Report to LEGLAG

Report on projected future housing requirement

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Executive Summary

What did we do?

S1 This report considers the population and household projections for the three council area (Cheltenham, Gloucester and Tewkesbury) that is considered in the Joint Core Strategy currently under public consultation. This involves considering three reports, of the evidence base by the County (May 2011): by Heriot Watt on economic forecasting of new housing requirements: GAM (October 2011) and the Joint Core Strategy (November 2011).

S2 The main focus is upon the population and household forecasts, as the GAM model proved to be so flawed that serious consideration could not be given to its figures.

Population and household projections

S3 The ONS has produced 2006 and 2008 based population and household forecasts. In other areas I have found these to vary as between the two dates by quite large amounts. In Gloucestershire, however, there is negligible variation when looking at 20 year horizons.

S4 The trend based forecasts are subject to the socio-economic environment in which they are founded. Since the economic outlook for Britain has worsened greatly since 2008, it is likely that the current population and household projections are too high now. We are looking at perhaps half or more than half a decade of either reduced growth or recession. That could be upwards of half the 20 year plan period. This clearly implies that lower figures should be used than were appropriate in 2008, whether rebased to 2011 or not: they are still creatures of their socio-economic day.

S5 It is also the case that the pre-existing RSS was subject to upward inflation by Government keen on more housebuilding. It was not clear that this was justified by the demographic situation of the time, but the same aim has been espoused by the Coalition, which sees new housebuilding as one of the few areas which might generate future economic growth ahead of the next election. Although the localism principle has replaced ‘top down’ as the motor for setting building targets, there is still quite a bit of central government pressure.

S6 None of the reports produced by the councils and reviewed here contains any critical examination of the key factor in examining future population and household growth, and the implied new housebuilding involved. That is the degree to which net in-migration should be encouraged. The reports all treat it as an act of God, concerning which there is no scope for debate. In truth, the level of in-migration should be one of the main foci of debate on the JCS Strategies. In many ways it is the key policy issue. Nobody would seriously argue against building for the natural increase of population. But those who in-migrate to Gloucestershire will, typically be owner occupiers already and have the equity to buy the newbuild housing that might be produced on the new estates.

S7 There is no particular moral issue about whether to let in this type of in-migration. It will not consist of ethnic minorities or in-migrants to Britain. It will be mainly younger families who find the 'offer' on the new estates more attractive, say, than living in Swindon or Bristol.

S8 The issue is one of self interest: does the extra economic growth involved justify the damage to the local environment caused by large scale (as compared to infill type) urbanization. Moreover is there another way of achieving economic growth in the area without building large new housing estates? It is relatively easy to permit large new urban extensions, which will in effect just be large housing estates. The prospects of major new employment is not very good nationally or regionally. Every local authority says that it wants jobs and homes. But what they get is just the homes. If these housing estates are ever built they are likely to serve as commuter suburbs for employment located at the major centres such as Bristol.

S9 The data produced by the ONS projections suggests that about half (57%) of the growth 2011-2031 will be from net in-migration and 43% from natural increase. There is therefore a wide range for debate concerning the level of future new housebuilding that is desirable in the JCS area. The minimum is the 16,000 odd of Scenario A, which is building existing commitments and on brownfield land.

S10 This corresponds fairly closely (16-17,000 new dwellings) to Scenario B (growth) if one excludes all net in-migration. If all in-migration and the highest growth is allowed then the total is about 40,000 new houses. The range for debate is clearly large. But the existing reports do not identify the key issues: what level of net in-migration mainly of existing owner occupiers should be allowed? Moreover what allowance should be made for the lower growth strategy which will be enforced by the likely economic stagnation at national level over the next half decade?

The GAM model

S11 In principle this model approach ought to be welcomed. It offers an economic approach as compared with the trend based projection of the ONS as developed by the Council using Popgroup and Cambridge Econometrics.

S12 In practice the model is severely flawed. The main problem of the GAM is that it appears to be entirely based on secondary data. That is to say mainly national or regional data sources that are then applied locally by way of sets of assumptions. The main flaw that derives from this approach is that it cannot model housing affordability with any realism. It uses house price and earnings, but ignores savings, debt and equity which fundamentally govern what actually is affordable.

S13 It is a bit surprising to find the GAM analysis using such limited affordability data, since the 2010 Fordham Research HNA was developed because the previous secondary data only SHMA had been flawed in the same kind of way that GAM is (it was carried out by Fordham Research 2006-2008), It is unfortunate that the same mistake has been made twice.

