	-	140
Tewkesbury	1270	160	160	690	110	-
2000	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	320	90	370	230	900
Cotswold	260	-	40	70	250	140
Forest of Dean	120	60	-	400	120	230
Gloucester	460	110	360	-	820	850
Stroud	190	390	90	650	-	150
Tewkesbury	1430	150	140	770	190	-
2001	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	310	80	350	250	840
Cotswold	230	-	30	70	210	110
Forest of Dean	100	60	-	390	100	230
Gloucester	440	80	310	-	670	810
Stroud	220	310	110	720	-	150
Tewkesbury	1,220	130	160	780	100	-
2002	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	340	100	380	230	780
Cotswold	270	-	40	60	230	110
Forest of Dean	110	50	-	420	100	200
Gloucester	460	100	420	-	700	800
Stroud	200	300	90	710	-	120
Tewkesbury	1,310	130	190	820	140	-

Table 5 Internal Migration Origin and Destination (cont'd)

(Source: Office for National Statistics)

2003	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	290	110	320	190	810
Cotswold	250	-	30	60	240	120
Forest of Dean	140	40	-	440	90	260
Gloucester	470	100	360	-	710	730
Stroud	170	320	80	770	-	120
Tewkesbury	1,370	150	180	710	110	-
2004	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	360	120	400	210	930
Cotswold	320	-	50	80	260	140
Forest of Dean	100	40	-	320	100	160
Gloucester	450	100	360	-	820	750
Stroud	190	300	60	680	-	150
Tewkesbury	1,130	150	160	750	130	-
2005	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	350	110	470	230	900
Cotswold	310	-	40	80	220	130
Forest of Dean	100	40	-	280	80	230
Gloucester	380	70	360	-	720	760
Stroud	210	310	120	640	-	150
Tewkesbury	1,100	120	190	660	150	-
2006	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	330	120	450	230	850
Cotswold	300	-	30	80	280	130
Forest of Dean	110	50	-	310	100	170
Gloucester	430	90	410	-	820	840
Stroud	210	240	90	650	-	150
Tewkesbury	1,220	120	170	820	130	-

Table 5 Internal Migration Origin and Destination (cont'd)

(Source: Office for National Statistics)

2007	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	360	140	510	260	910
Cotswold	300	-	50	40	260	130
Forest of Dean	120	40	-	360	120	250
Gloucester	490	100	430	-	980	970
Stroud	230	360	90	700	-	140
Tewkesbury	1,390	150	230	750	140	-
2008	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	280	140	510	260	840
Cotswold	240	-	40	80	250	130
Forest of Dean	130	50	-	380	100	190
Gloucester	470	90	380	-	820	810
Stroud	250	310	100	730	-	190
Tewkesbury	1,300	120	240	650	140	-
2009	from					
to	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	-	320	110	490	240	750
Cotswold	260	-	40	60	220	120
Forest of Dean	110	60	-	280	70	160
Gloucester	450	110	440	-	710	780
Stroud	230	300	70	670	-	170
Tewkesbury	1,200	140	170	850	140	-

Table 6 Population Moves between 2006 and 2010 (GP Register)
(Source: Gloucestershire Local GP Patient Register September 2006 and January 2010)

Origin 2006	Destination 2010	'in-county' moves under a mile	'in-county' moves between 1 & 3 miles	'in-county' moves between 3 & 10 miles	'in-county' moves more than 10 miles	total 'in County' movers	% of 'in-county' moves under a mile	% of 'in-county' moves between 1 & 3 miles	% of 'in-county' moves between 3 & 10 miles	% of 'in-county' moves more than 10 miles
Cheltenham	Cheltenham	9,512	7,684	248	0	17,444	55	44	1	0
Cheltenham	Cotswold	0	10	192	333	535	0	2	36	62
Cheltenham	Forest of Dean	0	0	16	232	248	0	0	7	94
Cheltenham	Gloucester	0	0	911	23	934	0	0	98	3
Cheltenham	Stroud	0	0	134	403	537	0	0	25	75
Cheltenham	Tewkesbury	65	806	2,040	19	2,930	2	28	70	1
Cotswold	Cheltenham	0	28	211	477	716	0	4	30	67
Cotswold	Cotswold	4,338	2,079	2,664	493	9,574	45	22	28	5
Cotswold	Forest of Dean	0	0	0	110	110	0	0	0	100
Cotswold	Gloucester	0	0	28	168	196	0	0	14	86
Cotswold	Stroud	0	62	369	301	732	0	9	50	41
Cotswold	Tewkesbury	0	4	100	189	293	0	1	34	65
Forest of Dean	Cheltenham	0	0	18	282	300	0	0	6	94
Forest of Dean	Cotswold	0	0	0	83	83	0	0	0	100
Forest of Dean	Forest of Dean	4,622	2,656	2,780	189	10,247	45	26	27	2
Forest of Dean	Gloucester	0	0	400	429	829	0	0	48	52
Forest of Dean	Stroud	0	0	41	134	175	0	0	23	77
Forest of Dean	Tewkesbury	9	38	162	217	426	2	9	38	51

