

# The Parish Council of Leckhampton with Warden Hill

*Cheltenham, Gloucestershire*

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Clerk: Mrs A.J.Winstone, 7 Aldershaw Close, Up Hatherley, Cheltenham, GL51 3TP  
tel. 01242 518008 email – leckwardenhillpc@btinternet.com

Joint Core Strategy  
Municipal Offices  
Promenade  
Cheltenham, GL50 9SA.

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## **Joint Core Strategy Consultation Comments by Leckhampton with Warden Hill Parish Council**

The parish councils of Leckhampton with Warden Hill (LWWH) and Shurdington have already submitted in August 2013 a neighbourhood planning Concept Plan and Local Green Space application covering the fields in Leckhampton which the draft JCS is proposing for a strategic development site. Both councils strongly believe that the Leckhampton fields should be protected as a local green space of special community value because of their high amenity, health and recreation, footpaths and walking, landscape, ecological and historical value and because of their proximity to the AONB and importance to the views from Leckhampton Hill. The development proposed would destroy much of this and is counter to many policies set out in the JCS Consultation Draft. The Councils accept that there was insufficient time for the JCS to take the Concept Plan and LGS application into account in proposing the strategic development sites, but it needs to be taken fully into account now.

The Concept Plan also contains detailed traffic surveys and modelling which show that the proposed development on the Leckhampton fields would cause severe traffic congestion on the A46 and on Church Road and other roads in Leckhampton. The very long A46 traffic queue would make it much harder to commute into Cheltenham and a recent government report warns that this could make Cheltenham less economically competitive and could drive away high gross value added employment. The congestion would also cause serious pollution. The A46 traffic queue at the junction with Moorend Park Road already causes traffic pollution that exceeds the EU permitted limits probably over the whole year, according to CBC measurements. Since 2012, the EU Commission has been threatening to prosecute UK towns and cities that fail to control traffic pollution and the Borough and County councils could face large fines.

The Parish Council is also concerned about the flooding risk from the proposed development on the Leckhampton fields. Various parts of LWWH parish are vulnerable to flash flooding from heavy rainfall on Leckhampton Hill running off the Hill and along tributaries of Hatherley Brook. Warden Hill has been flooded on many occasions, most recently on two occasions in 2007 when 50 mm of rain fell on Leckhampton Hill in a little over an hour on 27 June and 130 mm fell over about 8 hours on 20 July. Parts of Warden Hill were flooded to a depth of over 1 metre and houses were badly contaminated with swept-out sewage. Flood defences were improved in 2010 to protect against flooding from the south-west tributary, but there remains the risk of flooding from the other tributaries that flow across the Leckhampton fields. The development proposed by the JCS would remove the option to build a flood alleviation scheme on the

Leckhampton fields should this be needed in future to cope with higher rainfall resulting from climate change.

The Draft JCS is proposing a second strategic development site in south Cheltenham on greenbelt land between Up Hatherley Way and Chargrove Lane. Up Hatherley Parish Council and Shurdington Parish Council have both objected strongly to this proposal. LWWH Parish Council shares their concern. As noted in the 2011 JCS Green Belt Assessment, 'this area is critical to the separation of Cheltenham and Gloucester, being the original purpose of the Green Belt legislation.' The separation between Gloucester and Cheltenham depends not only on its overall width but also on maintaining sufficient separation between Cheltenham, Badgeworth and Shurdington. The proposed development would seriously reduce this. The site is open countryside separated from the southern urban edge of Cheltenham by Up Hatherley Way and the A46 Shurdington Road. These major roads provide strong defensible boundaries to the Green Belt and their effectiveness is clear to see both from the local area and from the higher Cotswold escarpment. The development of the site would be fundamentally at odds with the recommendations in the JCS Green Belt Assessment report. It would also add to the traffic congestion and traffic pollution on the A46 in the same way as the proposed development on the Leckhampton fields would and with the same very serious consequences.

The lack of secondary schooling is a concern for both of the sites. Balcarras and Bournside Schools are always over-subscribed. They are both academies and cannot be forced to expand. Balcarras has insufficient land to expand anyway. Local residents are very concerned about this, but no one has been able to provide any reassurance.

LWWH Parish Council has made a detailed analysis of the JCS Consultation Draft and has also reviewed much of the supporting evidence. This analysis shows that the JCS currently falls far short of what is required by the NPPF. The Localism Bill should be empowering the Gloucester-Cheltenham-Tewkesbury (GCT) area to set a strategy for its future well-being and the JCS ought to be a vehicle to do this. Instead the JCS is turning out to be little more than a building plan and it could be very detrimental to the future prosperity and quality of life of the GCT area. The JCS has identified that at least 21800 new jobs are required to maintain economic vitality but it has no plan for how to create these new jobs. It is well known that simply building houses does not create jobs except for developers. The GCT area is suffering a steady loss of younger well-qualified people and this is alarming because a youthful and well qualified workforce is the top factor in attracting and growing new businesses. The lack of large companies in the GCT area is also worrying; these provide not only major employment but also the customer base and routes to market for innovative new companies.

