



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 sources¹. 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, which are derived from local National Insurance Registration records, with assumptions on short-term migration and outflow². 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

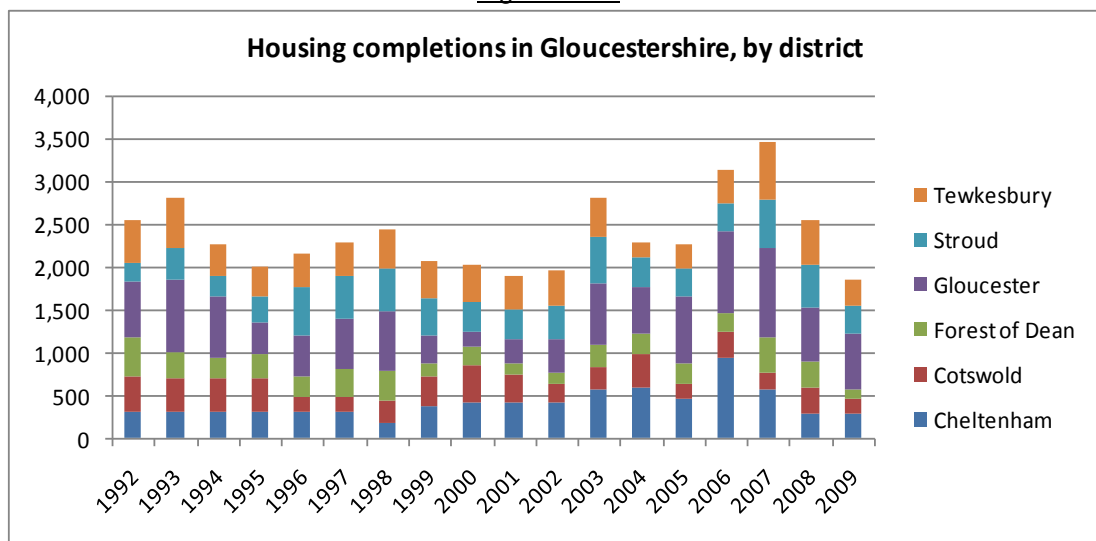


Figure 1.3.2

| 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 | | | | |
|-----------------|--------------------------------------|----------------|-------------|----------------------------|--------------------------|
| | <u>Population</u> | | | <u>% County population</u> | <u>% County dwelling</u> |
| | 1991 Census | 2001 Census | 2009 GCC | | |
| 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 | | | |
|---|-------------------------|----------------------------|--------------------------------------|
| | <u>Inflow to County</u> | <u>Outflow from County</u> | <u>Inter-district inflow/outflow</u> |
| 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 |

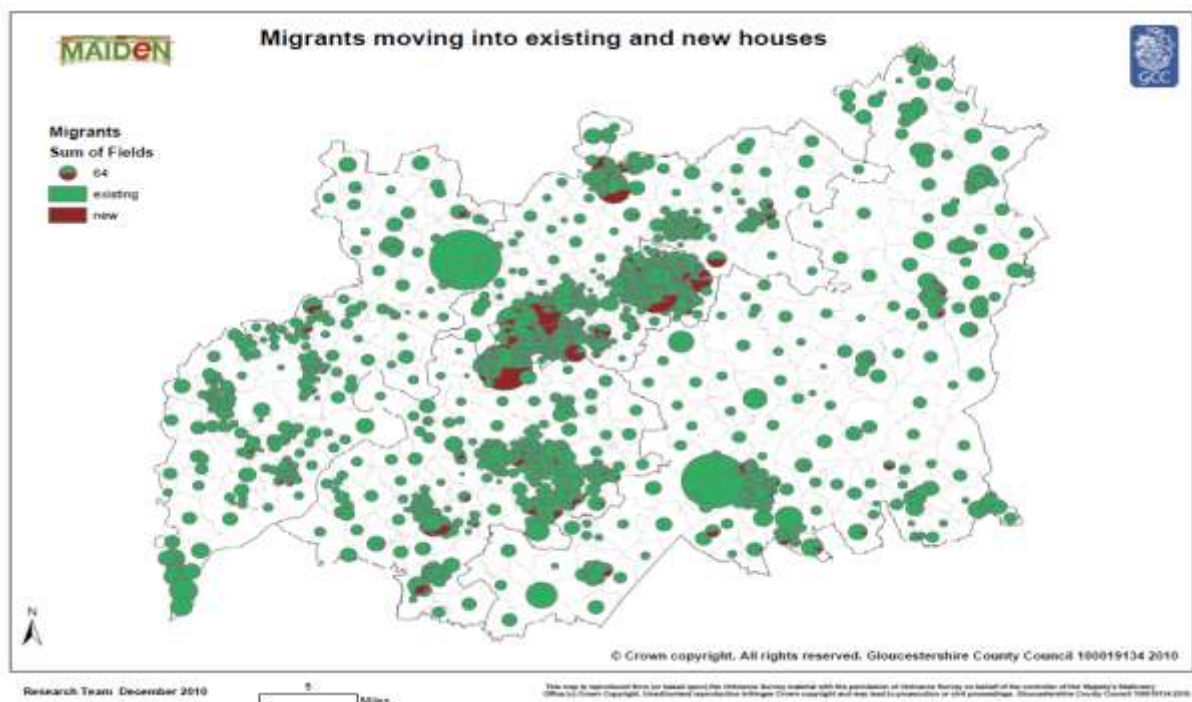
| | | | |
|----------------|--------|--------|--------|
| 2004 | 21,574 | 19,344 | 9,770 |
| 2005 | 20,101 | 18,088 | 9,510 |
| 2006 | 20,187 | 18,530 | 9,930 |
| 2007 | 20,845 | 18,521 | 11,000 |
| 2008 | 19,262 | 17,758 | 10,220 |
| 2009 | 19,649 | 17,272 | 9,720 |
| Annual average | 20,557 | 18,460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

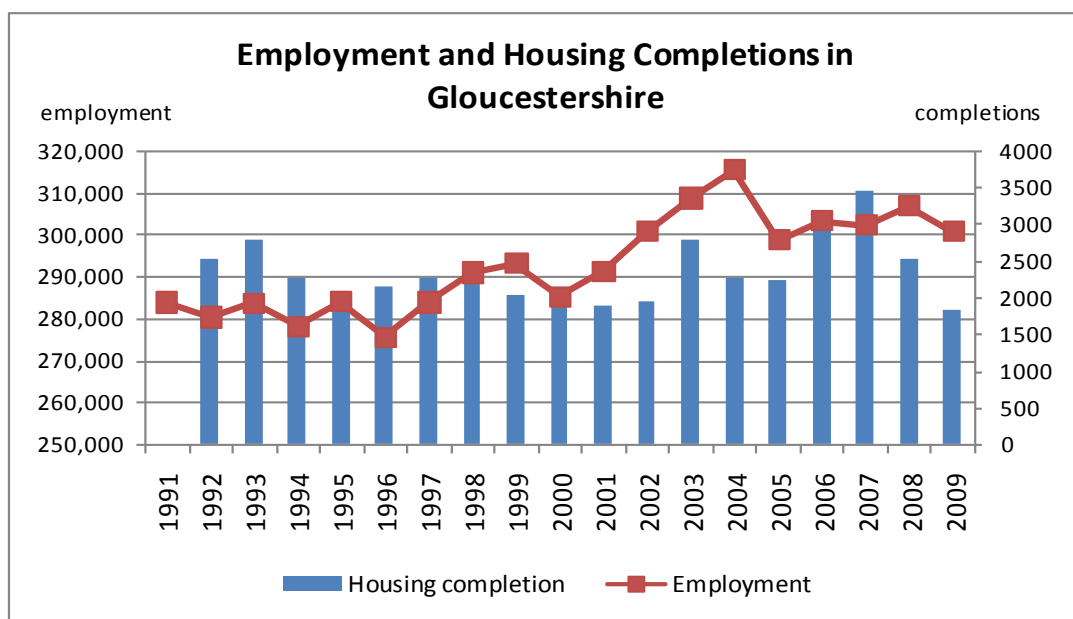
| Local Authority destination | 'Out-of-County' movers | % of 'Out-of-County' movers | average age of 'Out-of-County' movers | % of 'Out-of-County' movers who are children | 'in-County' movers | % of 'in-County' movers | average age of 'in-County' movers | % of 'in-County' movers that are children |
|-----------------------------|------------------------|-----------------------------|---------------------------------------|--|--------------------|-------------------------|-----------------------------------|---|
| 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.

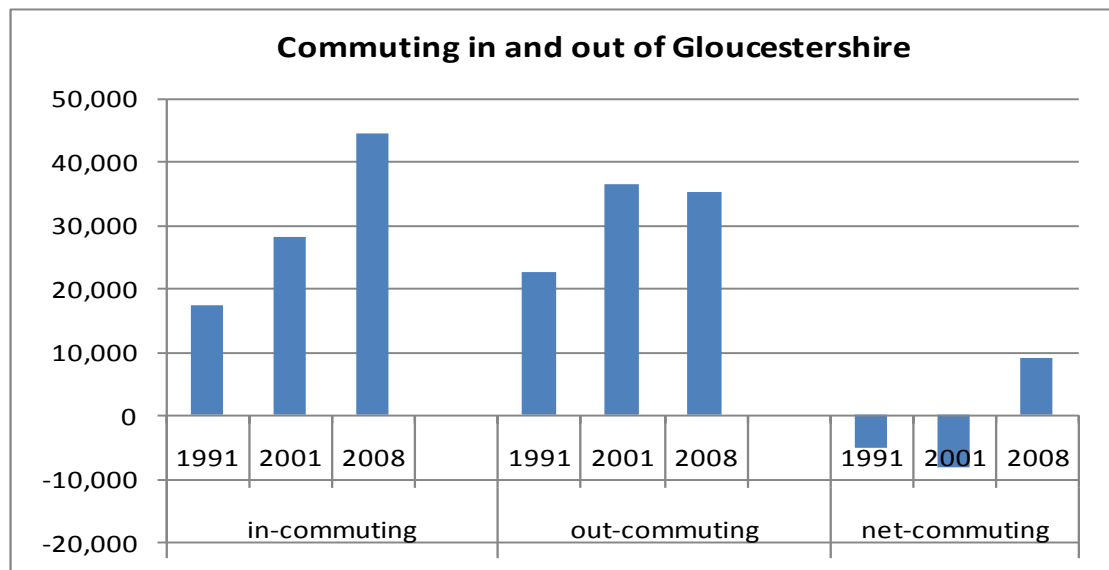
Figure 1.3.7



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



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

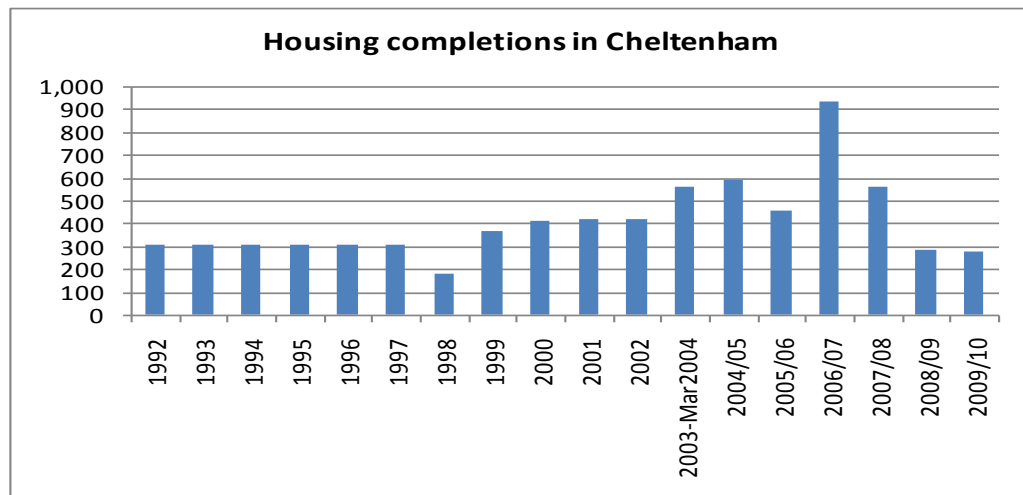
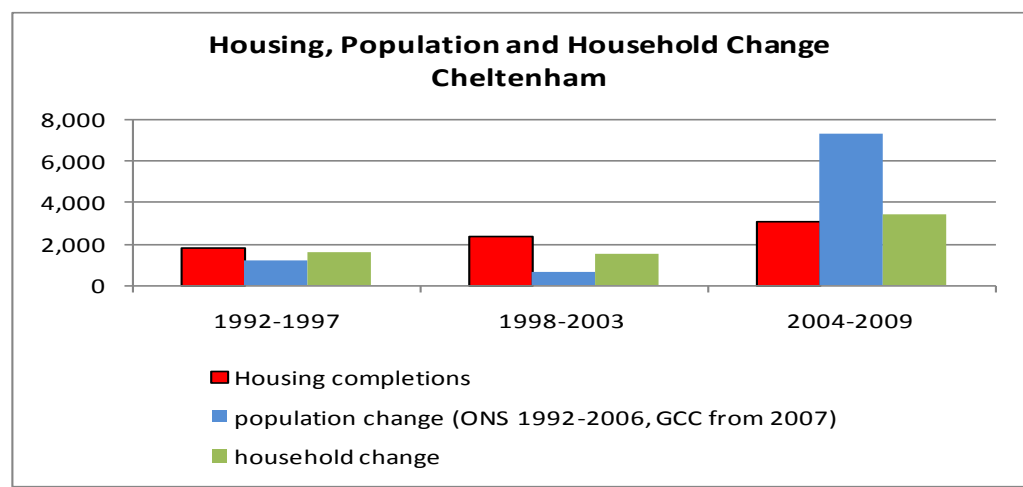


Figure 2.1.2

| 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

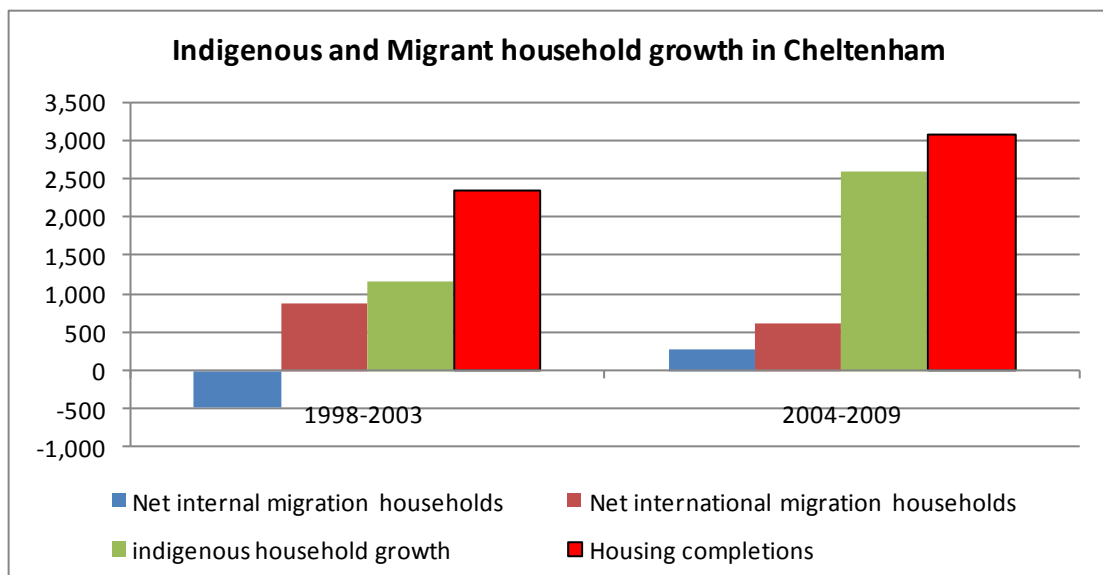
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

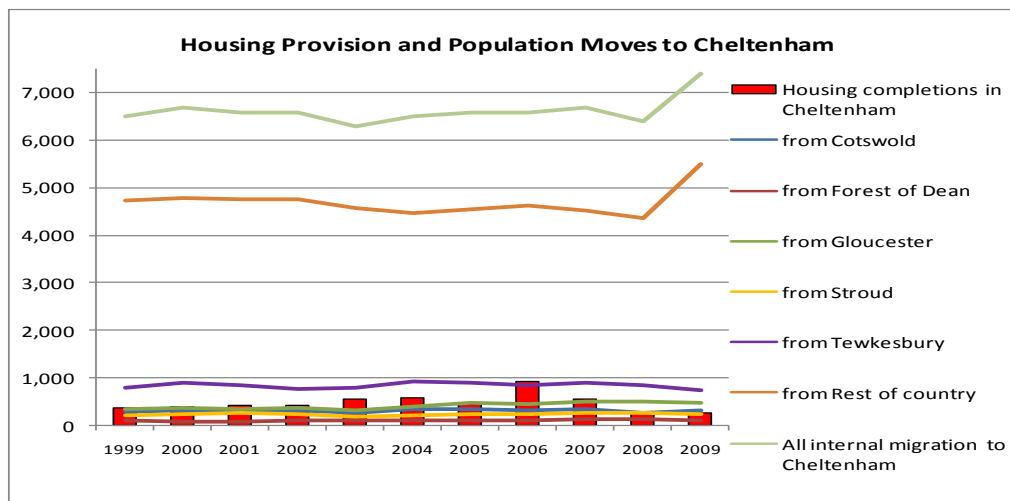


Figure 2.1.6

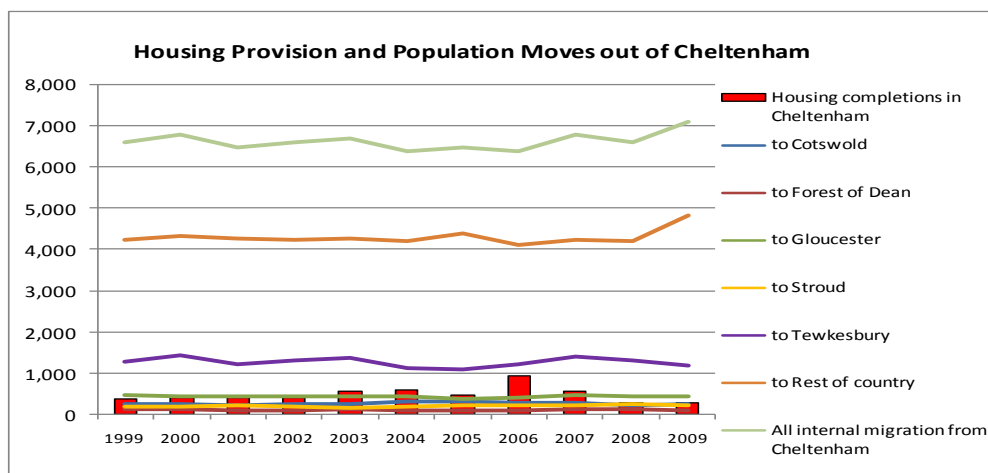
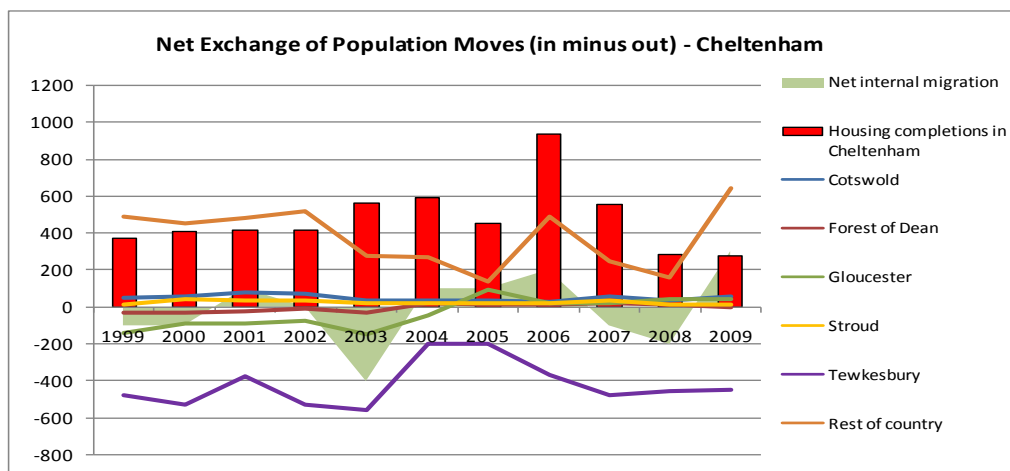