Notes:
Place of origin and destination of movers is identified through post codes from an anoymised GP patient register in September 2006 and January 2010 respectively.

Table 6 Population Moves between 2006 and 2010 (GP Register) (cont'd)

(Source: Gloucestershire Local GP Patient Register September 2006 and January 2010)

Origin 2006	Destination 2010	'in-county' moves under a mile	'in-county' moves between 1 & 3 miles	'in-county' moves between 3 & 10 miles	'in-county' moves more than 10 miles	total 'in County' movers	% of 'in-county' moves under a mile	% of 'in-county' moves between 1 & 3 miles	% of 'in-county' moves between 3 & 10 miles	% of 'in-county' moves more than 10 miles
Gloucester	Cheltenham	0	0	875	26	901	0	0	97	3
Gloucester	Cotswold	0	0	13	132	145	0	0	9	91
Gloucester	Forest of Dean	0	0	389	346	735	0	0	53	47
Gloucester	Gloucester	10,544	7,255	959	0	18,758	56	39	5	0
Gloucester	Stroud	283	265	802	149	1,499	19	18	54	10
Gloucester	Tewkesbury	106	729	682	105	1,622	7	45	42	7
Stroud	Cheltenham	0	0	92	455	547	0	0	17	83
Stroud	Cotswold	1	36	265	229	531	0	7	50	43
Stroud	Forest of Dean	0	1	61	146	208	0	1	29	70
Stroud	Gloucester	250	268	1,084	238	1,840	14	15	59	13
Stroud	Stroud	6,698	5,070	3,588	76	15,432	43	33	23	1
Stroud	Tewkesbury	5	2	121	196	324	2	1	37	61
Tewkesbury	Cheltenham	26	445	1,306	21	1,798	1	25	73	1
Tewkesbury	Cotswold	0	8	89	171	268	0	3	33	64
Tewkesbury	Forest of Dean	4	53	184	219	460	1	12	40	48
Tewkesbury	Gloucester	155	646	798	214	1,813	9	36	44	12
Tewkesbury	Stroud	18	27	140	191	376	5	7	37	51
Tewkesbury	Tewkesbury	4,660	2,032	1,445	96	8,233	57	25	18	1
Gloucestershire	Gloucestershire	41,296	30,204	23,207	7,092	101,799	41	30	23	7

Notes:

Place of origin and destination of movers is identified through post codes from an anoymised GP patient register in September 2006 and January 2010 respectively.

Table 7 International Migration

(Source: 1998-2003 Office for National Statistics, 2004-2009 Gloucestershire County Council)

Cheltenham	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	608	980	1,025	943	777	530
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	434	687	756	661	614	426
Net International	162	788	1,058	514	-449	-240	174	293	269	282	163	104
Cotswold	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	301	368	445	415	419	277
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	208	261	306	265	326	214
Net International	-417	13	134	-572	-421	196	93	107	139	150	93	63
Forest of Dean	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	95	166	173	201	94	107
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	61	116	127	127	72	83
Net International	125	81	-398	-34	-89	-5	34	50	47	75	21	24
Gloucester	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	352	709	778	728	584	419
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	228	468	534	446	456	328
Net International	-500	784	107	-676	-96	208	124	241	243	282	129	91
Stroud	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	235	330	353	309	201	151
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	168	236	258	206	160	120
Net International	-122	-189	-76	-449	-345	-342	67	94	95	103	41	31
Tewkesbury	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
International in	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	145	217	255	258	221	141
International out	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	107	161	197	170	171	111
Net International	22	356	574	-413	-161	-44	38	56	58	88	49	30