Also very worrying is the high inward migration of retired people, which together with outward migration of younger people means that the demographic balance will become seriously aged. The JCS highlights this challenge and the problem of how to support a very large old population. But it offers no viable way forward. The inward migration also pushes up house prices and makes it more difficult for younger people to find homes in the area.

In the accompanying analysis, the Parish Council has examined these challenges and makes some recommendations on how the JCS might tackle the issues better. The Council would be very happy to elaborate further on these arguments and suggestions if requested.

Yours sincerely

Dr Adrian Mears CBE  
Chairman of the Council

## **Leckhampton with Warden Hill Parish Council**

### **Comments on the JCS Draft for Consultation October 2013**

#### **1. Introduction**

Leckhampton with Warden Hill Parish Council is grateful that the period for commenting on the draft Joint Core Strategy was extended to 13 December. This has given time to study the Consultation Draft and evidence in more detail than would otherwise have been possible. The Council hopes that these comments will be found helpful. They are organised into sections following the sequence in the Consultation Draft. Some of the sources that the Council has referred to in making its response are listed in Annex A.

The JCS is an extremely important document. It needs to be right and it is also needed urgently. The Council finds much to support in the Consultation Draft but also some major issues for concern. There are aspects where the JCS does not appear to comply with the NPPF or with what the government is seeking to achieve through the NPPF. The Council believes that the JCS is not yet an effective strategy for the future success and well-being of the JCS area or of Gloucestershire. Importantly the Council believes: (1) that the JCS needs a more proactive and realistic approach on building a strong competitive economy, as required by the NPPF; (2) that it needs to take more seriously the issue of demographic sustainability and to reconsider adopting a lower migration policy now that the RSS has finally been revoked; (3) that it should adopt a lower figure for the housing need. These issues are discussed below in sections 4, 5 and 6.

Also very important is the issue of promoting sustainable transport. There is little financial scope to build major new roads and the JCS will need by and large to manage with the existing infrastructure. This is a key constraint. What is currently being proposed, at least in south Cheltenham, will completely break the traffic system and is likely to do serious damage to Cheltenham's economy and also create health problems from traffic pollution on the A46. These issues are discussed in sections 7, 17 and 18. Flood risk management is another concern and is discussed in section 8.

Sections 9 to 14 comment briefly on the proposed JCS policies on: sustainable design and construction; design requirements; green belt; landscape policy and the Cotswold AONB; built and historic environment; conservation and improvement in biodiversity and geodiversity; and green infrastructure.

#### **2. Earlier submissions by LWWH Parish Council**

LWWH Parish Council made two submissions to the JCS consultation in February 2012. The first of these emphasised the vital importance of using the JCS and planning decisions to build a strong competitive economy. The second provided evidence that the draft JCS was greatly overestimating the housing need in Cheltenham and it also drew attention to the danger that the large net inward migration of older people projected in the draft JCS would leave Cheltenham with a serious demographic imbalance and an older population too large to support. The Council still has these same concerns with the current draft JCS and these are discussed below in section 4, 5 and 6.

In August 2013, LWWH and Shurdington Parish Councils submitted a neighbourhood planning Concept Plan to Cheltenham and Tewkesbury Borough Councils. This Concept Plan included an application to protect the Leckhampton fields, which lie in both parishes, as a Local Green Space of Special Community Value. The Leckhampton fields are not designated as green belt because they are not so critical for maintaining the strategic gap between Cheltenham and

Gloucester. They are however very worth protecting, as many planning inspectors have confirmed, for their amenity value, network of attractive and interesting footpaths, landscape and history, wildlife, and proximity to the AONB and importance to the views from Leckhampton Hill. The Concept Plan and LGS application were accepted as an early input to the JCS Consultation. The Parish Council recognises that there was insufficient time to take them into account in the Consultation Draft. However, they need to be taken fully into account now.

The Concept Plan also includes the results of traffic surveys and traffic modelling carried out by the Parish Council between October 2012 and April 2013, which shows that the strategic developments proposed in Leckhampton and North Brockworth would together create very severe traffic congestion on the A46 and on Church Road through Leckhampton. This is also referred to in the comments on sustainable transport in section 7 below. The Council has been informed by Cheltenham Borough Council that the Concept Plan has been forwarded to Gloucestershire Highways for their evaluation.