Figure 2.1.7



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 | | Persimmon Gardens | |
|---|-------------|------|-------------------|------|
| | n | % | 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 | | Persimmon Gardens | |
|---|-------------|------|-------------------|------|
| | n | % | 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

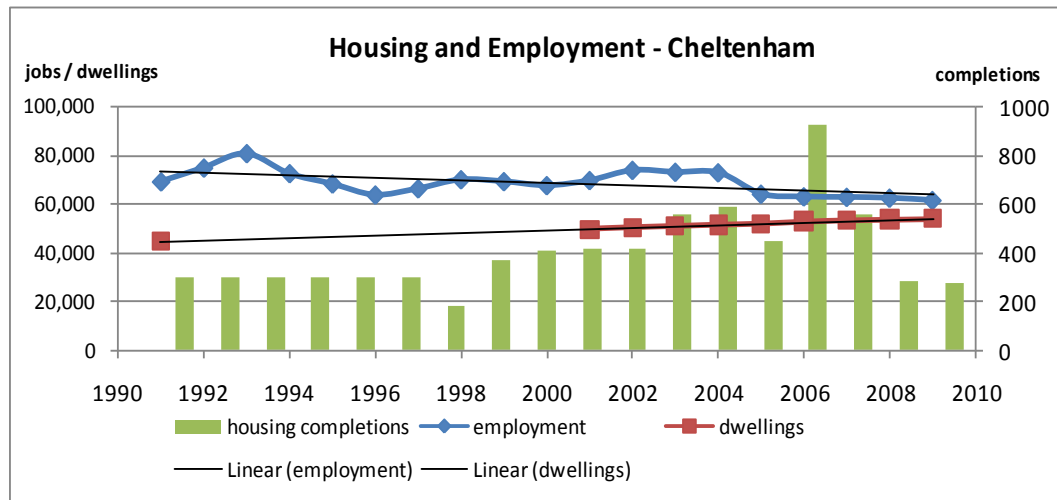


Figure 2.1.12

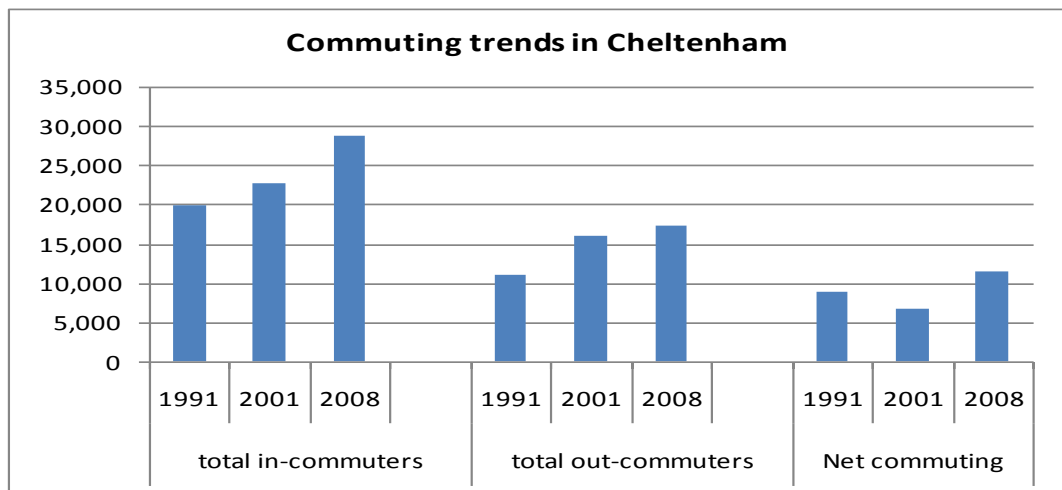


Figure 2.1.13

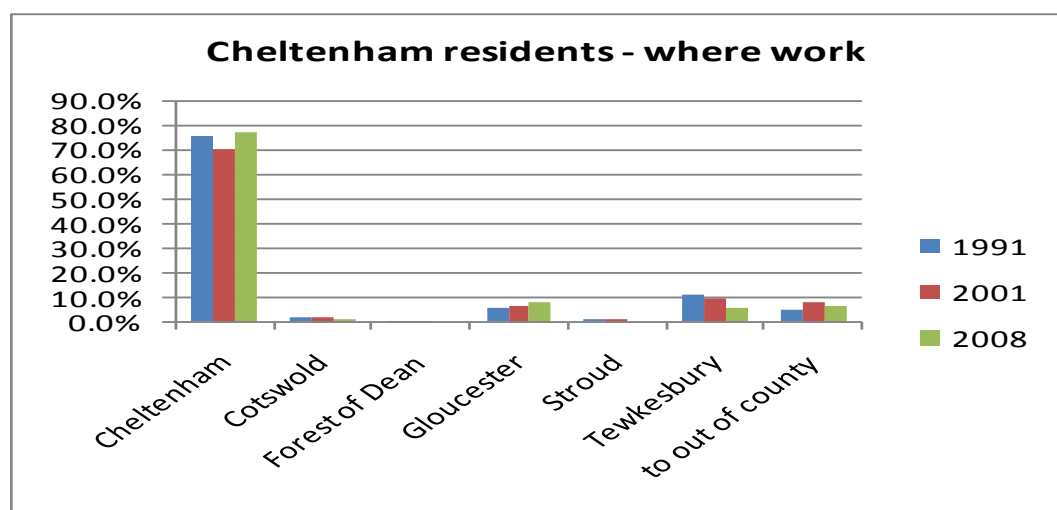
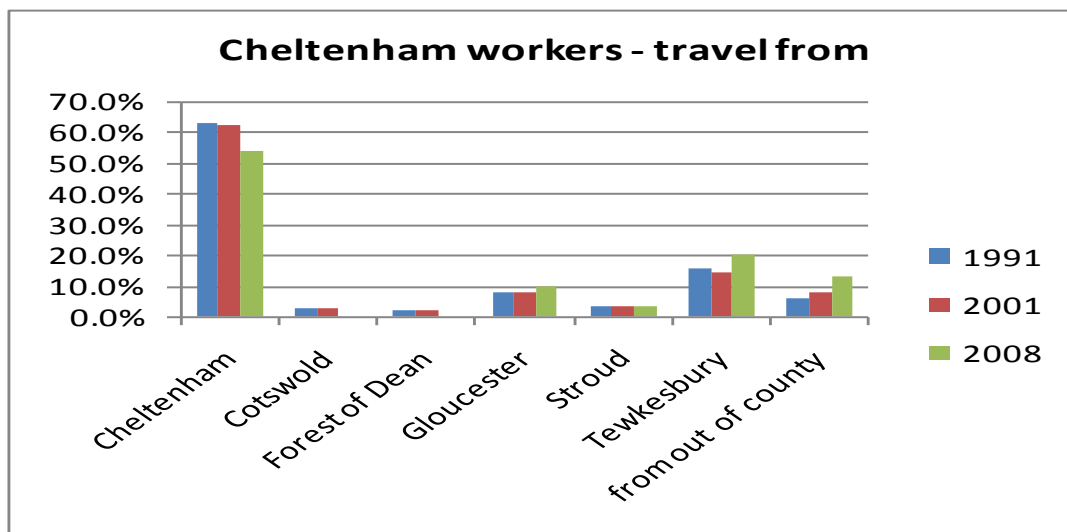


Figure 2.1.14



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

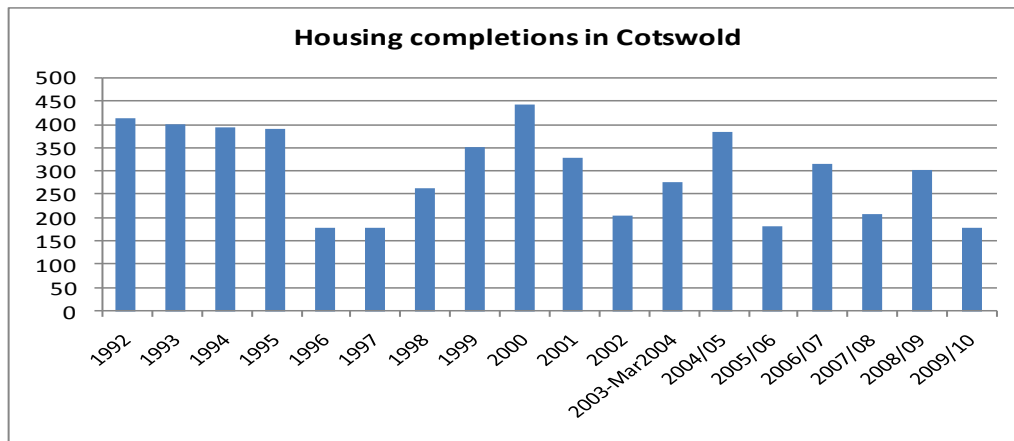
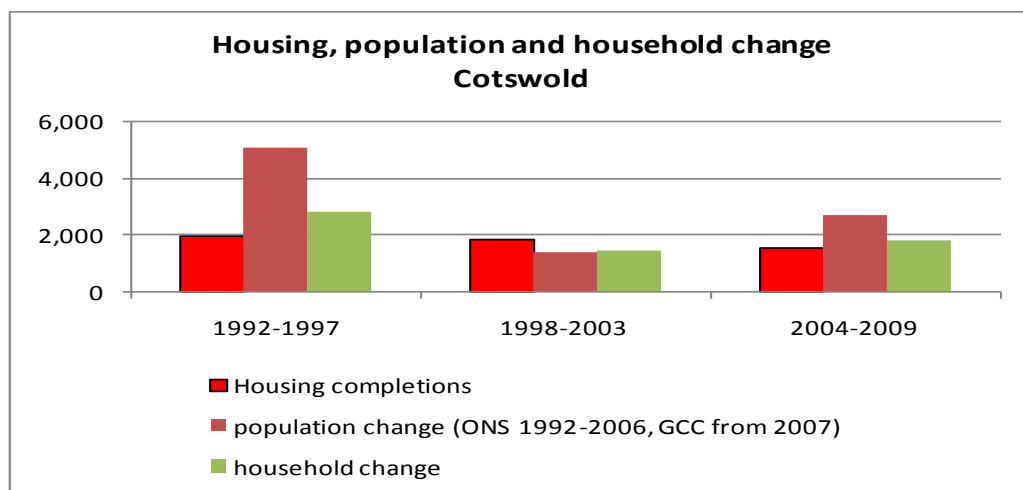


Figure 2.2.2

| | Housing, population and households - Cotswold | | | | | | | | | |
|---------------------------|---|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | <u>Census 1991</u> | <u>Census 2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| | <u>1991</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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

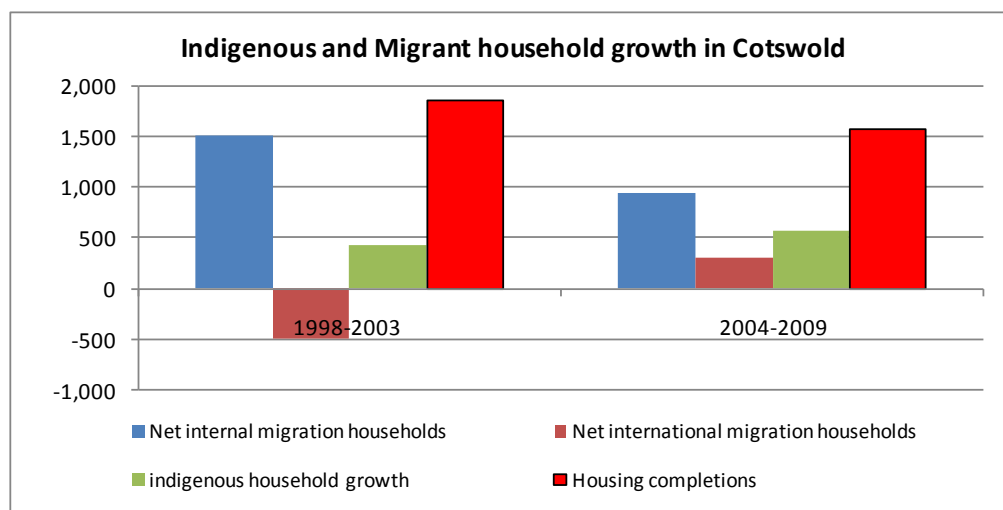
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

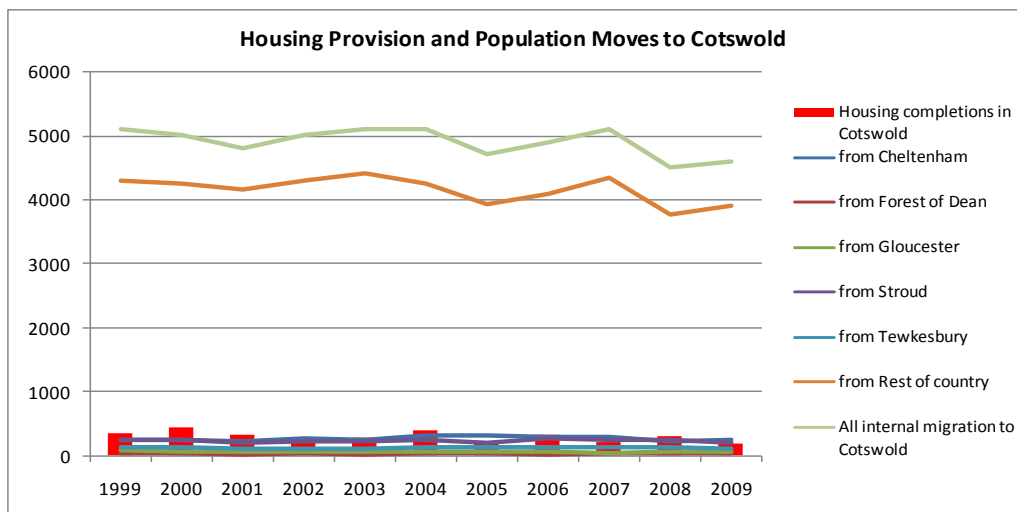


Figure 2.2.6

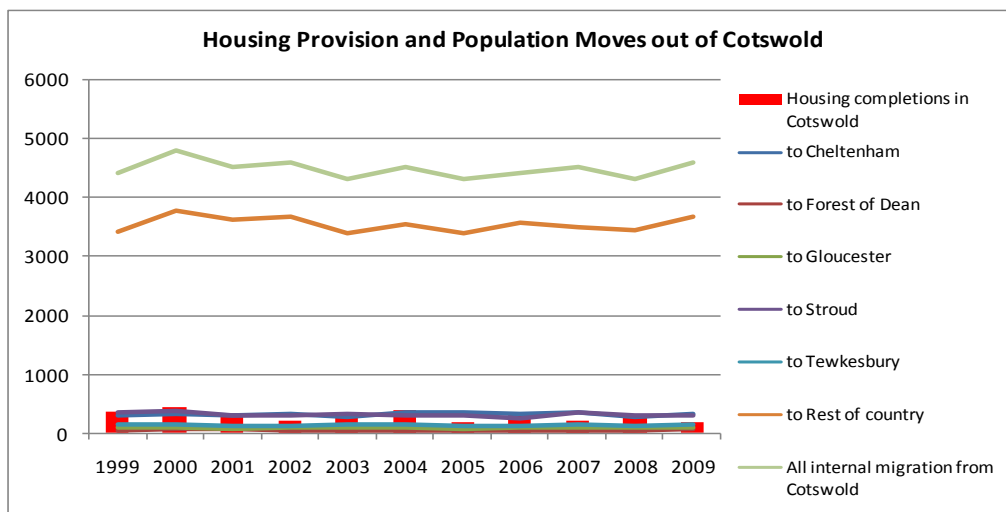
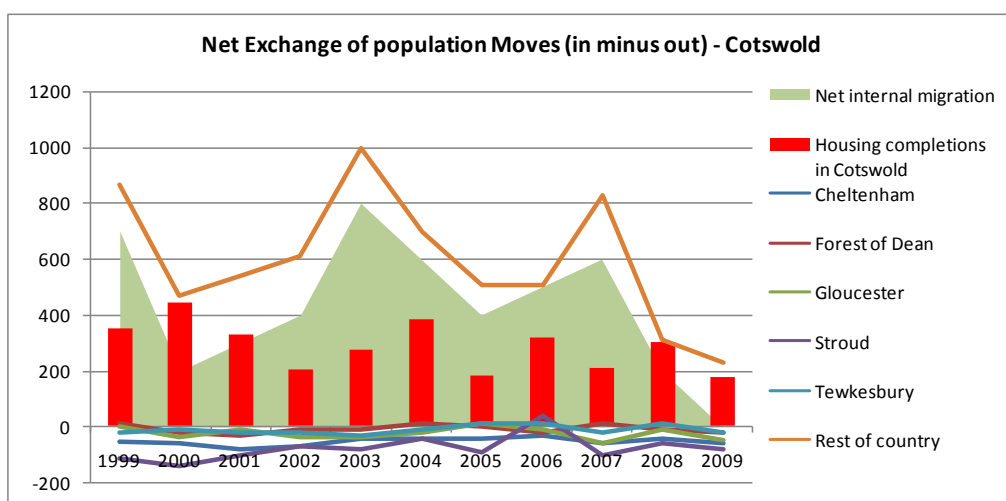