Table 8 Travelling-to-Work

(Source: Census 1991 , Census 2001, Annual Population Survey 2008, Office for National Statistics)

1991	to Cheltenham	to Cotswold	to Forest of Dean	to Gloucester	to Stroud	to Tewkesbury	to out of county
from Cheltenham	33,660	760	140	2,620	390	5,040	2,090
from Cotswold	1,400	19,780	10	390	1,050	340	7,030
from Forest of Dean	890	70	18,120	3,810	470	1,110	4,290
from Gloucester	4,190	240	290	29,210	2,340	5,630	1,720
from Stroud	1,580	1,430	100	4,720	27,830	950	5,290
from Tewkesbury	8,460	260	250	5,420	490	13,580	2,230
from out of county	3,290	3,550	1,980	2,890	2,140	3,600	

2001	to Cheltenham	to Cotswold	to Forest of Dean	to Gloucester	to Stroud	to Tewkesbury	to out of county
from Cheltenham	37,448	1,318	312	3,404	911	5,400	4,541
from Cotswold	1,505	25,752	51	703	815	557	10,076
from Forest of Dean	1,067	141	24,059	4,608	471	1,475	6,288
from Gloucester	4,534	668	747	35,154	3,098	5,104	3,652
from Stroud	1,969	2,004	246	5,308	34,430	1,213	7,943
from Tewkesbury	8,740	710	473	5,397	738	18,588	3,915
from out of county	4,815	6,501	2,919	4,616	3,842	5,436	

Table 8 Travelling-to-Work (cont'd)

(Source: Census 1991 , Census 2001, Annual Population Survey 2008, Office for National Statistics)

2008: Place of residence of those working in Gloucestershire

	Workplace	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Residence		23UB	23UC	23UD	23UE	23UF	23UG
Cheltenham	23UB	54.0%	3.9%	-	7.8%	-	12.6%
Cotswold	23UC	-	69.7%	-	-	-	-
Forest of Dean	23UD	-	-	77.2%	7.9%	-	-
Gloucester	23UE	9.6%	-	-	53.1%	5.7%	11.7%
Stroud	23UF	3.3%	3.9%	-	9.3%	73.0%	-
Tewkesbury	23UG	20.3%	-	-	10.6%	3.2%	52.2%
Herefordshire, County of	00GA	0.6%	-	5.8%	-	-	-
Monmouthshire	00PP	-	-	3.7%	-	-	-
South Gloucestershire	00HD	-	-	-	1.9%	5.6%	-
North Wiltshire	46UC	1.6%	3.6%	-	-	-	-
Bristol, City of	00HB	-	-	-	1.7%	3.3%	-
Wychavon	47UF	-	3.1%	-	-	-	4.9%
Swindon	00HX	2.8%	2.8%	-	-	-	-

Table 8 Travelling-to-Work (cont'd)
(Source: Census 1991 , Census 2001, Annual Population Survey 2008, Office for National Statistics)

2008: Place of work of those living in Gloucestershire

Workplace	Residence	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Cheltenham	23UB	71.1%	-	-	12.9%	4.2%	35.8%
Cotswold	23UC	3.1%	71.4%	-	-	3.0%	-
Forest of Dean	23UD	-	-	64.0%	-	-	-
Gloucester	23UE	9.5%	-	15.1%	66.4%	11.0%	17.5%
Stroud	23UF	-	-	-	5.5%	66.9%	4.1%
Tewkesbury	23UG	6.7%	-	-	6.3%	-	37.0%
Swindon	00HX	-	4.4%	-	-	-	-
West Oxfordshire	38UF	-	3.8%	-	-	-	-
Herefordshire, County of	00GA	-	-	5.2%	-	-	-
South Gloucestershire	00HD	3.3%	-	-	-	4.9%	-
Monmouthshire	00PP	-	-	4.9%	-	-	-
Bristol, City of	00HB	-	-	-	-	4.6%	-
North Wiltshire	46UC	-	3.4%	-	-	-	-

Table 9 Employment Estimates

(Source: Cambridge Econometrics Local Economy Forecasting Model)