S14 There are some technical errors in the GAM figures, but these are minor compared with the omission of a robust affordability mechanism. Until this is repaired, and there is a recent 11,000 strong primary dataset available to the Heriot Watt team from the HNA, its results cannot be treated as robust or reliable.

S15 To be of relevance to the present consultation the GAM approach would have to be radically altered, using primary as well as secondary data. For consultation purposes the GAM results should be ignored.

Do the JCS assumptions stand up to examination?

S16 This question was posed at the start of the report, and the answer is: No, and for the following reasons:

(i) The JCS assumes major new housebuilding which the market is unlikely to support

(ii) The JCS does not focus on the choice of levels of in-migration, the key to sensible decisions on new housing numbers

(iii) It proposes the GAM as a means of testing the alternative strategies. The GAM is unable to do this, as it does not model the real housing market. It is not fit for purpose

Conclusion

S17 I therefore conclude that the main focus of discussion should be the trend based forecasts. The key issue appears to me to lie in debate over levels of in-migration. This essentially amounts to considering how many households who are already owner occupiers (or less frequently younger households with savings) should be encouraged to relocate to Gloucestershire.

S18 A main purpose of the 2010 HNA was to assess how much of the new housing should be affordable with the aim of removing all housing need by the end of the plan period. This was an ambitious aim, and one that is not likely to be achieved in much of England. In most of the south of England the level of new affordable housebuilding hardly exceeds losses due to conversion of affordable stock to market housing. So the aim of removing all housing need by building mainly market housing does not seem likely to achieve its purpose.

S19 The range for debate created by answering the question: what level of net inmigration should be encouraged is wide: between about 16,000 and 40,000 new homes over the 20 year period. Given the present and prospective future recession it is unlikely that anything much above 25,000 could realistically be expected. At the recent (January 2012) Davos Economic Forum Professor Joseph Stiglitz said that he considered the prospect of any recovery by 2017 as being ‘very optimistic’.

S20 I would suggest that the practical range for debate is about 16,000 to 25,000 new homes to 2031. If the main objective of extra housing, above natural increase (ie about 17,000) is to achieve a better standard of living for existing residents, there may well be better ways of achieving this than large scale new housing estates.

1. Purpose of this report

Introduction

1.1 This report was carried out for LEGLAG in order to provide some context and critical analysis of the figures upon which the Joint Core Strategy (JCS) is based. In a sense it is always possible to criticise future planning figures: one thing that is always true is that they will be wrong.

1.2 But more sensibly the test for the JCS work is: from the technical point of view has JCS taken the most defensible positions on the key assumptions?

1.3 This report is not concerned with the issue of where development should be, but with the forecast levels and types of housing involved.

Material to be examined

1.4 There is at present a consultation upon the main proposals made by the JCS. The following are the key documents:

(i) Housing trend analysis and population and household projections Final Report May 2011 by the Research Team, Chief Executive's Support Unit, Gloucestershire County Council

(ii) Gloucestershire Housing Affordability Model: Baseline Results report by Heriot Watt University for Gloucestershire CC and its six districts, October 2011

(iii) Joint Core Strategy: Housing Background Paper – November 2011. No stated author but presumably as for (i) above

1.5 This material is considered in the context of other background material including the Strategic Housing Market Assessment for Gloucestershire (2009) carried out by my former firm Fordham Research.

Context for this examination: Future housing numbers

1.6 The imminent abolition of Regional Spatial Strategies has removed the old 'top down' assumption whereby the ministry could, via its regional subsidiaries, effectively dictate the targets for new housebuilding that were used in Local Plans and more recently Local Development Frameworks. It is a radical change. However the announcement that 'localism rules' was subject to caveats about co-ordination between local groups of councils so that each did not map out future paths that would conflict when looked at from the strategic perspective.

1.7 The area to be considered here is pre-eminently one where some co-ordination is required, notwithstanding local and localistic views. There is therefore much to praise in the overall strategic stance of the three authorities involved in the JCS. Indeed in the SHMA we made various analyses (including Stroud in that case) which involved joint consideration of the overall housing requirements for groups of districts.

1.8 The background strategic issue which makes sense of the JCS approach is that both Gloucester and Cheltenham are relatively constrained urban council areas whose future growth has to be met from rural parts of the surrounding districts of Stroud and, mainly, Tewkesbury. Tewkesbury has historically been relatively welcoming of urban development: in the late 1980's I was involved in negotiations over the expansion of Tewkesbury town southwards (some parts of which have subsequently been involved in the issue of flooding plus an expansion of a village which was technically in Tewkesbury but is essentially a suburb of Gloucester.