Figure 2.2.7



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

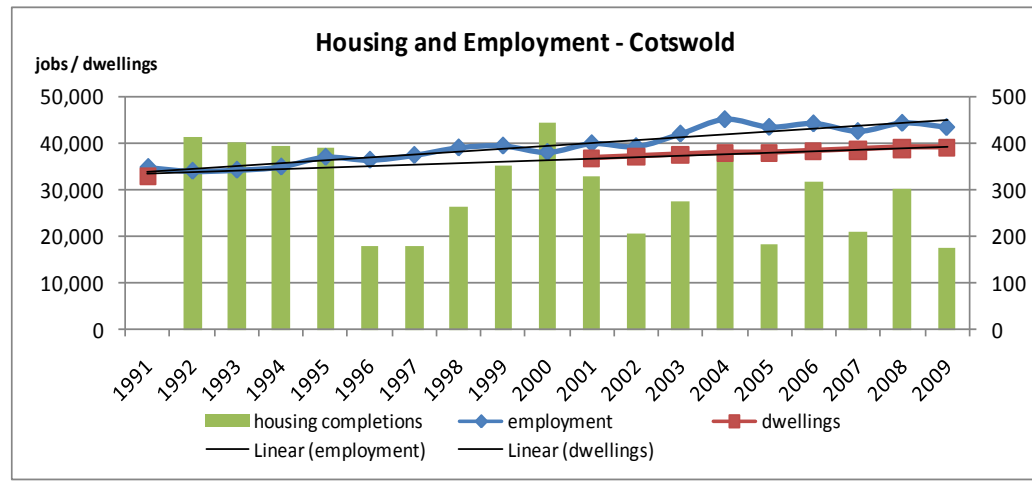


Figure 2.2.12

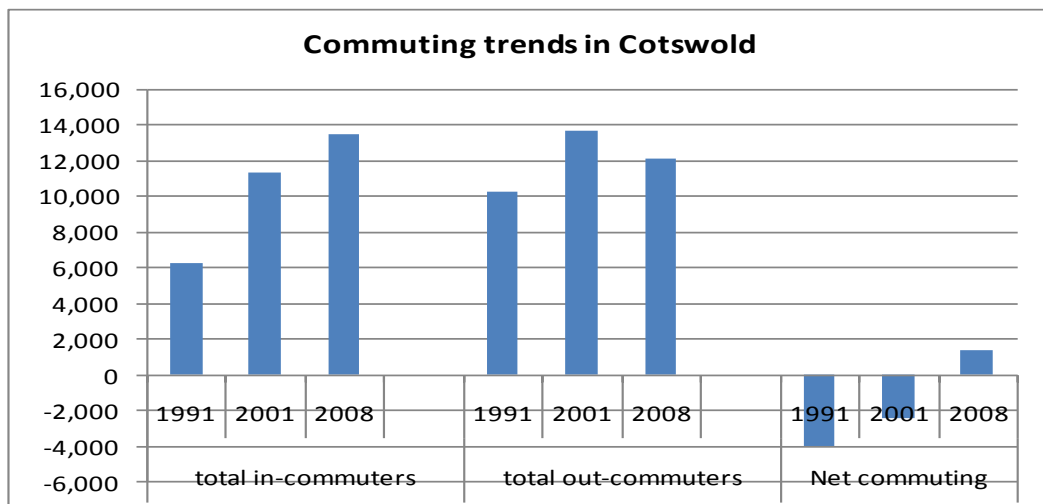


Figure 2.2.13

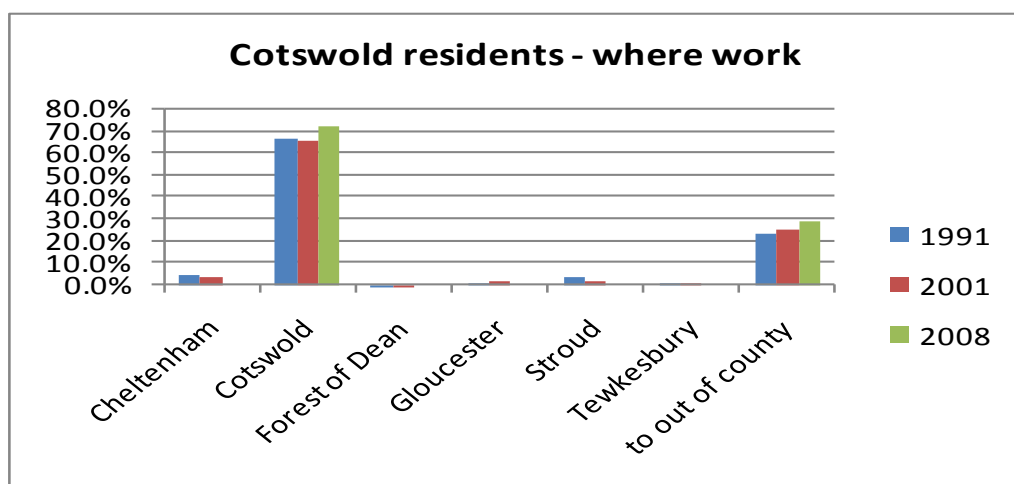
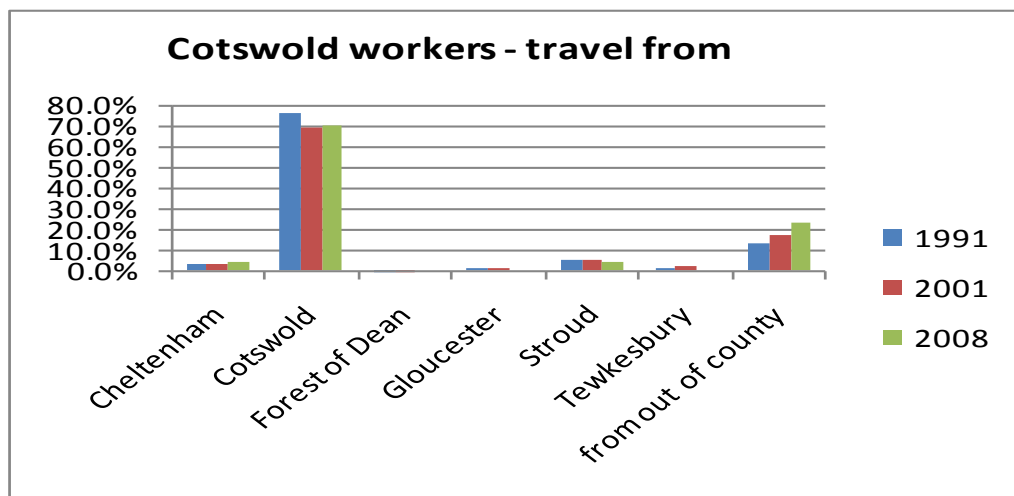


Figure 2.2.14



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

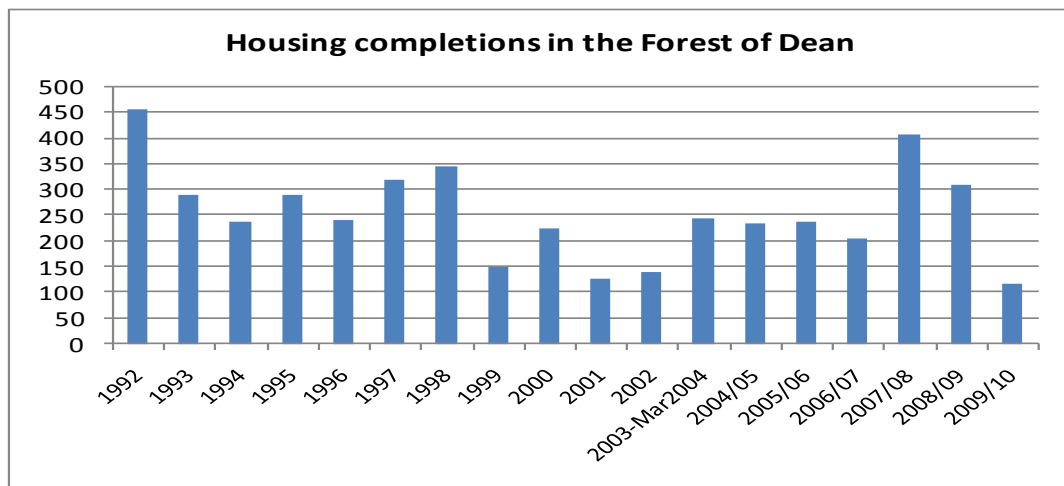
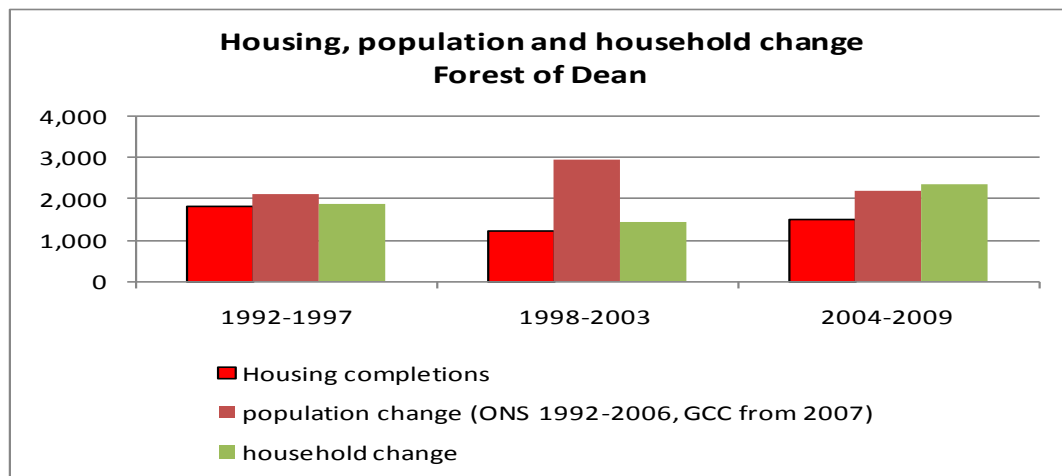


Figure 2.3.2

| 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

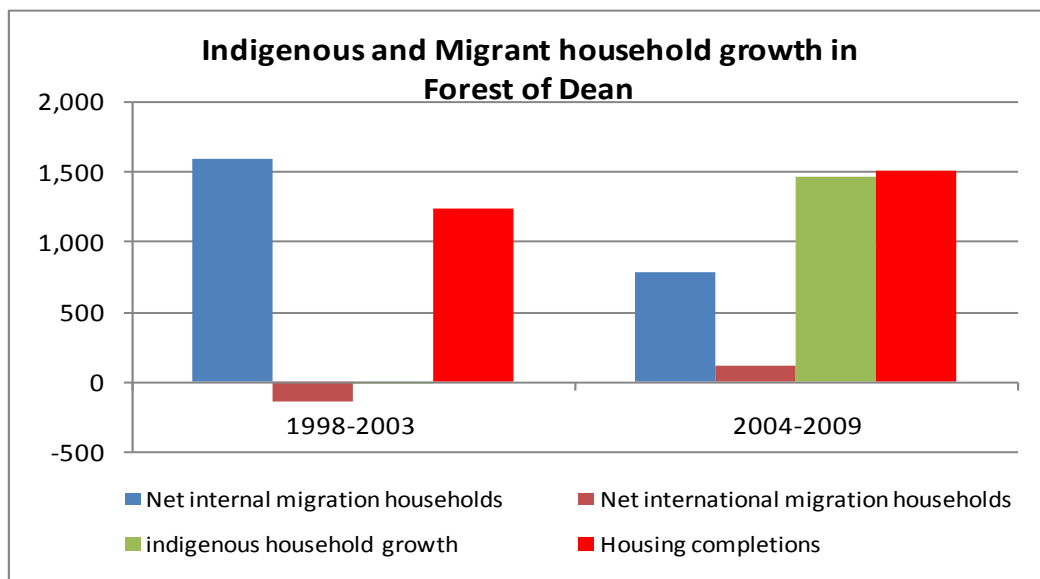
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

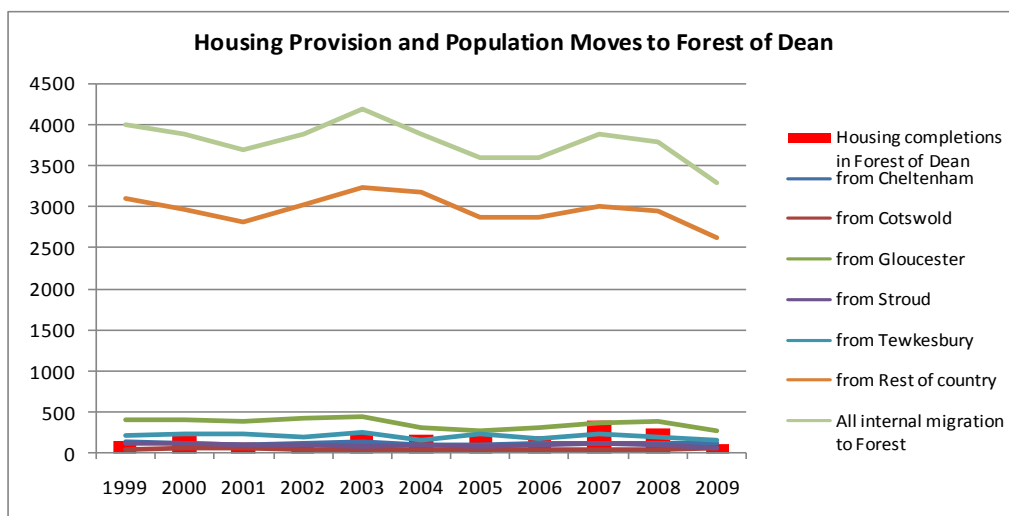


Figure 2.3.6

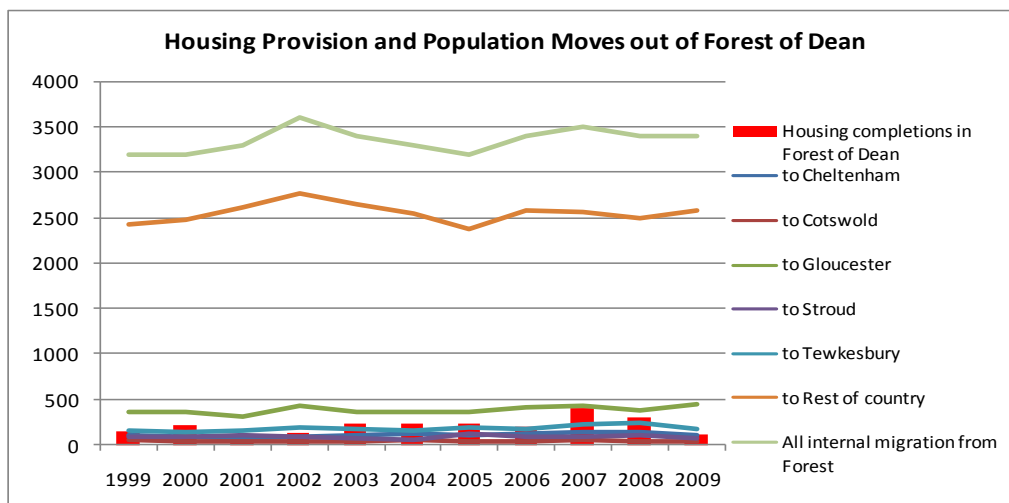
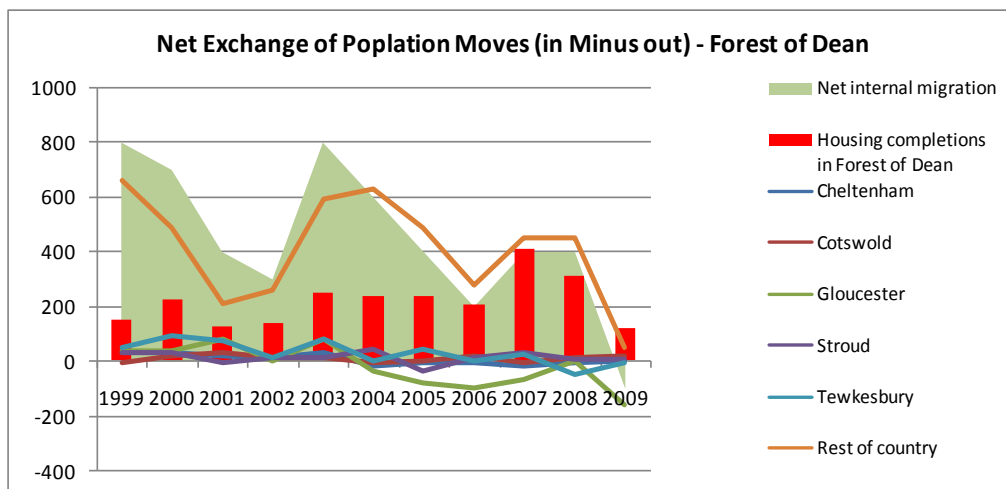