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*
Cheltenham	69,290	74,910	80,790	72,640	68,430	63,930	66,470	70,150	69,380	67,760	69,820
Cotswold	34,720	33,900	34,140	34,830	36,940	36,310	37,350	39,000	39,410	38,000	39,910
Forest of Dean	30,650	29,290	28,970	29,160	30,710	29,050	29,370	30,180	29,610	28,820	29,370
Gloucester	69,410	68,330	68,330	69,260	72,300	69,050	71,190	71,140	70,330	68,550	69,220
Stroud	46,520	43,110	41,550	41,020	42,450	45,990	44,830	47,420	48,900	45,710	45,040
Tewkesbury	33,400	30,930	30,040	31,200	33,350	31,410	34,860	33,250	35,780	36,560	38,040
Gloucestershire	283,980	280,460	283,820	278,110	284,190	275,730	284,090	291,150	293,410	285,400	291,410

	2002	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Cheltenham	73,990	73,200	72,970	64,270	63,190	63,000	62,650	61,700
Cotswold	39,270	42,020	45,160	43,480	44,250	42,570	44,370	43,440
Forest of Dean	29,780	28,280	27,680	26,490	28,390	28,120	28,230	27,540
Gloucester	70,360	75,180	75,490	73,680	74,710	73,270	72,870	72,030
Stroud	46,920	48,560	50,100	49,350	50,500	52,250	54,650	53,190
Tewkesbury	40,670	41,690	44,310	41,660	42,510	43,430	44,260	43,040
Gloucestershire	300,970	308,930	315,710	298,930	303,560	302,640	307,040	300,930

Table 10 Employment Forecasts

(Source: Cambridge Econometrics Local Economy Forecasting Model)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cheltenham	61,680	62,060	62,070	61,900	61,660	61,610	61,990	62,650	63,420	64,190	64,810
Cotswold	42,940	42,970	42,940	42,720	42,510	42,470	42,690	43,110	43,600	44,070	44,460
Forest of Dean	27,190	27,110	27,000	26,770	26,530	26,380	26,380	26,530	26,700	26,870	27,000
Gloucester	72,260	72,530	72,370	72,090	71,750	71,580	71,910	72,660	73,510	74,340	74,950
Stroud	52,580	52,700	52,710	52,580	52,360	52,290	52,460	52,840	53,290	53,750	54,150
Tewkesbury	42,170	42,250	42,310	42,270	42,170	42,190	42,370	42,750	43,190	43,640	44,030
Gloucestershire	298,810	299,630	299,400	298,340	296,990	296,510	297,800	300,530	303,720	306,880	309,400

Table 11 Population Projections

(Source: POPGroup Forecasting modelling suite, Gloucestershire County Council)

Trend-Based Scenario

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cheltenham	115,800	116,400	116,900	117,500	118,000	118,500	119,100	119,700	120,200	120,800	121,300	121,900
Cotswold	84,700	85,100	85,400	85,700	86,000	86,200	86,500	86,700	87,000	87,200	87,500	87,700
Forest of Dean	84,100	84,400	84,800	85,000	85,300	85,600	85,800	86,100	86,300	86,600	86,800	87,000
Gloucester	121,100	122,300	123,600	124,800	126,200	127,500	128,900	130,400	131,800	133,300	134,800	136,200
Stroud	114,400	114,900	115,400	115,900	116,400	116,900	117,400	117,800	118,300	118,800	119,300	119,800
Tewkesbury	81,300	81,700	82,100	82,500	82,900	83,300	83,700	84,100	84,500	84,900	85,400	85,800
Gloucestershire	601,400	604,700	608,100	611,400	614,700	618,000	621,400	624,800	628,200	631,600	635,000	638,300

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Cheltenham	122,400	122,900	123,400	123,900	124,400	124,900	125,300	125,700	126,100	126,400	126,800
Cotswold	87,900	88,100	88,300	88,500	88,700	88,900	89,100	89,200	89,300	89,400	89,500
Forest of Dean	87,200	87,400	87,600	87,800	87,900	88,100	88,200	88,300	88,400	88,500	88,500
Gloucester	137,700	139,200	140,700	142,100	143,500	144,900	146,300	147,700	149,000	150,400	151,700
Stroud	120,300	120,800	121,200	121,700	122,100	122,500	122,900	123,300	123,600	123,900	124,100
Tewkesbury	86,200	86,600	87,000	87,300	87,700	88,000	88,300	88,600	88,900	89,100	89,300
Gloucestershire	641,700	645,000	648,200	651,300	654,300	657,300	660,100	662,700	665,300	667,600	669,900

Table 11 Population Projections (cont'd)
(Source: POPGroup Forecasting modelling suite, Gloucestershire County Council)