Technical basis for this examination

1.9 I will examine the basis for the household forecasts which underlie the plans for new housing. Due to the size patterns through which households go in their life cycle as well as the process of in and out migration and loss of households through death, the net need for new housing is not a direct function of household growth, but must be analysed in the context of the factors just mentioned. I shall not do this in the present note, as its main purpose is to look at the population and household projections together with the economic analysis provided in GAM, which is used to generate the scenarios used by the JCS.

1.10 Secondly I will look at the Heriot-Watt affordability study, which is designed to show how many dwellings of each type will be required in the strategies involved. An exercise of this type was conducted in the SHMA, though market conditions have evolved a bit since 2009/10.

2. The reliability of household forecasts for planning future housing

Introduction

2.1 This discussion focuses upon the reliability of household projections as the basis for future housing planning. It must be admitted at once that there is not much choice: there needs to be future planning of infrastructure if urban areas are to expand, and there is bound to be conflict over where that is. In a developed country such as Britain there is almost always a Nimby round the corner.

Amount vs location of development

2.2 When major new urban developments are considered, the location is usually more contentious than the overall amount. That is for obvious reasons of local interest and positive and negative financial and environmental impact. These issues will eventually come before a Planning Inspector, who will be faced with a myriad of arguments for and against each possible location.

2.3 But I shall focus on the stage before that; the issue of how much development is needed. The issue addressed here is.

The overall amount of new development required

2.4 In looking at this question I shall be following the principle mentioned at the start of this report: to examine the assumptions involved. In this case the amounts of development are essentially dependent on the overall projections of households and population. These are modified in various ways to allow for the way they fit with the existing and projected housing stock. But the fundamental influence is the projected households and population.

Why the general forecast of household growth are likely to be overestimates: history of top down target setting

2.5 This was touched on in the previous chapter. The point I should like to emphasise, having worked with a wide range of Regional Strategy targets, is that they always crept or even in some cases leapt, upward during the present century. This was not really so much a response to demographic projection as a desire by government, both Labour and now Coalition, to see more houses built.

2.6 This in turn partly reflects an excellent sales campaign on behalf of the housebuilders by the Home Builders Federation. By showing that the numbers of dwellings built had fallen in the previous years, even before the beginning of the recession in 2007, the HBF created a climate where more housing seemed important. There was also a Government desire to 'harmonise' the rates of house price rise between Britain and Europe. Ours were rising faster. The original Barker Review committee of 2004 decided that it was virtually impossible to control house price rises in this country by extra building.

2.7 There was a figure something like an extra 140,000 dwellings per annum (about the same as the then current total newbuild) were required to reduce the rate of price increase by half a percent. This conclusion never seemed very sound. It was overtaken by the price reductions of 2007 and now of course by the uninviting nature of any combination of Britain with mainland Europe as the Euro writhes in its final throes.

2.8 When the then Government set up NHPAU (National Housing and Planning Advice Unit) it spent most of its dowry on rather impractical modelling (impractical because they never used 'real' data that had local relevance) and on producing ever higher forecasts for the need for new housebuilding. For example on the closure of NHPAU (2nd September 2010) Channel 4 carried headlines that this meant dropping plans to build 3 million new homes by 2020. This implied 240,000 new houses per annum, almost twice the 123,000 built during 2009.

2.9 Since many people are prevented by bank lending restrictions from buying now, the numbers of new dwellings built has declined yet further, allowing ever stronger claims about the shortage of newbuild housing. I have for some time been sceptical of these. It is not the role of this note to write an essay on why forecasts of new dwelling demand seem overstated, but I will sketch the sorts of argument which would be involved:

(i) Generally there are more dwellings than households in Britain at present. There is no technical shortage at the national level. The problem is that quite a few of the existing dwellings are in places with low demand ('The North') and not enough in areas of high demand ('The South').

(ii) But the demand for newbuild housing in the South is, in a well funded housing market, practically inexhaustible. People from the North want to move south and people within urban areas of the south would like to move into more rural areas of the south to live for example within the charming Green Belts put there partly by local residents to keep further incomers out.

(iii) Total growth of population is substantially driven by assumed net in-migration. The 2008 based ONS projections show, for the period 2012 to 2031:

Natural change (ie internal growth): 4.496 million

Net In-migration: 3.323 million

(iv) In this perspective about 43% of the national growth in population is due to in-migration from outside the country.

(v) That in-migration has in the past been a major motor of growth, providing employees in industries where the local population would not work. But the recession that is now taking hold in Europe and in this country will much reduce the likely scope for in-migration in future.

(vi) Even if freedom to in-migrate is allowed, there is likely to be a lowered level than is embodied in the latest household projections of 2008. Things have got a lot worse since then, and they are likely to get worse yet. It is quite possible that we are in for a decade of low growth.