Figure 2.3.7



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

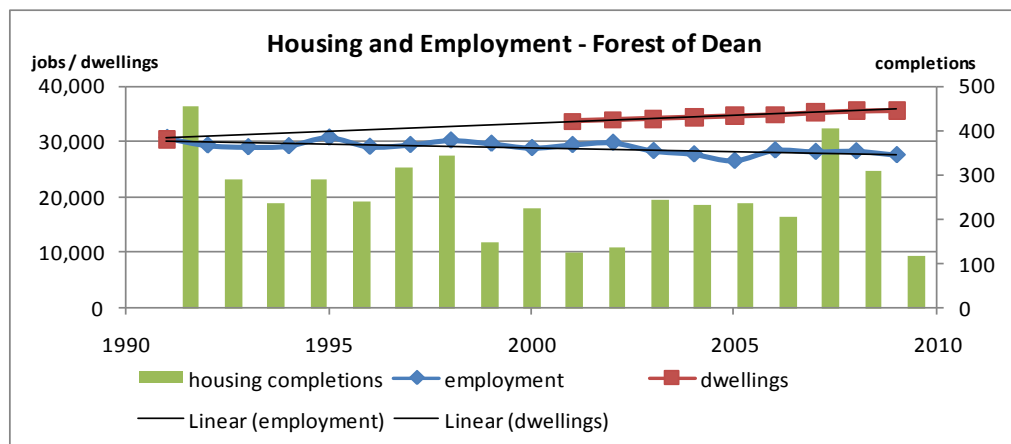


Figure 2.3.9

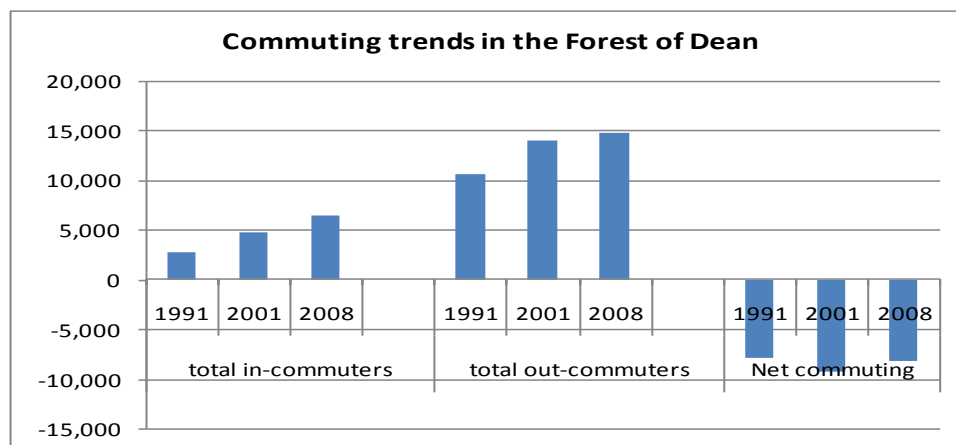


Figure 2.3.10

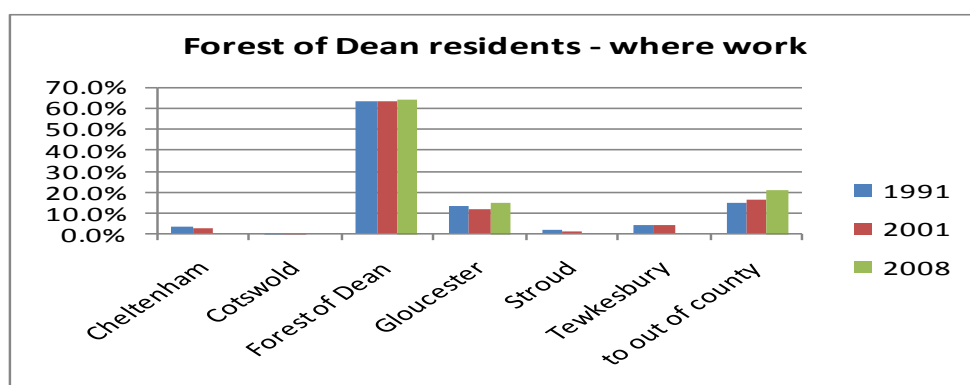
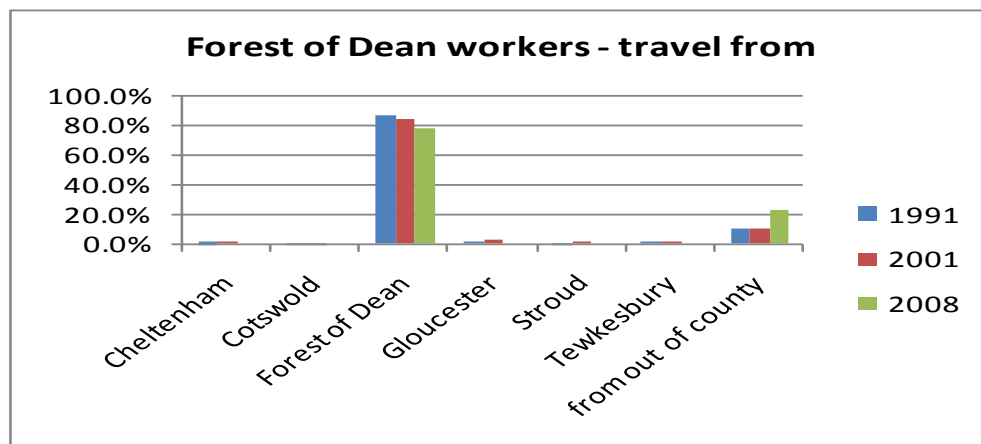


Figure 2.3.11



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

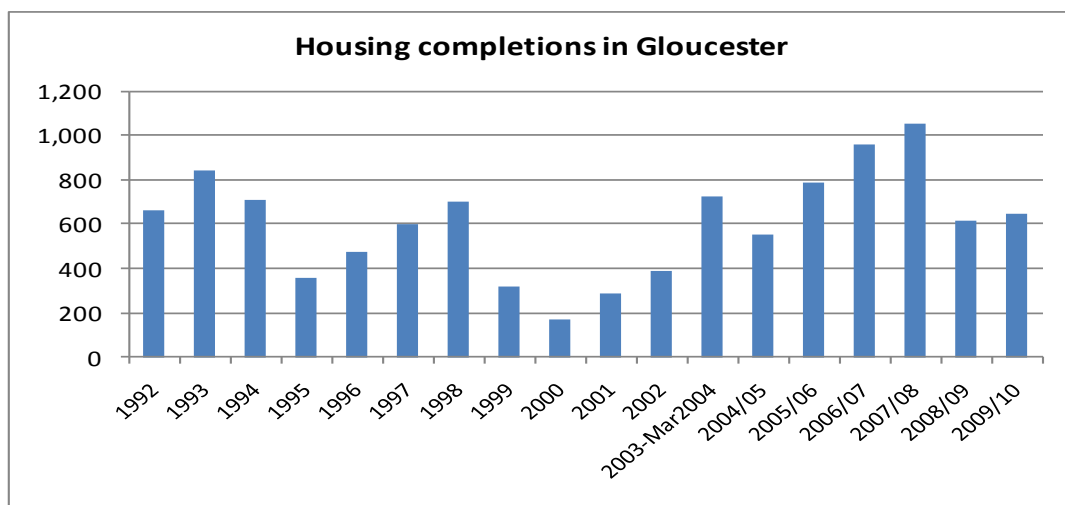
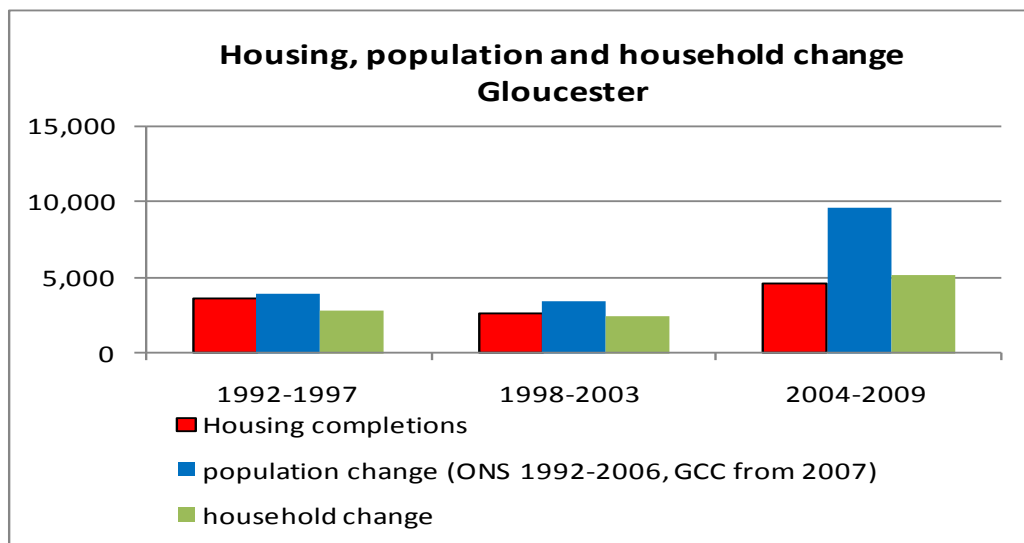


Figure 2.4.2

| | Housing, population and households Gloucester | | | | | | | | | |
|-------------------------------|--|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | <u>Census 1991</u> | <u>Census 2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| 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

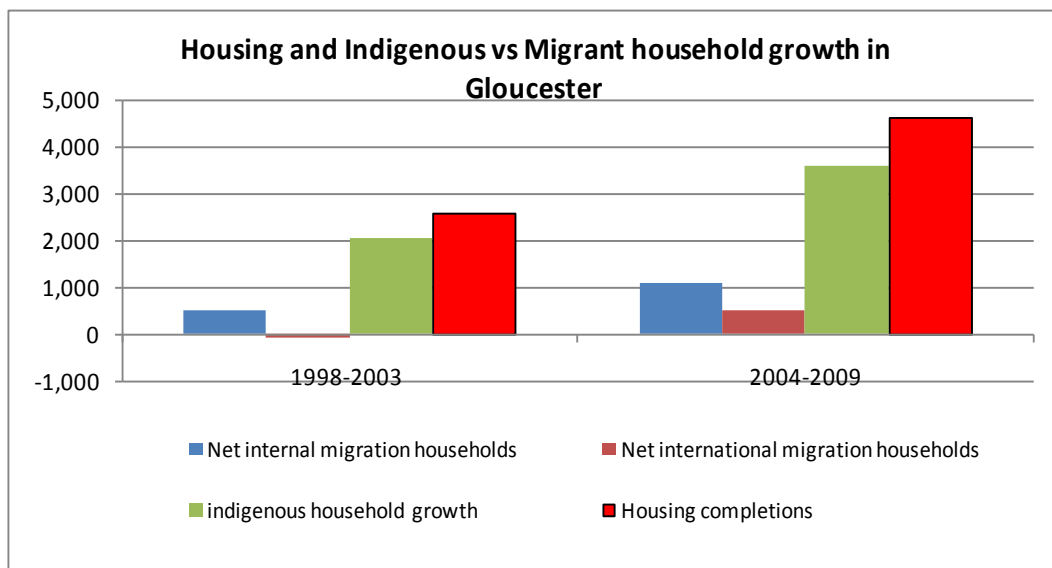
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

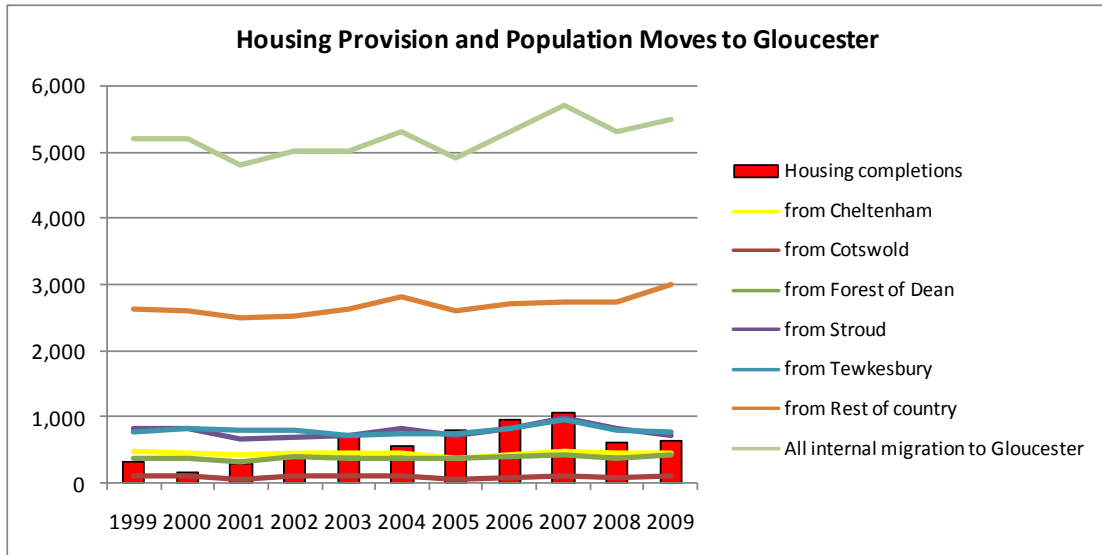


Figure 2.4.6

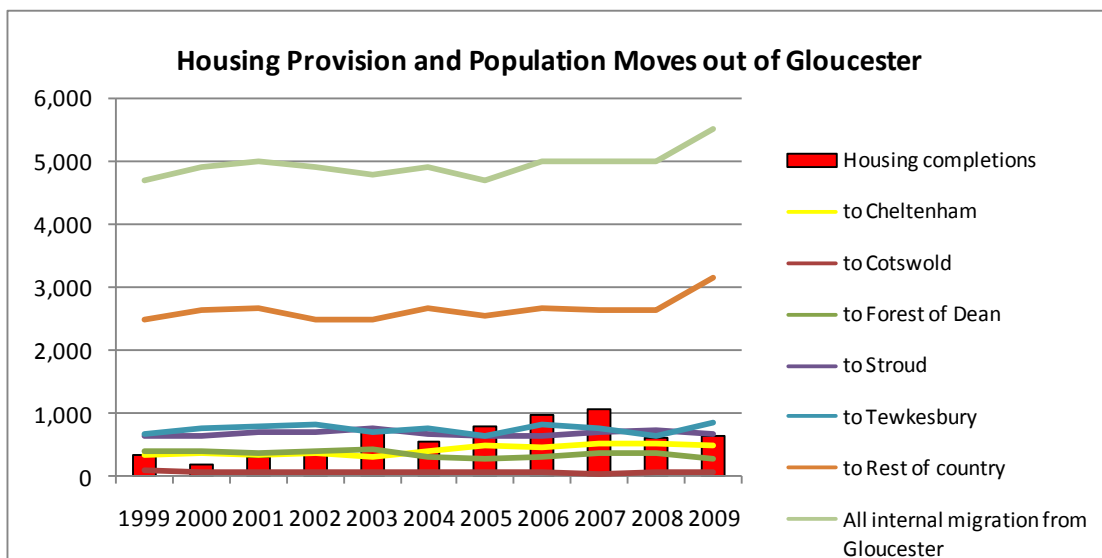
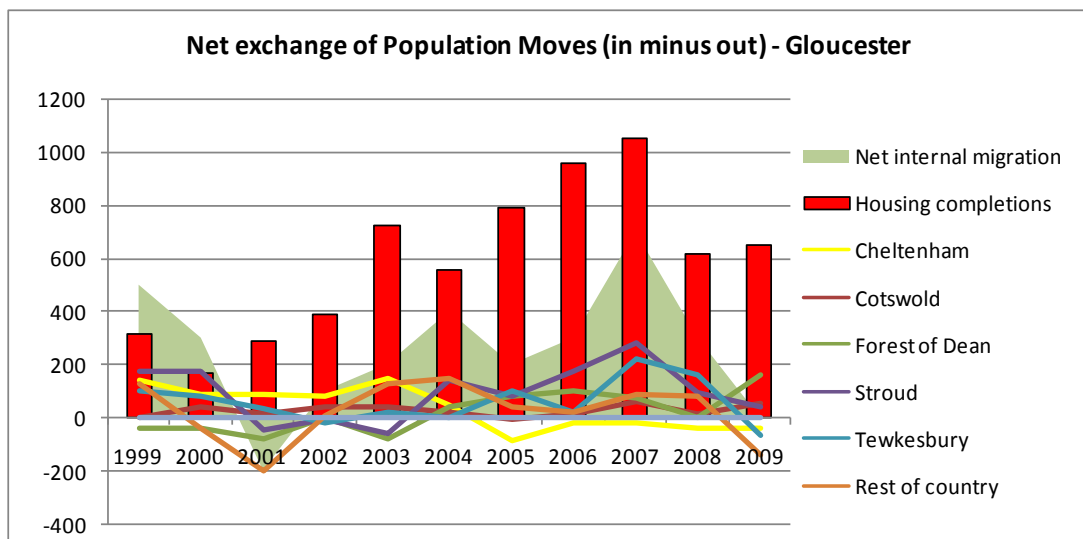


Figure 2.4.7



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, than 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