Employment-Based Scenario

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cheltenham	115,800	114,600	114,600	115,500	115,700	115,700	115,700	115,900	116,900	118,300	119,800	121,300
Cotswold	84,700	83,300	82,500	83,000	83,300	83,300	83,200	83,400	84,300	85,500	86,900	88,200
Forest of Dean	84,100	82,600	81,900	82,100	82,200	82,000	81,800	81,700	82,200	83,100	84,100	85,000
Gloucester	121,100	119,900	120,300	120,900	121,000	120,800	120,600	120,700	121,700	123,200	124,900	126,700
Stroud	114,400	111,700	110,700	111,300	111,800	112,000	112,000	112,300	113,300	114,700	116,300	117,900
Tewkesbury	81,300	79,100	77,700	78,200	78,700	79,000	79,100	79,500	80,400	81,700	83,200	84,600
Gloucestershire	601,400	591,300	587,700	590,900	592,600	592,800	592,300	593,700	598,700	606,500	615,200	623,700

Table 12 Household Projections

(Source: POPGroup Forecasting modelling suite, Gloucestershire County Council)

Trend-Based Scenario

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cheltenham	51,900	52,400	52,900	53,500	54,000	54,500	55,000	55,500	56,000	56,500	57,000	57,500
Cotswold	36,900	37,200	37,500	37,800	38,100	38,500	38,800	39,100	39,500	39,800	40,200	40,500
Forest of Dean	35,300	35,500	35,800	36,000	36,300	36,600	36,900	37,300	37,600	37,900	38,200	38,600
Gloucester	51,500	52,200	53,000	53,700	54,500	55,300	56,100	57,000	57,900	58,800	59,700	60,600
Stroud	48,300	48,700	49,100	49,400	49,800	50,300	50,800	51,300	51,800	52,200	52,700	53,200
Tewkesbury	35,000	35,300	35,600	35,900	36,200	36,500	36,900	37,200	37,600	37,900	38,300	38,600
Gloucestershire	258,900	261,400	263,900	266,300	268,900	271,700	274,500	277,500	280,300	283,200	286,200	288,900

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Cheltenham	57,900	58,400	58,800	59,200	59,600	60,000	60,400	60,800	61,300	61,600	62,000
Cotswold	40,900	41,200	41,500	41,800	42,100	42,300	42,600	42,900	43,100	43,300	43,500
Forest of Dean	38,900	39,100	39,400	39,600	39,900	40,200	40,400	40,600	40,800	41,000	41,200
Gloucester	61,400	62,200	63,100	64,000	64,800	65,600	66,500	67,300	68,100	69,000	69,800
Stroud	53,600	54,000	54,400	54,800	55,200	55,600	56,000	56,300	56,700	57,000	57,300
Tewkesbury	38,900	39,200	39,500	39,800	40,100	40,400	40,700	40,900	41,200	41,500	41,700
Gloucestershire	291,600	294,100	296,700	299,200	301,700	304,100	306,600	308,800	311,200	313,400	315,500

Notes

Numbers are projected by the model with the 2008-based headship rates released by the Department for Community and Local Government for districts

Table 12 Household Projections (cont'd)

(Source: POPGroup Forecasting modelling suite, Gloucestershire County Council)

Employment-Based Scenario

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cheltenham	51,900	51,700	52,000	52,700	53,100	53,300	53,600	53,900	54,600	55,400	56,300	57,200
Cotswold	36,900	36,600	36,400	36,800	37,100	37,300	37,500	37,800	38,400	39,100	39,900	40,700
Forest of Dean	35,300	34,900	34,800	35,000	35,200	35,400	35,500	35,800	36,100	36,600	37,200	37,800
Gloucester	51,500	51,300	51,700	52,200	52,400	52,600	52,800	53,100	53,800	54,700	55,700	56,600
Stroud	48,300	47,500	47,300	47,700	48,100	48,400	48,700	49,200	49,800	50,600	51,500	52,400
Tewkesbury	35,000	34,300	33,900	34,200	34,500	34,800	35,100	35,400	35,900	36,700	37,400	38,100
Gloucestershire	258,900	256,400	256,100	258,500	260,400	261,800	263,100	265,200	268,600	273,100	278,100	282,900

Notes

Numbers are projected by the model with the 2008-based headship rates released by the Department for Community and Local Government for districts