(vii) This means that the plan period of 20 years for the JCS may in fact only require 10 years worth of growth, at whatever rate is permitted by the policies adopted.

2.10 For these kinds of reasons I do not believe that the rate of growth of the national household population or households will be anything like as high as forecast. A good deal of the household (as compared with population) increase is based on the rapidly increasing elderly population. This may well over the years adopt different forms, whether informal groups of older people living in single dwellings, or communities of older people. At present the projections carry on as though older people will mainly remain in their homes even as their partners die and they live alone.

Why the local forecasts of household growth in the JCS area are likely to be overestimates: current economic context

2.11 The most immediately obvious reason is the present state of the economy. The latest projections from ONS are of 2008 and the JCS and Heriot Watt forecasts are rooted in these also. But since then, and prospectively for upwards of the next decade the UK is going to be on a lower growth trajectory than was implicit in the population growth that had occurred to 2008.

2.12 This is a major and currently unmeasurable factor that has an impact on places like Gloucestershire. The growth of London and the South East is, if anything likely to be increased by global instability: rich people seeking safe havens both for business and residence. In addition the South East is normally the last place to fall in response to a recession and the first to recover.

2.13 But although Gloucestershire is well located in a non-South East UK sense, it is likely to be much more sensitive to a downturn than the South East. Growth in the county is likely to be much lower than that implied by 2008 based forecasts. What is more, the growth missing in for example the next 5-10 years due to this lower trajectory of growth is unlikely to be made up over the rest of a two decade plan period: the overall growth level is likely to be much lower than currently forecast.

The balance between internal population growth and net in-migration

2.14 Growth of population is normally made up of a combination of internal growth due to births exceeding deaths, and external growth due to a net inmigration. In many northern parts of Britain there is an almost permanent outflow of those born there, and the total population is kept stable or increases only on the basis of net in-migration. This is true of even quite flourishing northern cities like Manchester.

2.15 The issue that has become important in the post-RSS world of localism is whether net-inmigration should be encouraged or not? I will begin by looking at the facts regarding these two sources of new population. It should be noted that households can increase without any corresponding change in population, due to household fission. That can arise from adult children leaving to form separate households or by divorce or separation of couples.

2.16 The first thing to examine is the character of the household growth. The ONS do not break down their published household projections according to migration. But they do show details of in and out migration by broad source in their population projections. The latter have therefore been used to generate the tables below. Commentary upon them is provided below.

Table 2.1 2008 based ONS Projections

The figures are shown in rounded '000

	2011	2031	Percentage increase
Gloucestershire			
Population '000	597.2	677.8	113%
Cheltenham			
Population '000	113.6	130.7	115%
Gloucester			
Population '000	119.6	139.1	116%
Tewkesbury			
Population '000	81.4	95.2	117%

Source: ONS 2008 based population projections

2.17 All three districts and the overall county (of which they represent half the districts) show a similar trend. The rate of increase of population over the twenty years is slightly higher in the three districts than the county average.

2.18 The following table examines components of that growth: natural change and net in-migration. It is immediately apparent that there are considerable differences between the districts, despite the similar overall growth trajectory.

Table 2.2: Natural change vs net in-migration '000 population		
Area	2011-2031 natural change	2011-2031 net in-migration
Cheltenham	6.7	9.4
Gloucester	16.0	4.3
Tewkesbury	1.0	12.2
Three district total	23.7	25.9

Source: ONS 2008 based population projections

2.19 As can be seen the pattern of natural growth vs net in-migration varies widely. This is true even as between the two cities, where Gloucester has a dominant natural growth pattern, whereas the position is reversed for Cheltenham. Tewkesbury is the most extreme, as befits a largely rural district expecting considerable growth.

2.20 The overall pattern is that net in-migration is slightly greater than natural increase, but the two figures are of similar magnitude.

Table 2.3: 2008 based ONS Household Projections ('000) (with 2006 based figures in brackets)			
	2011	2031	Percentage increase
Gloucestershire	260 (263)	314 (323)	120%
Cheltenham	52 (53)	62 (63)	119%
Gloucester	52 (52)	63 (64)	121%
Tewkesbury	36 (36)	43 (45)	119%

Note: 2008 based figures interpolated within the 5 year bands shown; 2006 based figures taken directly as shown, since the 5 year periods for which data is presented produces specific figures for 2011 and 2031

Source: ONS 2008 based population projections

2.21 I inserted the 2006 based figures because in parts of the country they are radically different from the 2008 based ones. In Taunton, for example, the difference was 18,000 people over the 20 year plan period. I pursued this at some length with ONS and reached the person who was doing the work. He explained that they had changed their migration assumptions but that the overall effect on each district was largely the result of general assumptions, with relatively little local data. ONS could not explain why some districts show big differences and others none, except that university towns do show falls in 2008 because they had concluded that students were not hanging around their alma mater as they once used to do. In this case there is hardly any difference.