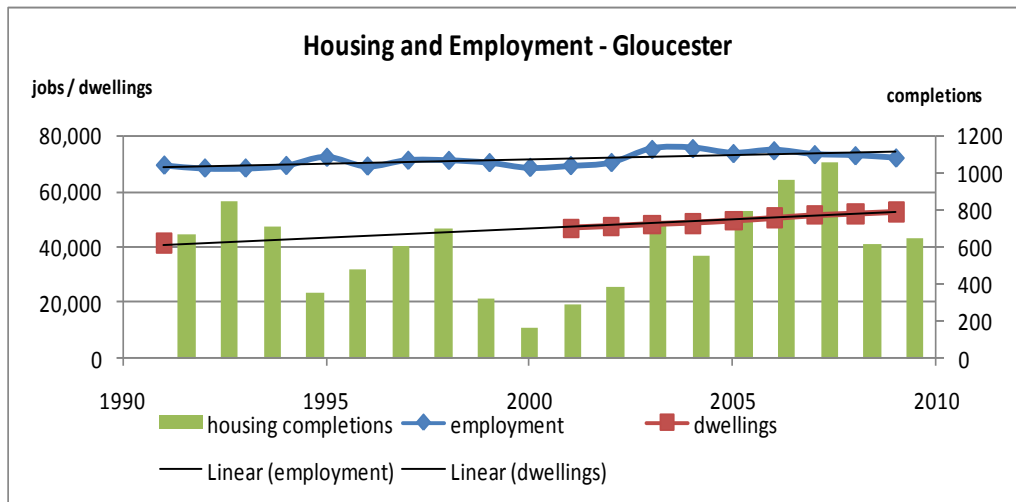


Figure 2.4.12

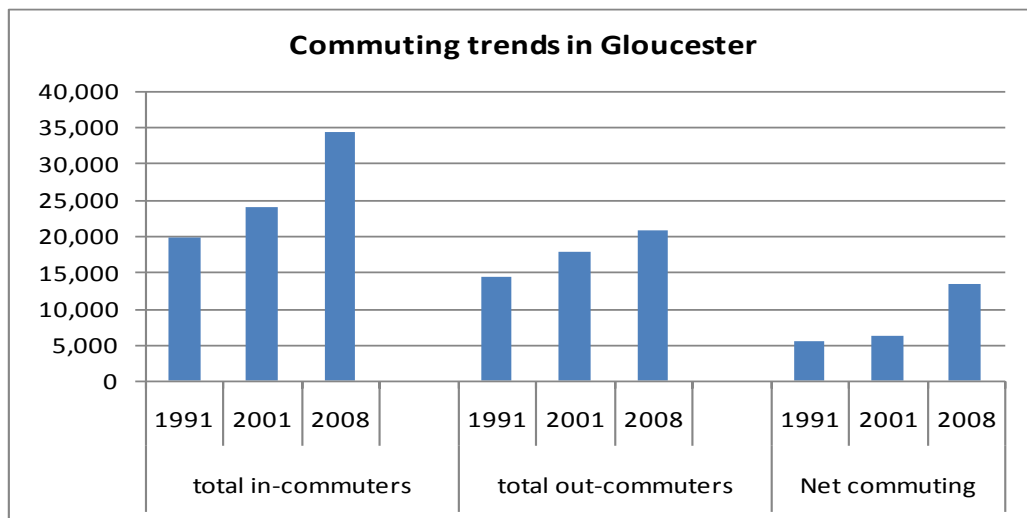


Figure 2.4.13

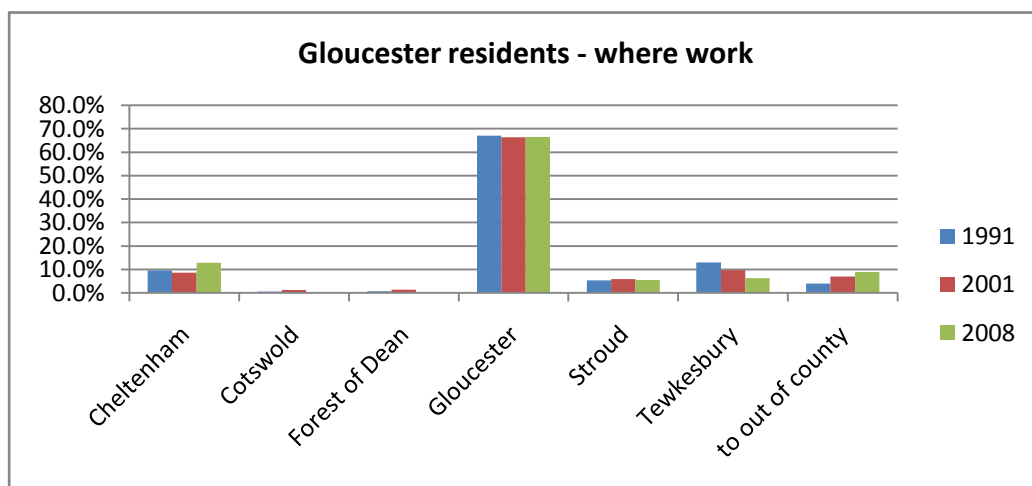
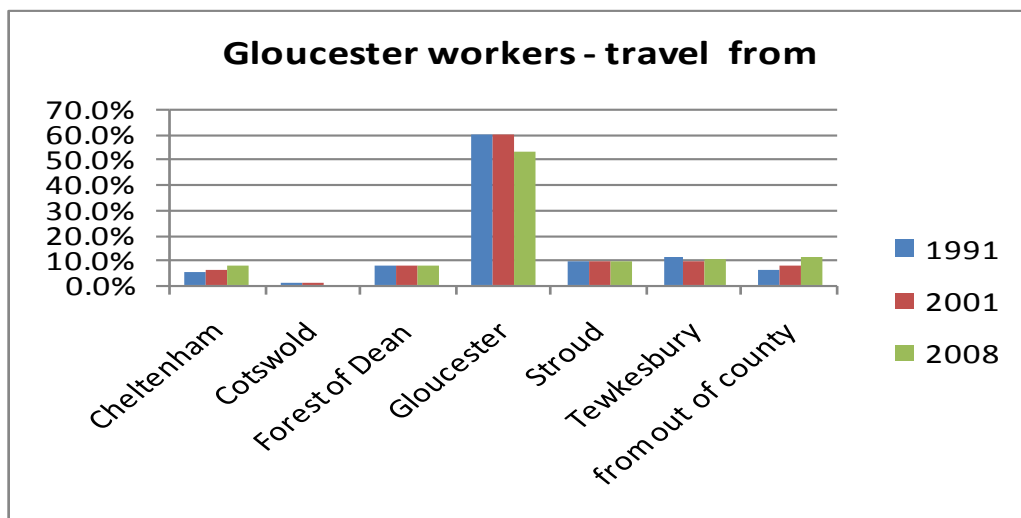


Figure 2.4.14



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

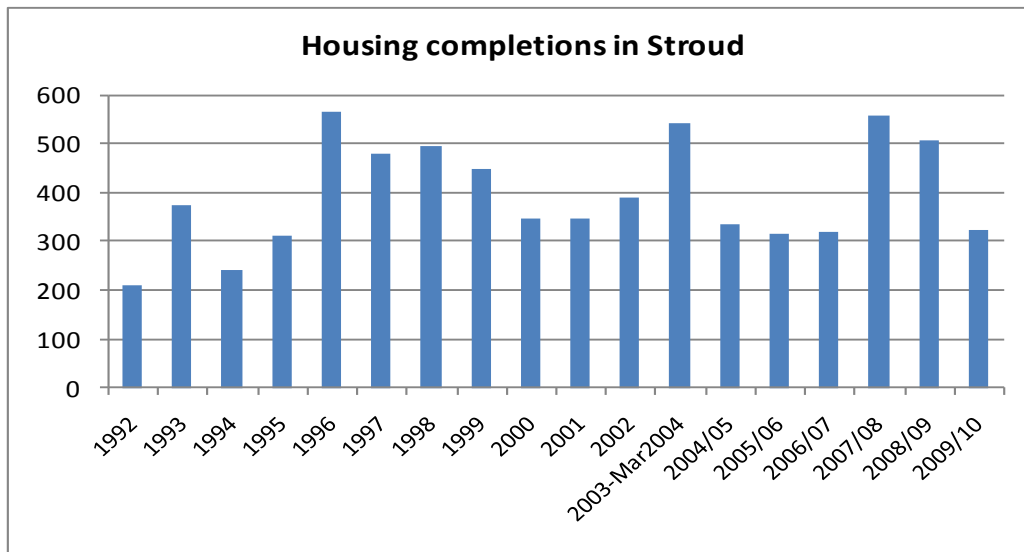
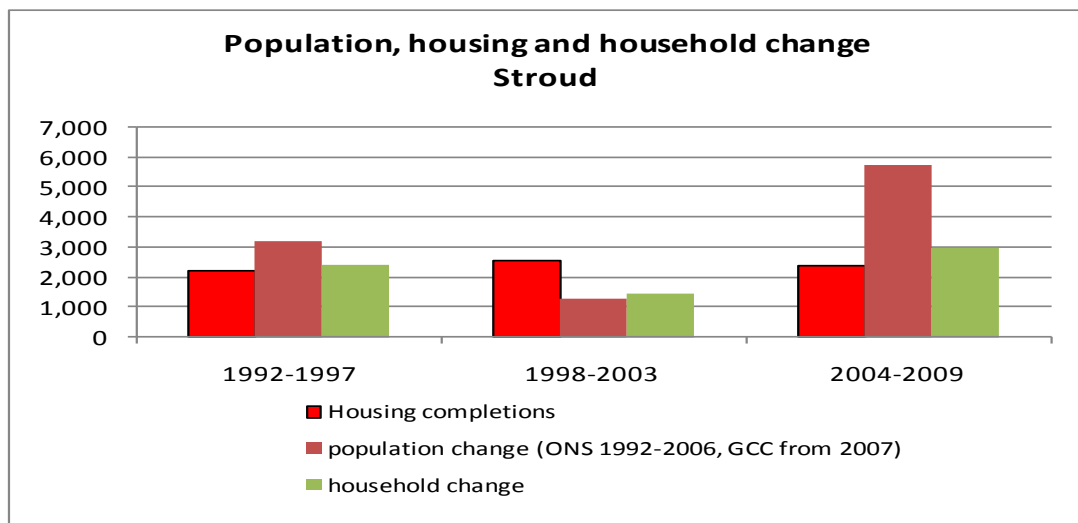


Figure 2.5.2

| | Housing, population and households - Stroud | | | | | | | | | |
|---------------------------|---|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | <u>Census 1991</u> | <u>Census 2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| | <u>1991</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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

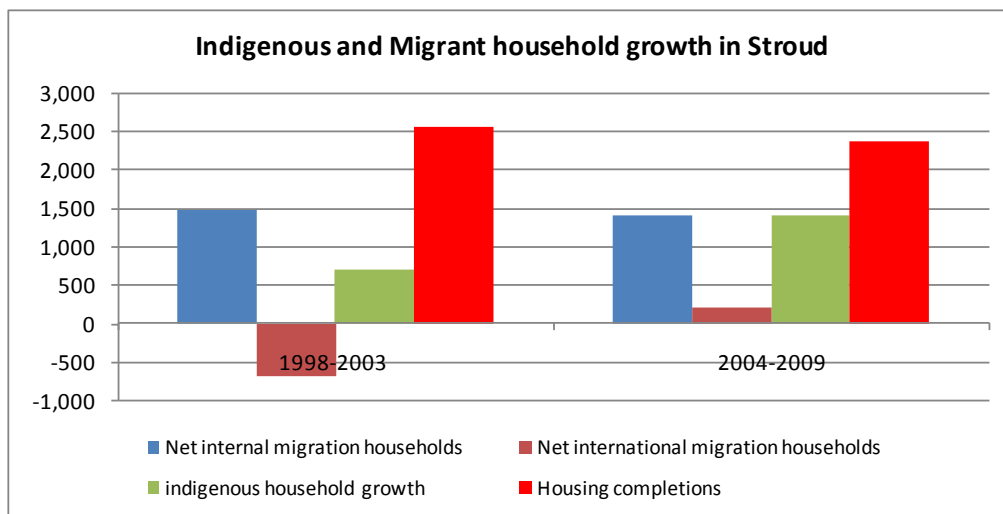
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

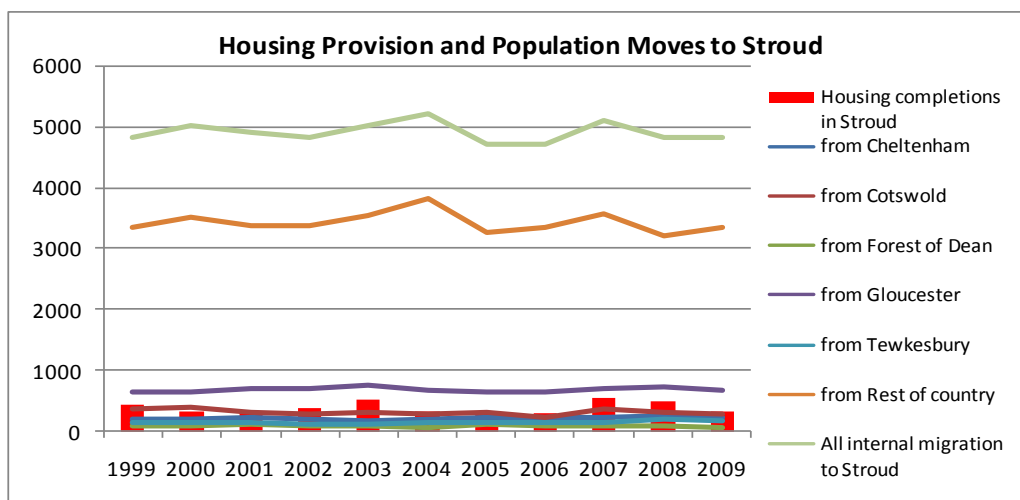


Figure 2.5.6

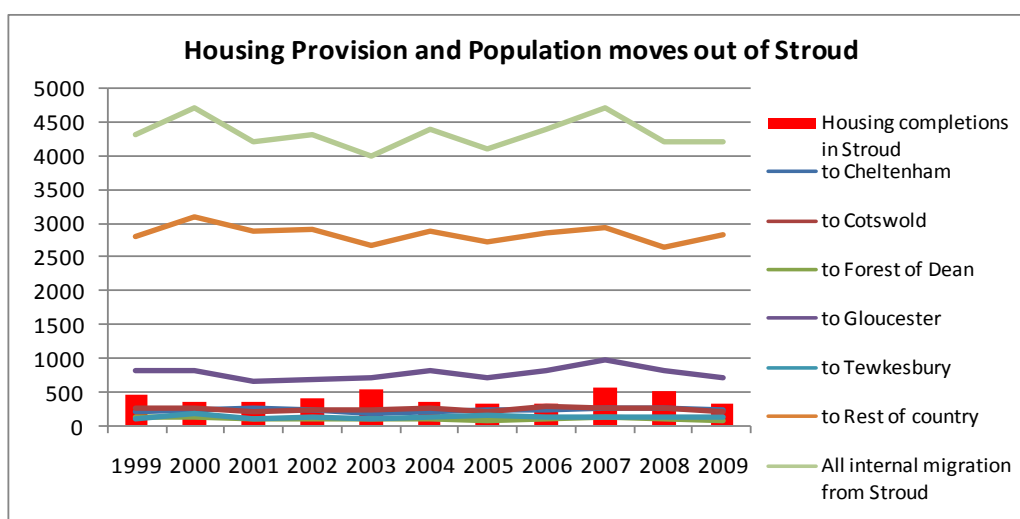
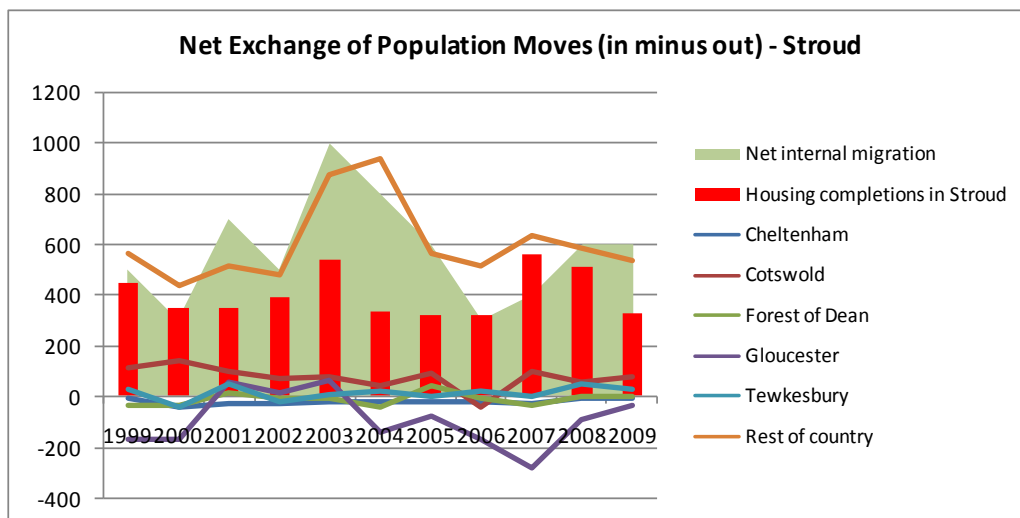


Figure 2.5.7



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

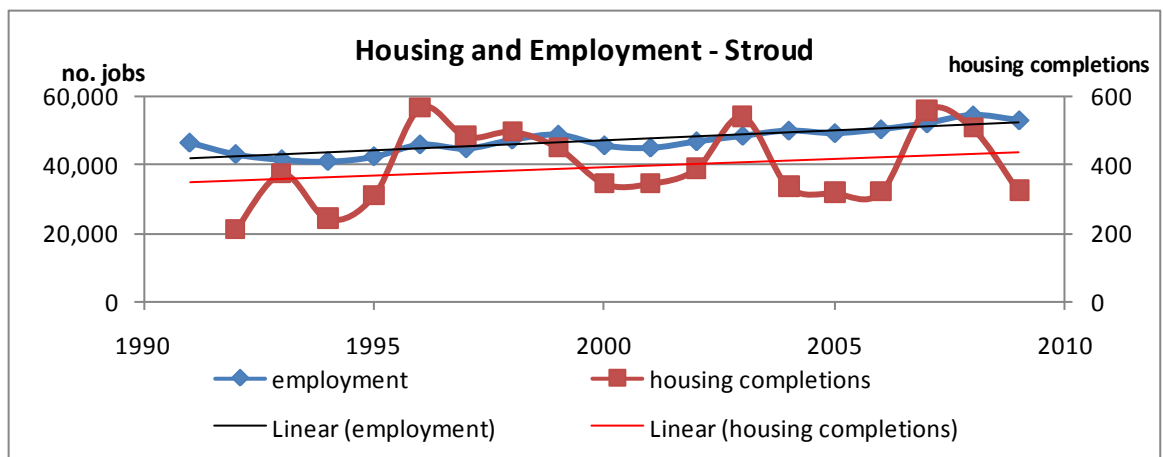


Figure 2.5.12

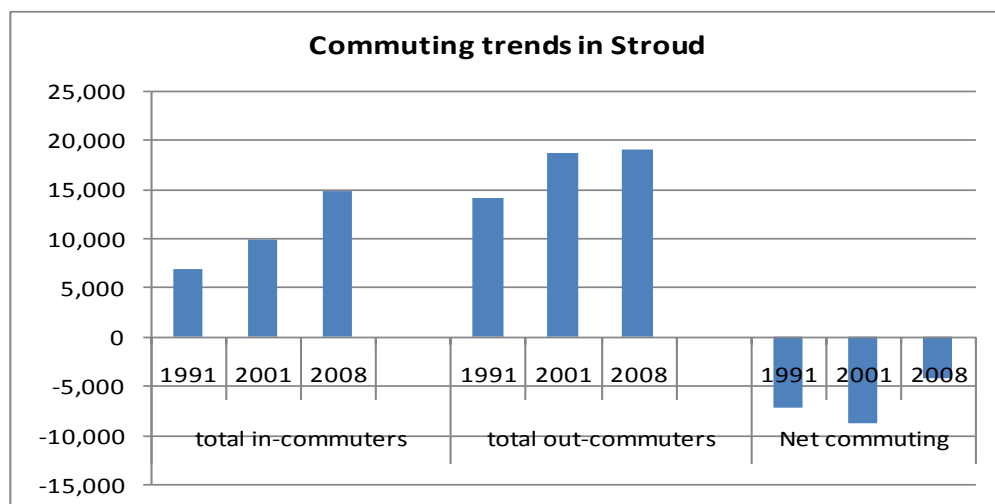


Figure 2.5.13

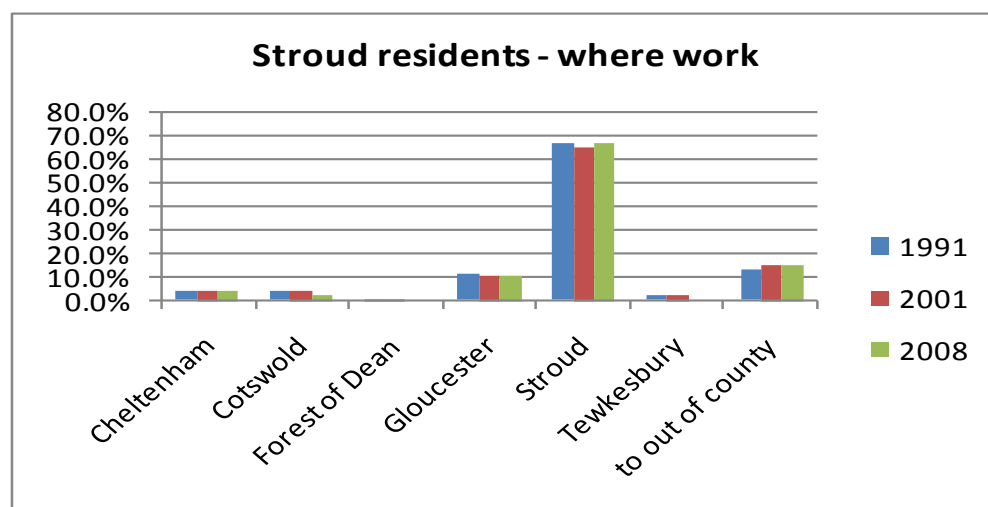
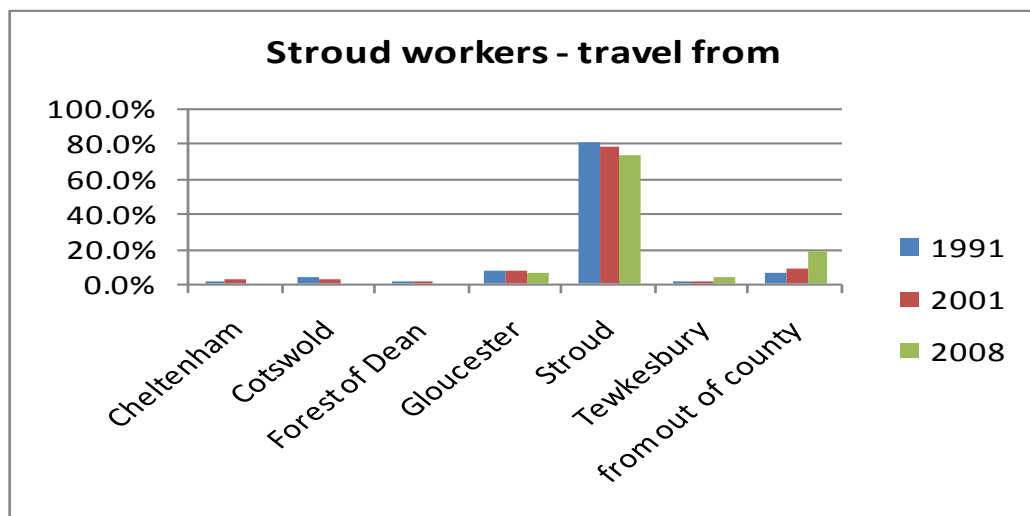


Figure 2.5.14



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 Tewkesbury has been ahead of household formation since 1998 but they are more aligned in recent years.