2.22 The overall impression is like the population projection: of the order of 120% increase. This is slightly greater than the proportionate population increase.

Inference from these results

2.23 I draw the following conclusions from this discussion:

(i) There are arguments that household projections have tended to be over- rather than underestimates. But in the end they are only guesses, albeit the best we have. The history of RSS target setting was always subject to its own inflation. Although the Coalition Government has the praiseworthy aim of localism, it is very hard for the mandarins and ministers to let go entirely. Grant Shapps has almost made a moral duty on behalf of councils and local communities to build more homes. The truth is that the Government can see few other ways of generating growth. But there is no absolute duty on any particular local authority to build anything.

(ii) Unfortunately the economic outlook has got a lot worse since the current 2008 based ONS projections were made. The figures may prove to be wrong when the 2011 Census comes out, as they are updated using things like GP registration, which have their own set of problems with reliability. But they certainly reflect a more optimistic economic outlook than is appropriate today. They are the foundation for all future housing numbers analysis. But they are likely to be considerable over-statements for economic reasons alone. The current outlook is for about half a decade of recession if the eurozone crisis goes well, and longer if it does not. This means that upwards of half the 20 year plan period is likely to see lower levels of development than implied by the 2008 projections. Although Gloucestershire is well located, if one ignores the really prosperous bit of Britain (London and the South East), it is relatively marginal in terms of growth prospects: all areas outside that core area are marginal in terms of major housing growth.

(iii) None of the sources involved in producing the database for the JCS contain any critical examination of the levels of migration. The Heriot Watt report discusses migration (page 21) but only in terms of the trends produced by the data or by the GAM model. There is no discussion of whether the projections of migration should be met, and if so to what extent. Yet these are the main policy related factors upon which localism operates. Few local politicians would want to argue that new houses should not be built for local growth in population (‘natural increase’). But when it comes to in-migration, mostly from within this country there is indeed a political question.

(iv) Study of the 2008 population and household projections shows that the County is projected to grow by 113% in population terms over the period 2011 to 2031 and by 120% in terms of household numbers. The three districts grow a bit faster in population terms but the same in household numbers terms. About half (57%) is made up of net in-migration and 43% by internal population growth (natural increase). This is the key policy variable, but it does not receive any discussion in the material examined. The advent of localism has meant that many councils, especially in high pressure areas like the South East have declined to build for what is largely internal (to Britain) net in-migration.

(v) At present it is likely that bodies such as the JCS group are desperate to get any development they can. This state of affairs may continue for several years yet. But there should be a more informed choice of target objective, against the day when development becomes easier. This topic is taken further in Chapter 4 below.

3. The Gloucester Housing Affordability Model

Introduction

3.1 The Heriot Watt University report with the above title was published in October 2011. It is referred to as GAM (Gloucestershire Affordability Model) in the discussion which follows. It is described as *'Introduction and Baseline results report'*. Unfortunately the report does not give a clear explanation of the mechanism which produced the figures.

3.2 This is poor academic practice. Even complicated model structures can be explained at several levels of technical complexity. No attempt is made to do that in this document. The sort of statement one finds is exemplified in the following statement:

'The GAM model applies a variety of statistical tools to assess how the interrelationships between the components referred to above may generate change in each component over time' (para 1.14)

3.3 The GAM report is said to be Excel based. The only references are to national level studies carried out for the likes of CLG. There is a family of such models associated with national level projection. This is not the place to review them. However there is a considerable leap down to local level analysis such as GAM and no attempt is made to explain how this is done. However it seems clear that GAM is 'top down' rather than 'bottom up' using mainly existing secondary data rather than local primary data.

3.4 There is a good deal about the geographical scope of GAM and its ability to produced results for subareas. The trouble is that the validity of these numbers is not underpinned by any detail on what it does. Nobody could fault the report for not producing figures that conform to best practice. The trouble is that they are inscrutable, and in similar studies that I have been able to check, normally wrong.

3.5 The GAM is argued (para 1.25) to produce more 'sophisticated' economic results than the traditional trend based analysis used by ONS and the County. That could in principle be true, but only provided that the economic assumptions themselves are sound.

Data sources

3.6 Although it is not clear where all the data used to produce the report was obtained, it seems to have been essentially secondary data based. This is best seen through the fact that 'affordability' is done using price/earnings ratios.

3.7 The report says all the right things about their approach, for example:

'To help inform local decision making on housing, a clear evidence base is required' (para 1.8)

3.8 Unfortunately this is exactly what GAM does not do. It produces very clear looking outputs, but the inputs and process are clouded in obscurity. The point about good social science practice is rather like science, with due allowance for the fact that it concerns human beings rather than molecules. The principle is still the same: that another set of analysts could replicate the work and come to roughly the same conclusions (the 'roughly' being a concession to the nature of social science as compared with science).

3.9 Nobody outside the team that produced it could replicate the GAM since very little is said about the method or data used. It might be rejoined that all this will be published in good time. But that will not do: the consultation over the Scenarios for growth ends on February 12th. The GAM is only useful evidence for that consultation to the extent that it can be shown to be reliable and robust. No such demonstration is attempted in the GAM report, and it is unlikely that any could be, for the sorts of reasons discussed below.

3.10 An exception should be made concerning data on the current trends in the housing market, such as completions (eg refs on page 13). These are no doubt correct, but they are peripheral to the overall purpose of forecasting the Gloucestershire economy for 20 years ahead.

3.11 GAM refers to the Housing Evidence Review and particularly the Final Report of May 2011, but this does not contain more than a fraction of the input data that should have been used to produce GAM. The nearest the GAM report offers to 'validation' is to say (eg para 1.29) that the results coincide with those using ONS forecasts. But this proves nothing much, except that the three sources quoted (ONS, the County's Popgroup projections) and Heriot Watt's are all rooted in the same basic dataset: the ONS population and household projections. It is not evidence of soundness.

Inflated estimates of household subdivision

3.12 Although it is not clear how the information in the model is used, it is evident that the final Housing Supply and Housing Affordability Assumption could have a dramatic affect on the amount and nature of dwellings forecast to be required. This assumption is that:

'*a consistent annual mark-up allowance to the local housing stock numbers equal to 15% of the total forecast number of annual private completions. This allowance aims to take account of anticipated gains in housing stock generated from change of use conversions and sub-divisions of existing housing units; plus allowance for under-recording of completions'* (GAM p14).

3.13 This implies that there are an additional 15% new dwellings per year in the study area on top of the base forecasts. One of the cited reasons for this additional 15% is to take into account sub-divisions of existing housing units. However, the latest information available from the Survey of English Housing (table S136) indicates that in the South West region the number of converted flats is actually falling rather than increasing. Between 2008/09 and 2009/10 the number of converted flats in the region fell from 120,000 to 115,000 a fall of 4.2%. This suggests that the 15% rate of increase is likely to be a significant overestimate.

3.14 Furthermore the pattern of completions recorded in CLG Live Table 253 (which is used to set up the base supply rate as described in the first Housing Supply and Housing Affordability Assumption stated on page 13 of GAM) shows that completion levels in the County are falling currently (from 2,480 in 2008/09 to 1,580 in 2010/11). Therefore the three year average used does not represent an accurate picture of the current market conditions and is also an overestimate.

3.15 Thus there is an unwarranted addition to the projection that is simply the result of poor research: not checking the base data. We have not pursued the further point, which could be supported using Survey of English Housing data that older people do not require as much dwelling stock as this study infers: people are using the stock more efficiently.

Error in price estimates

3.16 Paragraph 2.22 sets out the median price forecasts for each district and the County as a whole. This has an important implication for the model as it is used alongside forecast income change to identify the likely number of households that will be able to afford to purchase a home (which I assume impacts on projected market demand in the model: the model would make little sense if this was not so). As indicated in paragraph 2.24 the median prices are forecast to undergo a significant drop between 2008 and 2011, by as much as almost £38,000 in the Forest of Dean. However price information is now available for that period from the CLG (live table 582).

3.17 The CLG data indicates that between quarter 1 2008 and quarter 1 2011 median prices in Gloucestershire actually decreased by 4.4% as opposed to the 17.3% that the model forecast. Furthermore in the Forest of Dean (though outside the main focus of interest here) rather than witnessing a fall in median price of almost £38,000, the CLG data indicates that prices fell by less than £2,000.

3.18 Based on this wrong information GAM assumes an improved ability of households to buy (as a response to the wrongly predicted house price fall between 2008 and 2011. This allows incomes to catch up with house prices somewhat: affordability is expected to improve from 23% of households to 30%). Given the above error, this improvement is very unlikely to occur. The consequence of the prices in Gloucestershire being underestimated is that fewer households will be able to purchase a home and market demand is likely to be significantly overstated in the model.