Figure 2.6.1

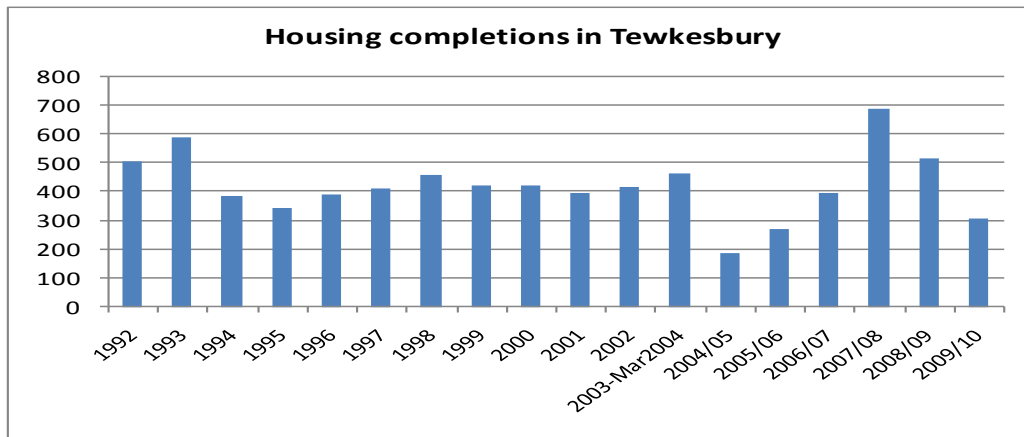
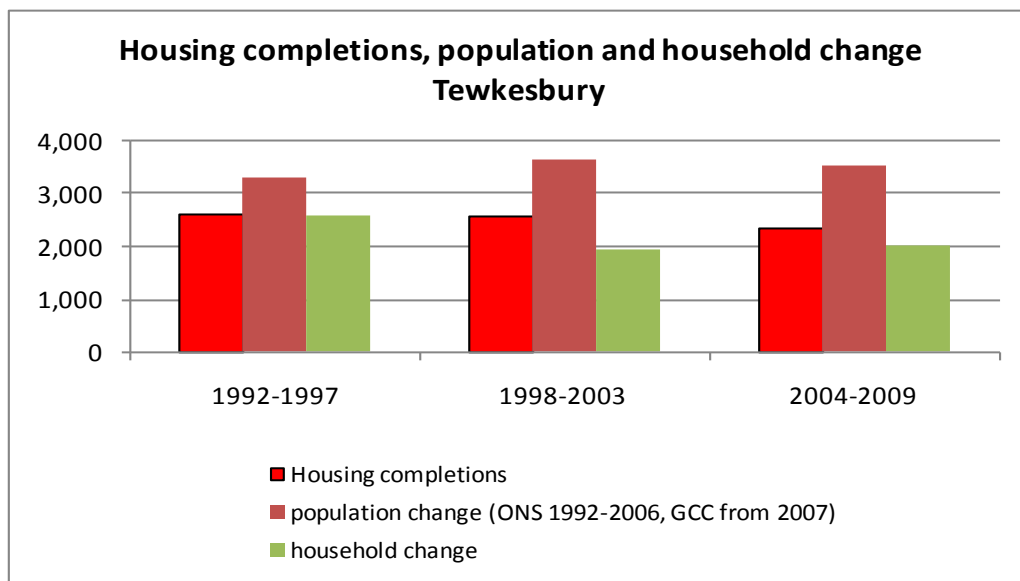


Figure 2.6.2

| | 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 |
| 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

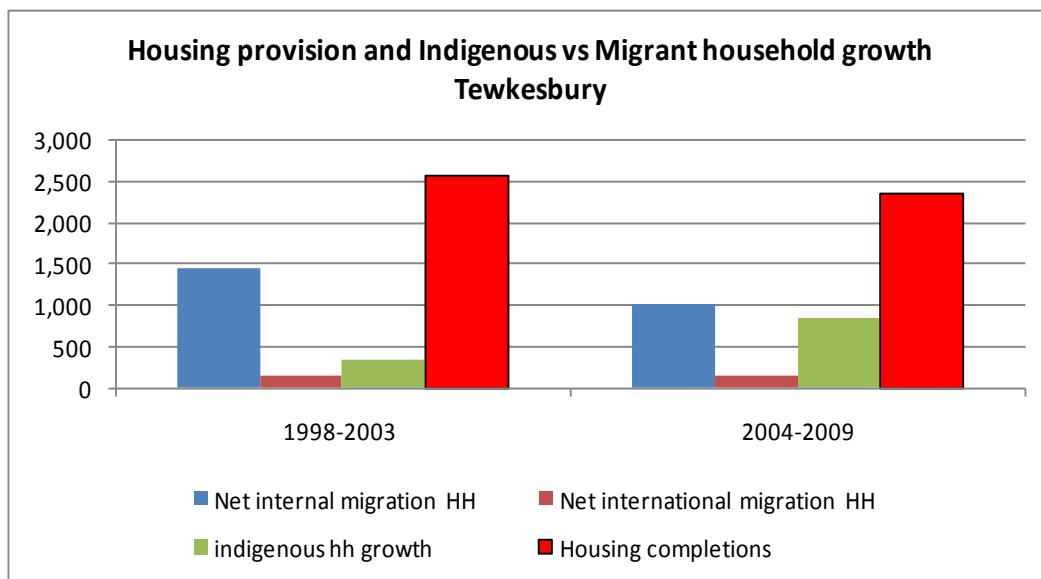
One issue to consider in assessing the impact of housing is the extent to which housing provision has been meeting the growth needs of the local population and the extent to which it has attracted inward migration.

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

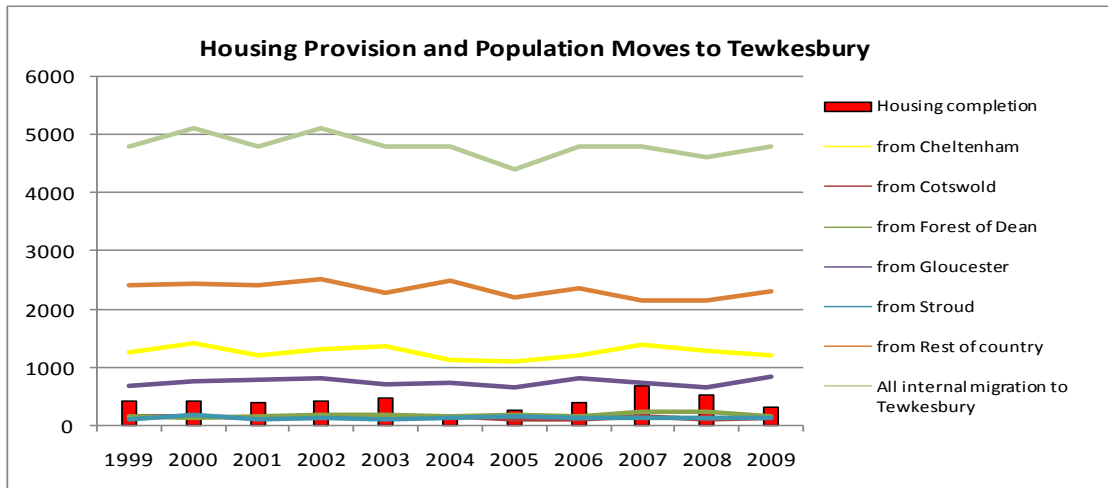


Figure 2.6.6

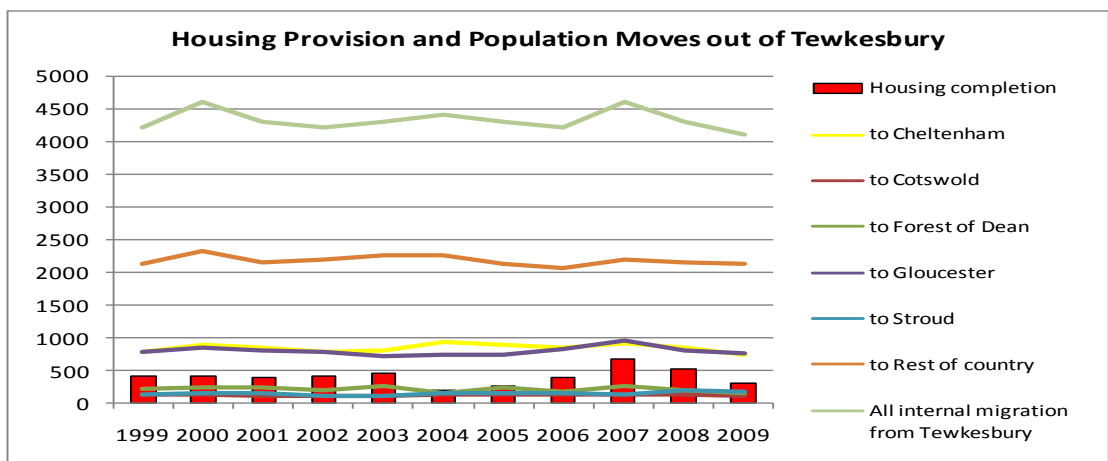
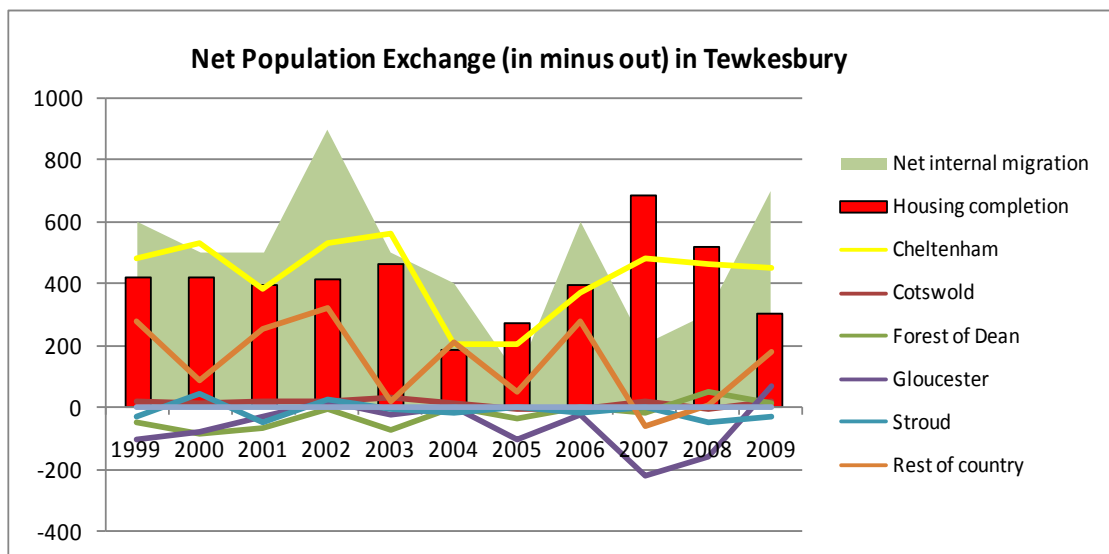


Figure 2.6.7



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

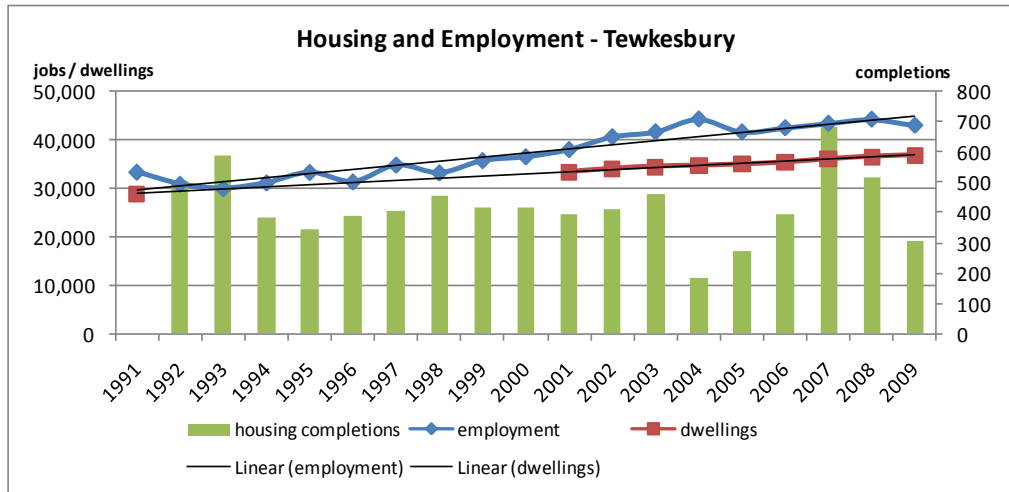


Figure 2.6.12

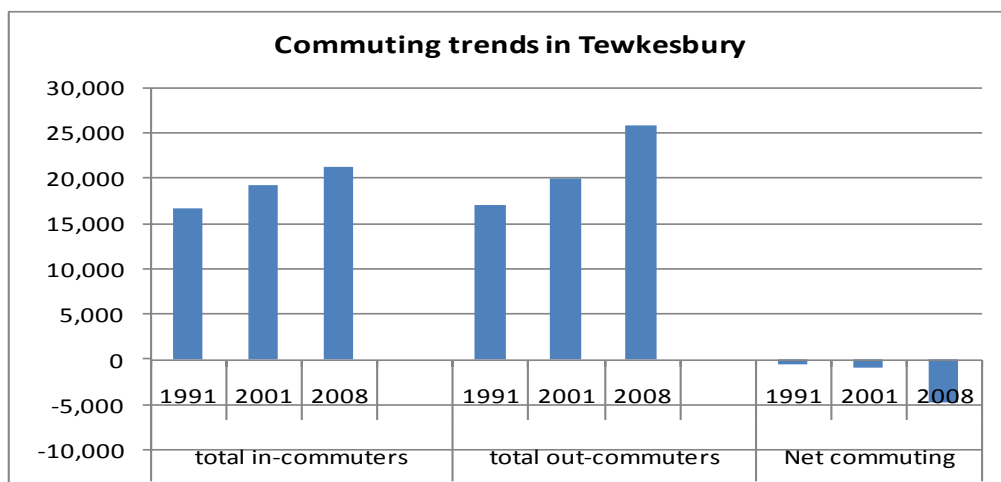


Figure 2.6.13

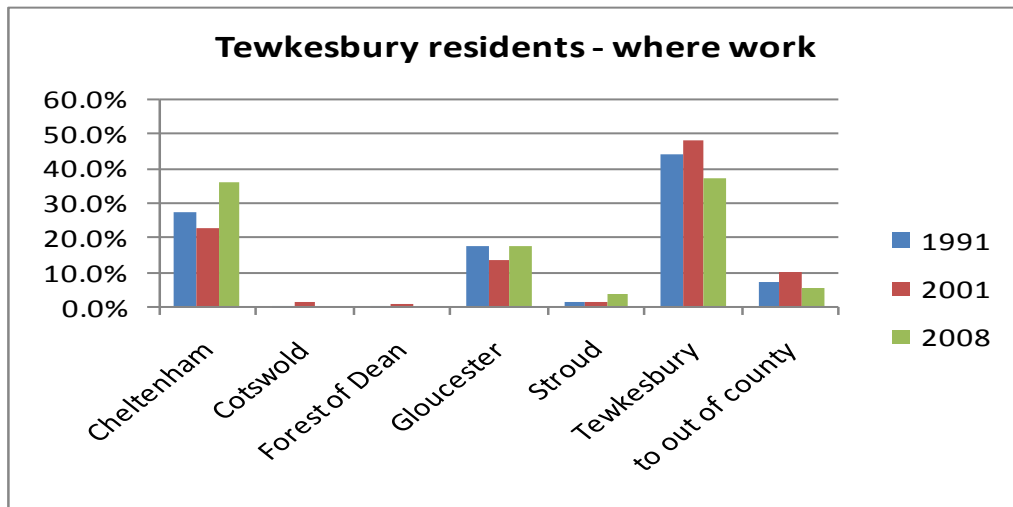


Figure 2.6.14



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 tool³. 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 2010⁴.