The use of price/earnings ratios to estimate the affordability of housing

3.19 This source of measuring affordability has historically been forced upon the academic community through lack of primary data. Had efforts to include an income question in the 2001 and 2011 Census been successful, things might be a little better. But not much. Income is only part of the information required to produce a reliable estimate of what housing different households can afford.

3.20 The requirements of a reliable affordability measure are:

- Household income
- Net savings/debt
- Equity (the net value of the existing home in most cases)

3.21 Since about 70% of households in England own their own home, any affordability test that omits this factor is meaningless. Even if the scope of the study is restricted to non-owners, as may be the case for affordable housing, there is still the major flaw of omission of savings/debt. This information can only be obtained from primary data. Only local household survey will establish this.

3.22 It is ironical that in Gloucestershire there exists a first class primary dataset: the Fordham Research one produced as part of the 2010 Housing Needs Assessment. Some 11,125 responses provide enough data to permit very extensive affordability research.

3.23 Presumably because the Heriot Watt team do not have experience of handling primary data, and have carried out several similar secondary data based affordability exercises, it was decided not to use the primary data. Had the primary data been used, the crude and inefficient device of using price/earnings ratios would have been avoided. The difference between price/earnings and price/income ratios lies in data sources. There is local earnings data but no reliable local income data. The problem with earnings data is that it shows where workers work, not where they live. This introduces error, but relatively small error in relation to the other sources of error in GAM.

3.24 The key analysis of affordability uses earnings data and house price data. There is no clearly sourced use of rental data, which is much more important than house price at the margins of affordability. There is a table on rental affordability (Figure 13) but no data source or methodological information is provided. This is another common failing of the secondary data operators: there is no good secondary data series on local rent levels. Yet they are crucial to any informed analysis of what can be afforded.

3.25 There is also no stated use of savings/debt data, which is again central to estimating what people can afford. Despite this bald statements are made such as that:

'This likelihood of local households able to afford to buy a property in Gloucestershire is forecast to improve between 2008 and 2031 by as much as 14 percentage points (para 2.29)'

3.26 Given that the analysis appears to be based on price and earnings data the chance of this statement being correct are about the same as any random statement on the matter might be. The analysis does not include the key variables which determine what people may be able and wish to afford.

3.27 The GAM then comes onto housing need. Here there is published data from the 2009/10 HNA by Fordham Research. This used a clearly described methodology which indeed derives from my 1998 book *'Housing need and the need for housing* '(Ashgate), which was used in the then ODPM Guidance (2000) on how to do Housing Needs Surveys. The method is still largely intact in the current 2007 Guidance. We can therefore compare figures. The following table is from the Fordham Research HNA of 2010.

Table 5.4 Annual gross and net housing need by Local Authority

	Backlog need (Annual gross)	*Total need (Annual gross)*	*Total supply (Annual gross)*	*Total need (Annual net)*	*% of total need (net) in County*	*% of households in County*
Cheltenham	243	1,716	803	913	24.7%	20.1%
Cotswold	109	862	327	535	14.5%	14.5%
Forest of Dean	260	1,064	359	705	19.0%	13.6%
Gloucester	300	1,800	1,003	797	21.6%	19.5%
Stroud	205	1,014	621	393	10.6%	18.7%
Tewkesbury Borough	141	790	435	355	9.6%	13.6%
Gloucestershire	**1,258**	**7,246**	**3,550**	**3,698**	**100.0%**	**100.0%**

Note: Table number as in the 2010 HNA

3.28 We can compare this with Table 4 of the GAM which gives average (presumably annual) figures for housing need in various five year periods. The following table uses 2007 to 2011 annualised data, since that corresponds to the date of the HNA.

Table 3.1: Comparison of GAM and Fordham Research HNA estimates of housing need

Council	GAM Table 3	From Table 5.4 of HNA
Cheltenham	502	913
Gloucester City	403	797
Tewkesbury	215	355
Cotswold	283	535
Forest of Dean	189	705
Stroud	216	393

Sources: GAM and 2010 Fordham Research HNA

3.29 There is no obvious agreement between the two sets of figures. The GAM ones seem generally lower but there is no particular pattern to the difference. It is ironic that the 2009/10 HNA was carried out by Fordham Research as a consequence of the failure of a previous secondary data only based SHMA analysis also by Fordham Research. The local authorities in Gloucestershire, having had rather expensive proof of the fact that secondary data only will not produce reliable results, have now commissioned another!

A separate forecast of types of dwellings required

3.30 The 2010 HNA provides a modelled set of results for future housing requirements. The table below, taken from that study, provides outputs for the 20 year forecast period 2009-2029, and so fairly similar to the 2011-2031 period now being considered. It uses the household survey to analyse affordability and the patterns of change of housing tenure, but it is all keyed to the 2006 ONS projections which as shown above (Table 2.3) are pretty similar, at household level, to the 2008 ones in this particular case. The table is set out according to the then development plan areas so that both cities have hinterlands included and the Tewkesbury council area is just a remainder.

Table 6.1 Tenure of new housing by area, excluding sheltered housing (numbers)

	Market	*Intermediate*	*Social rented*	*Total*
Cheltenham Area	+8,919	+950	+2,771	+12,641
Gloucester Area	+13,990	+714	+4,664	+19,367
Tewkesbury Town & Winchcombe Area	+1,905	+82	+452	+2,439
Stroud Area	+2,627	+514	+1,209	+4,350
Cotswold	+4,059	+587	+1,259	+5,905
Forest of Dean	+3,133	+281	+1,681	+5,095
Gloucestershire	**+34,633**	**+3,128**	**+12,036**	**+49,797**
	69.5%	**6.3%**	**24.2%**	**100.0%**

Source: Fordham Research Gloucestershire household survey (2009 published in 2010); various secondary data sources.

Note: Table number as in the 2010 HNA

3.31 These figures should really have been considered by the GAM authors as an approach endorsed by the Gloucestershire stakeholders. These figures are keyed to the 2006 ONS projections and so would not apply directly to the JCS scenarios. However as noted above, there is little difference between 2006 and 2008 ONS projections in the case of Gloucestershire, so they are probably not far wrong.

3.32 It is also important to note, in view of the comments in Chapter 2 above, that the overall numbers are keyed to ONS data: the affordability model was concerned with the tenure breakdown and not the overall numbers.

Conclusions

3.33 The GAM does not stand up to even the most superficial examination. Use of secondary data for the key measure of earnings/income and omission of savings/debt/equity means that both the housing needs and affordability tests are essentially useless.

3.34 These were avoidable faults, since a recent primary dataset for Gloucestershire exists. This seems to have passed the authors of GAM by, as they do not attempt to relate their findings to those of the HNA. But they do not explain their method and sources in any detail, so that a detailed comparison between the HNA and GAM is not feasible.

3.35 If the GAM is to be used in the future for any worthwhile forecasting of possible outcomes derived from the JCS scenarios, it will need to be radically reviewed to address the problems just summarised.

4. Conclusions

Introduction

4.1 I have been asked by LEGLAG to examine the various projections underlying the JCS scenarios. In this final chapter I will draw together comments made in the preceding chapters and discuss the various Scenarios produced by the JCS. As with the rest of my comments, these are based only upon the limited range I have been asked to examine: projections of population and households and the GAM affordability work. I have in the previous chapter related some of this to work my former company Fordham Research carried out in Gloucestershire.

4.2 I should perhaps emphasis that as a sole practitioner I am not in any way 'in the market' to do work such as our former SHMA and HNA or indeed the work done by GAM. In that sense I am a more or less detached observer.

The four scenarios

4.3 The JCS sets out clearly what three of its 4 scenarios are for the three council area identified for policy purposes:

A: 16,200 [Based on existing brownfield sites plus commitments plus 2,400 new dwellings in rural areas]

B: 33,160 [based on employment growth using Cambridge Econometrics (para 2.4)]

C: 36,844 [B plus 10%]

D: 40,529 [C plus 10%]]

4.4 Scenario A is viewed as unacceptably limited by JCS and so not pursued in any detail.

How should the scenarios be viewed in the light of the present discussion?

4.5 As will be clear from Chapter 3, I do not regard GAM as a sound evidence base for varying or indeed assessing any of the above figures.

4.6 In Chapter 2 I considered the proportion of the ONS projected population that was net in-migration. The answer was that it was about half of the overall growth (57%).

4.7 It is not clear to me which of the Scenarios should be given greatest weight. What is clear is that if there were no allowance for migration they can all roughly be halved. There is no obvious criterion for where to cut off migration. Clearly the three main scenarios would reduce to around 17,000-20,000 if this principle is applied.

4.8 The question might then be how much extra net in-migration should be allowed as a balance between the various possible objectives. At one extreme, preservation of the environment if strongly enforced would limit development to the Scenario A level of just building out commitments and using brownfield land. As can be seen from the above calculation, this would probably equate to Scenario B with no allowance for net-inmigration.

4.9 But it could then be argued that in-migration assists economic growth and Gloucestershire could do with more of that. The way is then open for analysis of where the planned increase in new housing should lie between say 17,000 and 40,000. That is where many wider issues come in and I cease to have enough original material to comment further.