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.

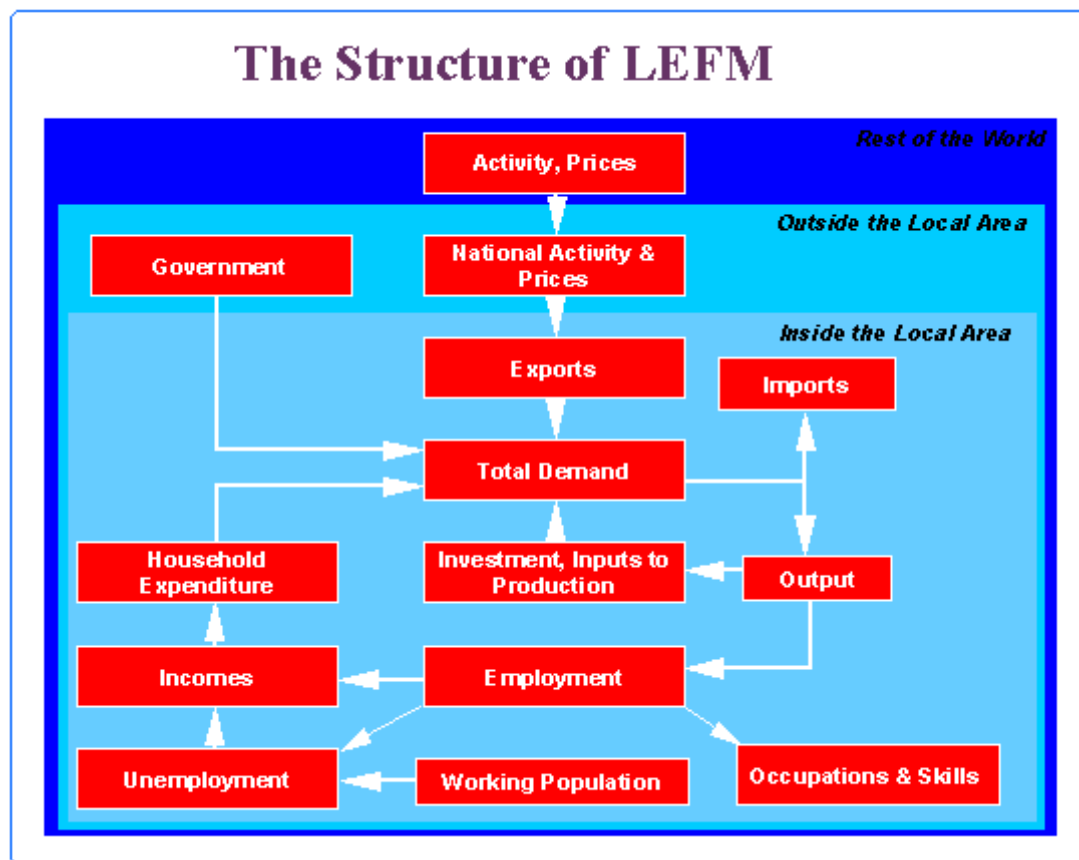
³ <http://www.ccsr.ac.uk/popgroup/index.html>

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>

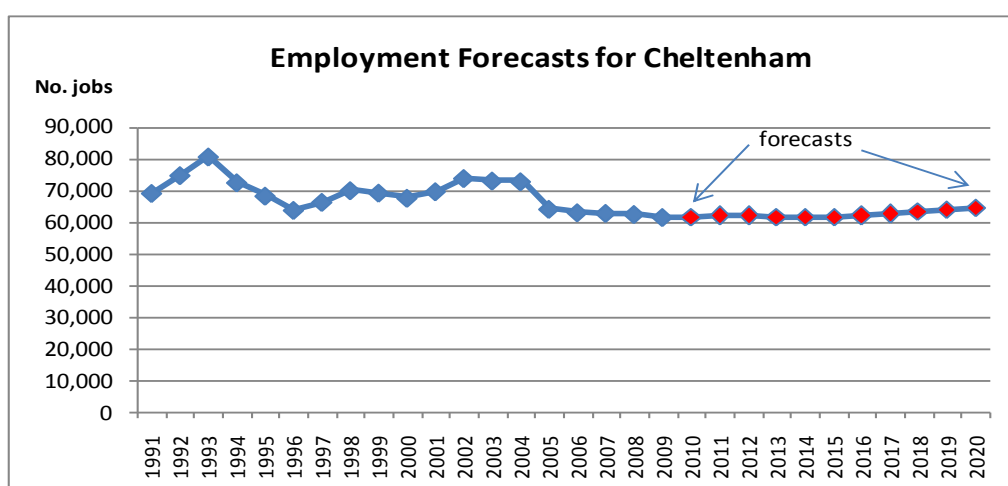
The following Sections set out the projection results from trend-based and employment-based scenarios on population and household numbers for each district. It is worth noting that projections based on employment growth (employment-based) provide figures for the population that will result if the forecast 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

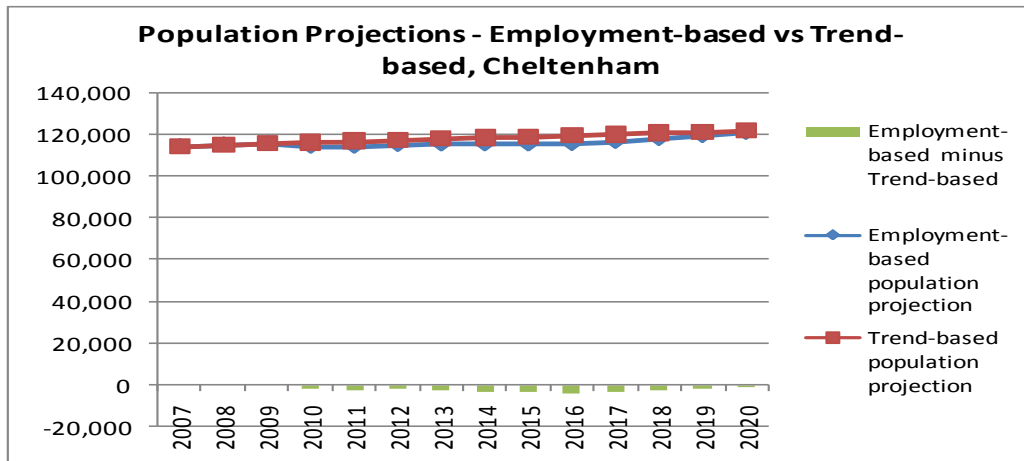


Figure 3.3.3

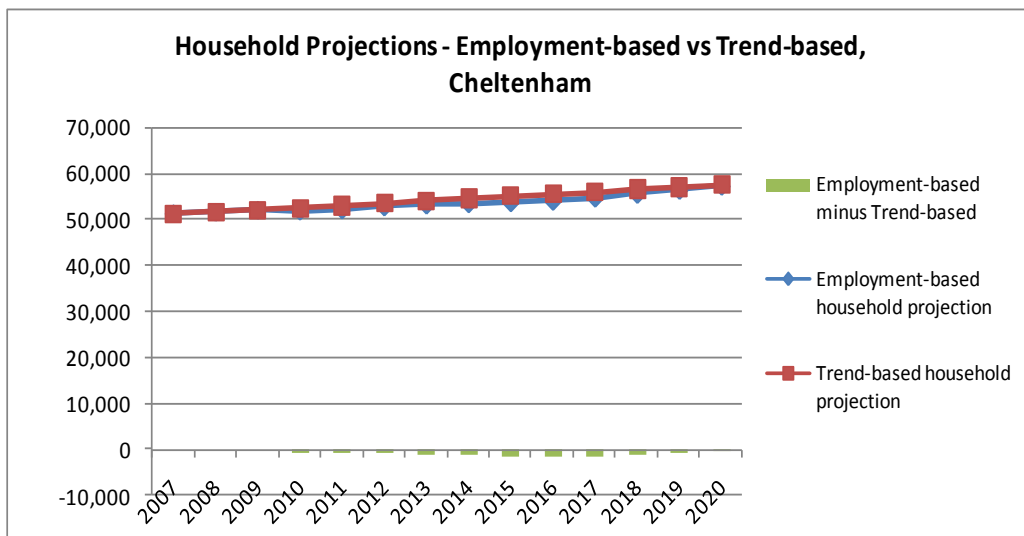


Figure 3.3.4

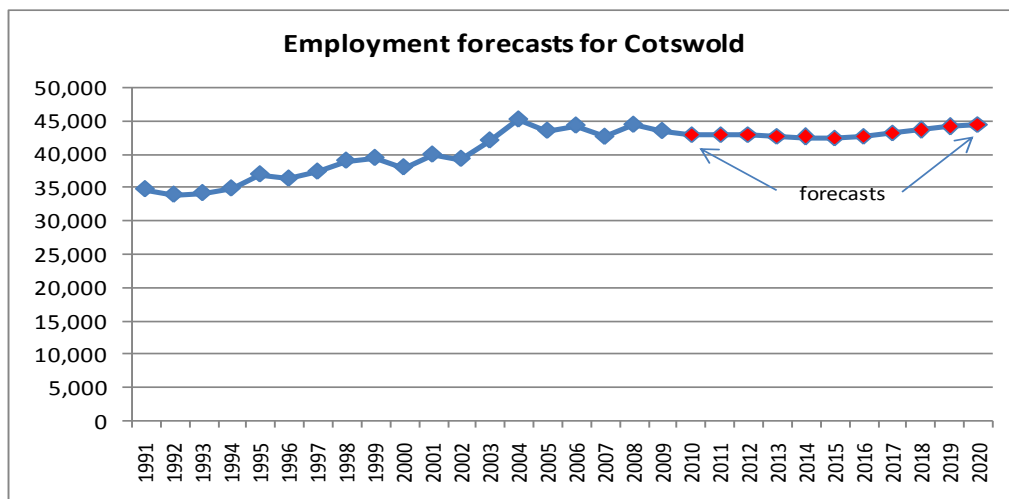
| | Population and Household Projections (Employment-based vs Trend-based) Cheltenham | | | | | | | | | | | |
|-----------------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 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 |
| <u>Projected households</u> | | | | | | | | | | | | |
| 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

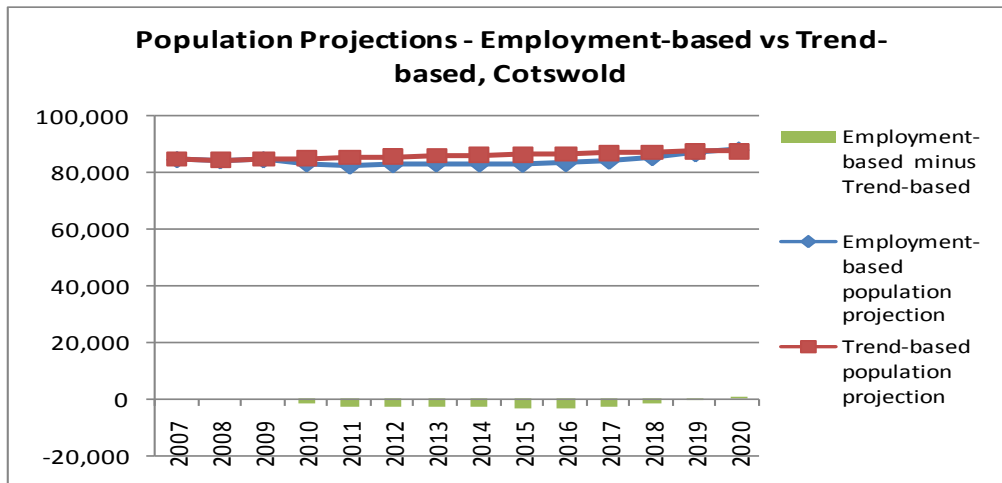


Figure 3.4.3

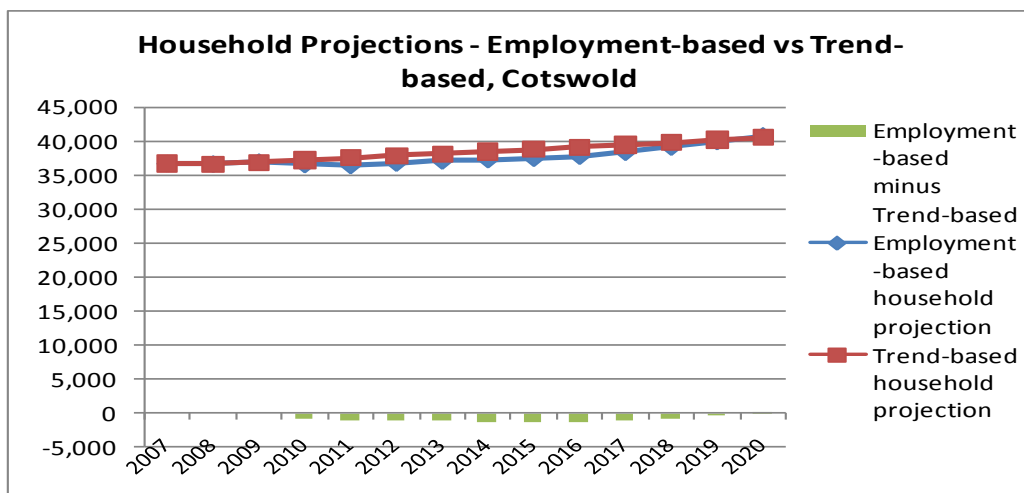


Figure 3.4.4

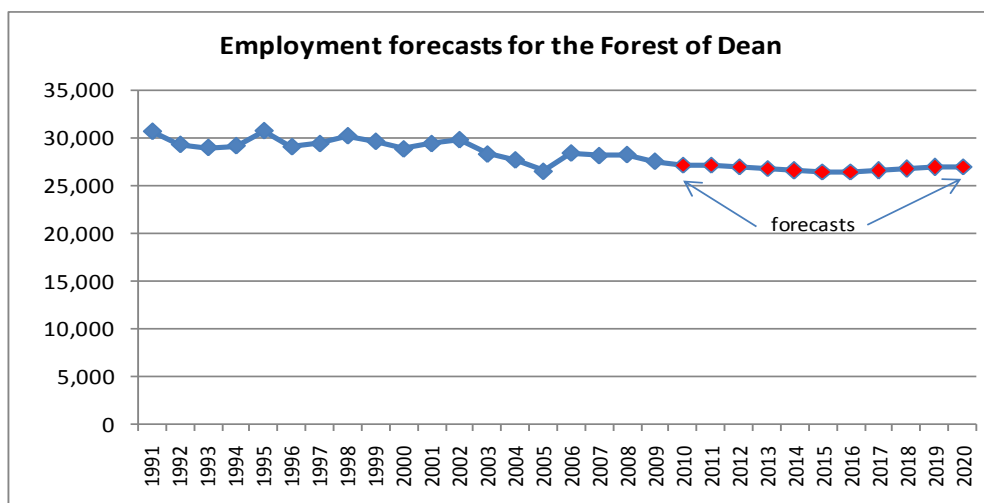
| | Population and Household Projections (Employment-based vs Trend-based) Cotswold | | | | | | | | | | | |
|-----------------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 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

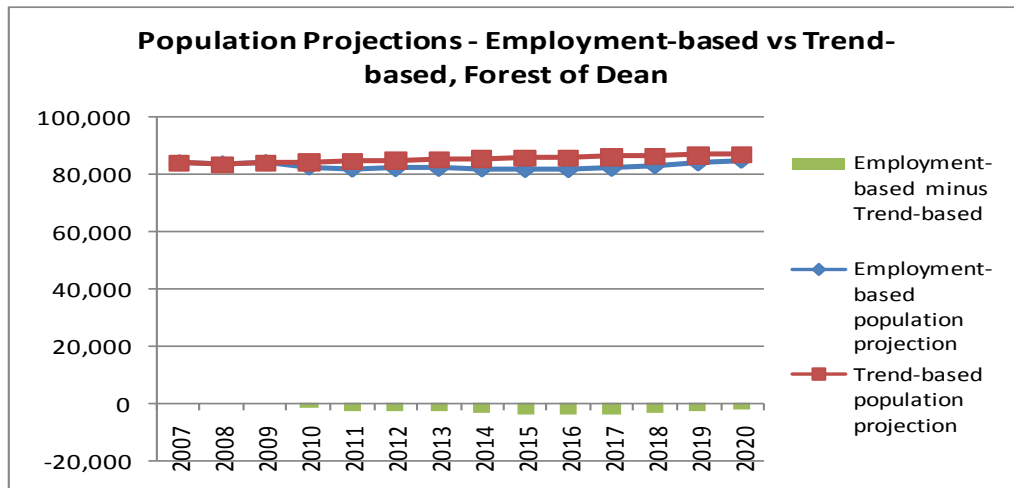


Figure 3.5.3

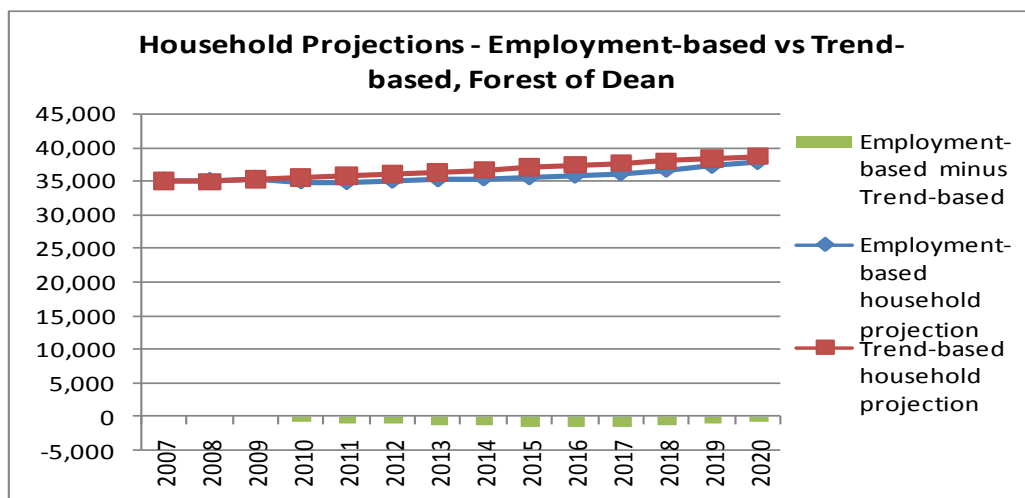


Figure 3.5.4

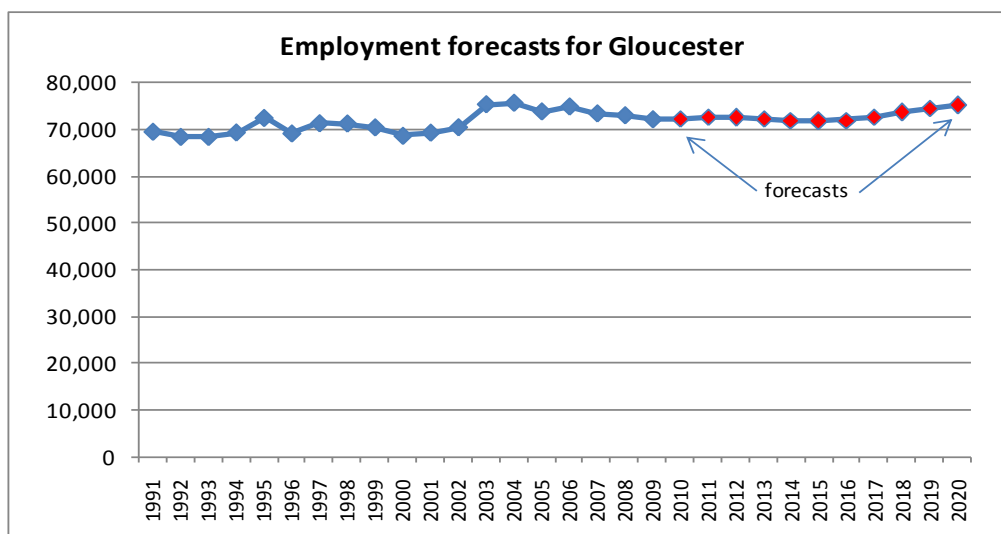
| | Population and Household Projections (Employment-based vs Trend-based) Forest of Dean | | | | | | | | | | | |
|-----------------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 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

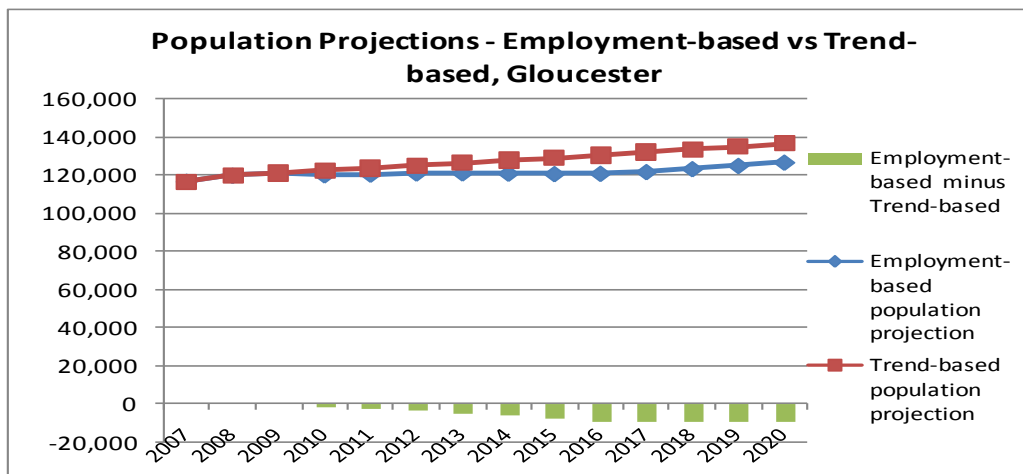


Figure 3.6.3

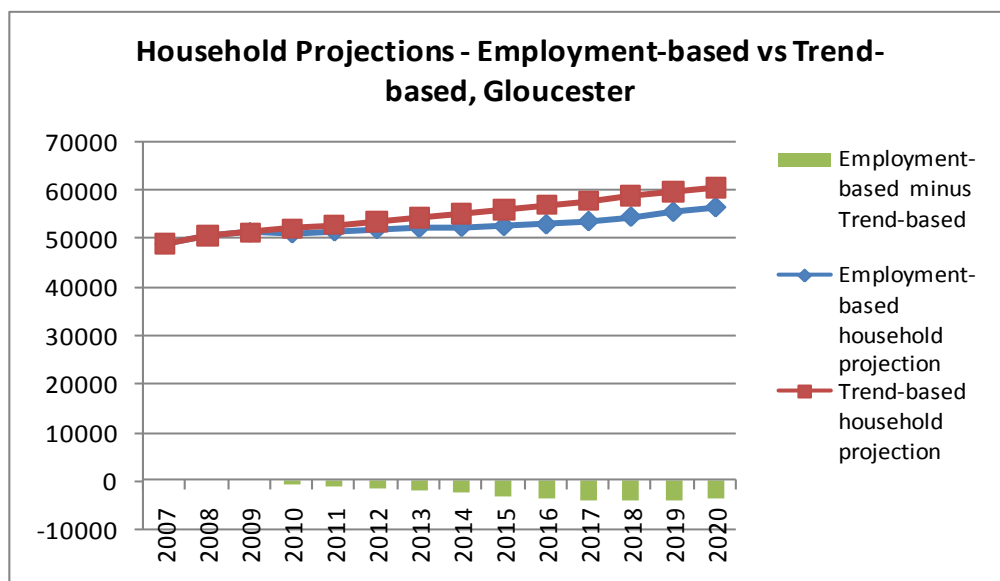


Figure 3.6.4

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

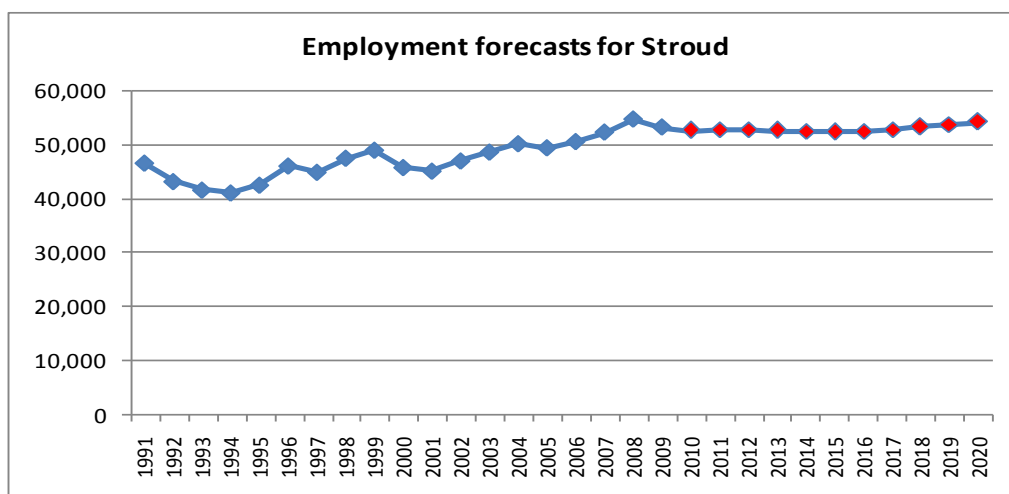
| | | | | | | | | | | | | |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Employment -based | 121,100 | 119,900 | 120,300 | 120,900 | 121,000 | 120,800 | 120,600 | 120,700 | 121,700 | 123,200 | 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

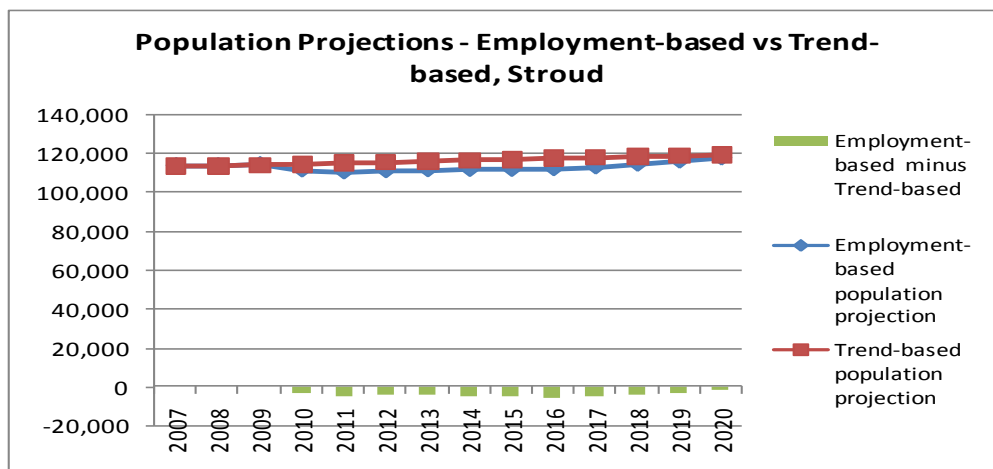


Figure 3.7.3

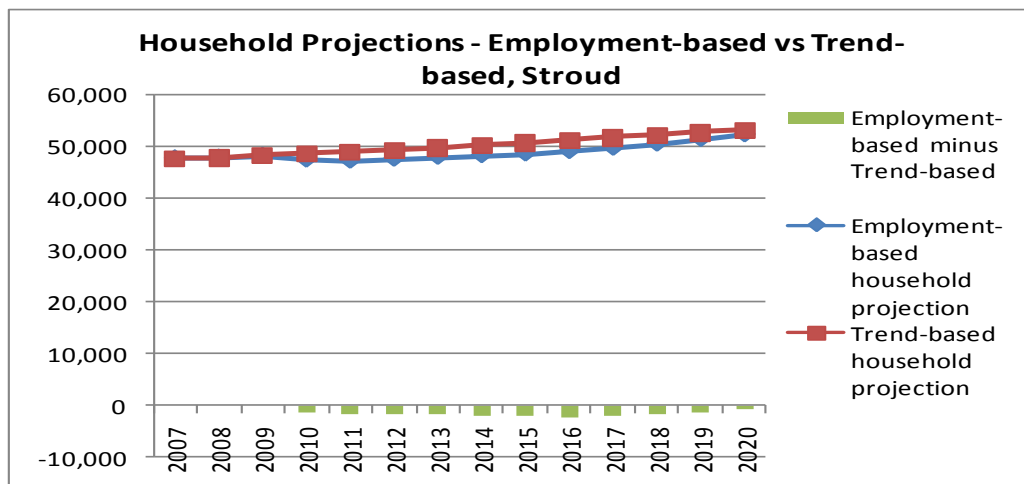


Figure 3.7.4

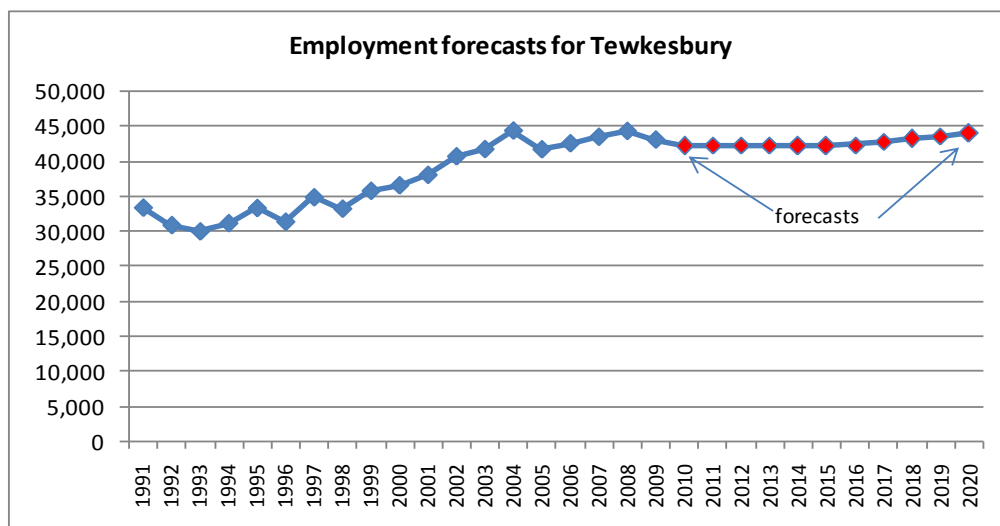
| Population and Household Projections (Employment-based vs Trend-based) Stroud | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Projected | | |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

| | | | | | | | | | | | | |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 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

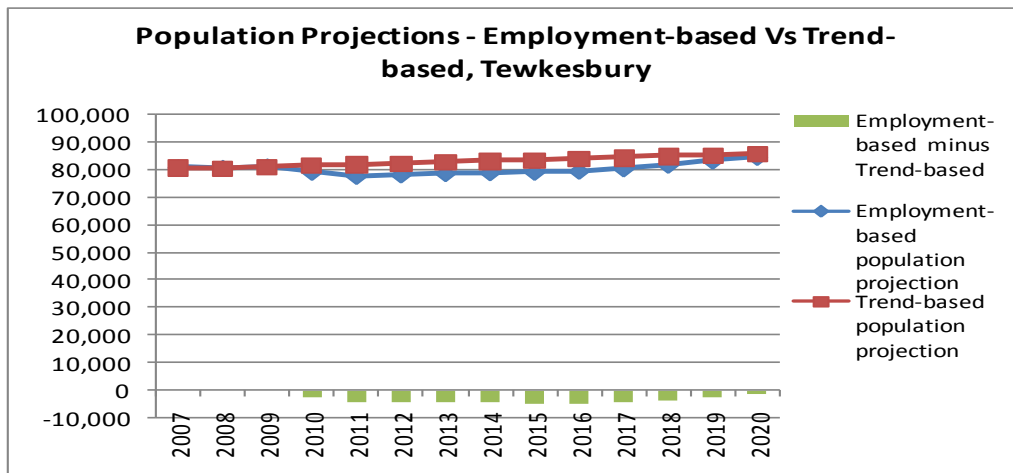


Figure 3.8.3

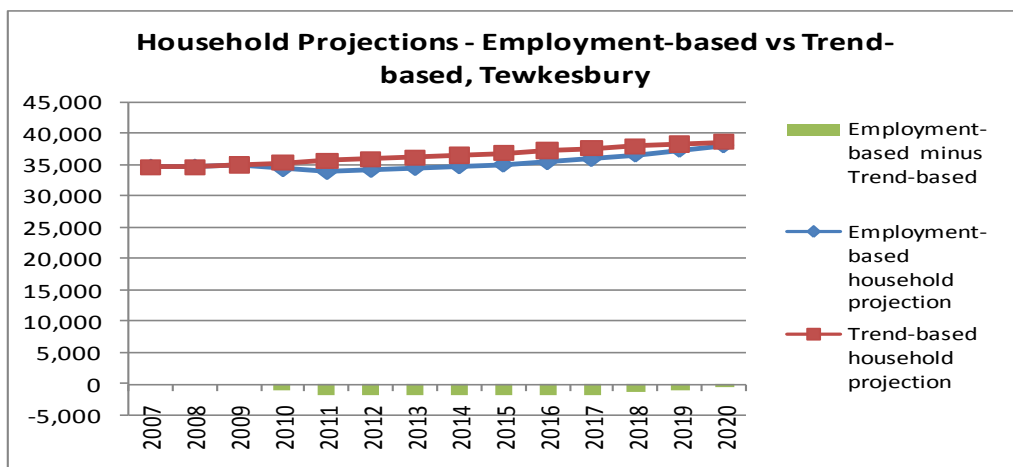


Figure 3.8.4

| | 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

| | <u>1992</u> | <u>1993</u> | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> |
|-----------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|-------------|-------------|-------------|
| 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 |
| | <u>2003-Mar2004</u> | <u>2004/05</u> | <u>2005/06</u> | <u>2006/07</u> | <u>2007/08</u> | <u>2008/09</u> | <u>2009/10</u> | | | | |
| 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)

| | <u>1991</u> | <u>1992</u> | <u>1993</u> | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | | | |
| 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)

| | <u>1991</u> | <u>1992</u> | <u>1993</u> | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |

| | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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)

| <u>Cheltenham</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| <u>Cotswold</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Forest of Dean</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Gloucester</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Stroud</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Tewkesbury</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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)

| | <u>1999</u> | <u>from</u> | | | | |
|----------------|-------------|-------------|----------------|------------|--------|------------|
| <u>to</u> | 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 | - |
| | <u>2000</u> | <u>from</u> | | | | |
| <u>to</u> | 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 | - |
| | <u>2001</u> | <u>from</u> | | | | |
| <u>to</u> | 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 | - |
| | <u>2002</u> | <u>from</u> | | | | |
| <u>to</u> | 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)

| <u>to</u> | <u>2003</u> | <u>from</u> | | | | | |
|----------------|-------------|-------------|----------|----------------|------------|--------|------------|
| | | 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 | - |
| <u>to</u> | <u>2004</u> | <u>from</u> | | | | | |
| | | 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 | - |
| <u>to</u> | <u>2005</u> | <u>from</u> | | | | | |
| | | 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 | - |
| <u>to</u> | <u>2006</u> | <u>from</u> | | | | | |
| | | 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)

| <u>to</u> | <u>2007</u> | <u>from</u> | | | | | |
|----------------|-------------|-------------|----------|----------------|------------|--------|------------|
| | | 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 | - |
| <u>to</u> | <u>2008</u> | <u>from</u> | | | | | |
| | | 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 | - |
| <u>to</u> | <u>2009</u> | <u>from</u> | | | | | |
| | | 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)

| <u>Origin 2006</u> | <u>Destination 2010</u> | '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 anonymised 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)

| <u>Origin 2006</u> | <u>Destination 2010</u> | '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 anonymised 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)

| <u>Cheltenham</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| <u>Cotswold</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Forest of Dean</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Gloucester</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Stroud</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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 |
| <u>Tewkesbury</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> |
| 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)

| <u>1991</u> | 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 | |

| <u>2001</u> | 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

| | <u>Workplace</u> | Cheltenham | Cotswold | Forest of Dean | Gloucester | Stroud | Tewkesbury |
|--------------------------|------------------|------------|----------|----------------|------------|--------|------------|
| <u>Residence</u> | 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

| | <u>Residence</u> | Cheltenham | Cotswold | Forest of Dean | Gloucester | Stroud | Tewkesbury |
|--------------------------|------------------|------------|----------|----------------|------------|--------|------------|
| <u>Workplace</u> | | | | | | | |
| 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)

| | <u>1991</u> | <u>1992</u> | <u>1993</u> | <u>1994</u> | <u>1995</u> | <u>1996</u> | <u>1997</u> | <u>1998</u> | <u>1999</u> | <u>2000</u> | <u>2001</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | | | |
| 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)

| | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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

| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> | <u>2025</u> | <u>2026</u> | <u>2027</u> | <u>2028</u> | <u>2029</u> | <u>2030</u> | <u>2031</u> | |
| 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

| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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

| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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 |
| | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> | <u>2025</u> | <u>2026</u> | <u>2027</u> | <u>2028</u> | <u>2029</u> | <u>2030</u> | <u>2031</u> | |
| 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

| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 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