### **3. Lack of key information**

At the Cheltenham Borough Council debate on the draft JCS on 5 September, many borough councillors expressed deep concern about the lack of information on key issues – on population projections, housing need, traffic, schools and other infrastructure issues. Some councillors, including both of the borough councillors who are members of LWWH Parish Council, voted against proceeding with a public consultation at this stage because of the lack of information. The majority of the borough councillors voted to allow the consultation to proceed, having been warned that voting against might make the whole JCS process collapse. A firm promise was made to borough councillors that the uncertainties in information would be properly resolved over the next few months. This promise must be fulfilled, or the JCS could founder at the next stage.

The decision to proceed with the public consultation has created the risk that the strategic development sites as currently proposed might thereby acquire too much status and authority. The Leckhampton fields have since 5 September become the subject of an outline planning application by Bovis and Miller Homes for 650 dwellings (reference 1). It is imperative that no approval is given for this application or any similar major application whilst the JCS is still at a draft stage. Otherwise it will destroy public trust in the NPPF and the planning process.

### **4. Building a strong competitive economy**

#### **4.1 Economic challenge and need for a more proactive approach**

When the JCS team first consulted the parish councils in 2009, several councils including LWWH PC argued strongly that the JCS needed to be built on a visionary and deliverable strategy for revitalising the economy of the Gloucester-Cheltenham-Tewkesbury area. The National Planning Policy Framework (NPPF) has similarly identified 'Building a strong competitive economy' as its first requirement.

How to remain prosperous in today's highly competitive global market is the biggest challenge facing the UK and is a major challenge for the JCS area. When work on the JCS started, the economic future looked a lot better than it does today. The recession has lasted much longer than was expected and a report by Price Waterhouse Coopers (reference 2) published in November 2013 predicts that austerity could now last until 2030 because of continuing government cuts and high consumer debt levels. The arguments made in the JCS and in its supporting evidence anticipated that the UK would recover fairly quickly from recession as had

happened in previous recessions. They now need to be updated in line with the changed circumstances, as is required by the NPPF.

It is true that the UK economy is currently experiencing some recovery. Exports and business confidence have both grown strongly in the past few months. However, the main ingredients in this recovery are the lagging effects of quantitative easing and the 'Help to Buy' scheme which by pushing up house prices is temporarily encouraging more consumer confidence and spending. Industrial production is still about 15% down on its pre-recession peak and investment is 25% down. Although there are some signs of recovery in manufacturing, this is not a secure recovery and many financial commentators expect that it may not last beyond 2015, depending partly on what happens in the Eurozone (reference 3).

According to the Local Government Association, local authority central grants have been cut by £10 billion in the past three years and are set to reduce by a further £10 billion by 2015-6, a total cut of 43%. Even more cuts are planned for 2016-17 and beyond; some councils face possible bankruptcy. Already in 2013 the government has needed to inject £0.5 billion of emergency funding to avoid some local councils defaulting on their statutory obligations. But this has only provided a respite for 2013 and it is predicted that in 2015 and beyond, many councils could be forced to default. The LGA estimates that while total council income in England will have fallen by £7.4bn between 2010-11 and 2019-20 (a real terms reduction of 27%), demand for expenditure, driven largely by an ageing population, will rise by £7bn (14%) (reference 4).

This emphasises how important it is for the JCS area to be underpinned by a strong wealth-creating local economy with many more high GVA (gross value added) jobs, so that it is less dependent on funding and investment from government. Also, if the JCS area is more important economically to the UK, it will have higher priority for investment.

#### 4.2 Decline of the JCS economy

The employment statistics and analysis being used by the JCS are quite old. The Gloucestershire Local Economic Assessment 2011 report used data from the ONS Annual Business Inquiry 2008. The Annual Business Inquiry has since been replaced by the Business Register and Employment Survey (BRES) and the ONS has recently published BRES data for 2010 broken down by districts of Gloucestershire and also the BRES data for 2011 and 2012 for Gloucestershire as a whole (reference 5). This shows a somewhat different picture than that in the JCS Consultation Draft, which was based on the old dataset and also on even older growth projections from the 2005 Regional Economic Strategy. The BRES dataset below shows clearly the decline in public sector employment, particularly of full time employment. Encouragingly it does also show some small growth in private sector employment. The number of working proprietors seems to have declined, which might arise from loss of small companies due to the recession.

	Thousands of jobs				
	2004	2008	2010	2011	2012
Cheltenham	71	63	67		
Gloucester	71	68	66	data not yet	
Tewkesbury	42	41	40	available	
JCS area	184	172	173		
Gloucestershire	309	304	284	276	277

The employment sectors in which the Consultation Draft currently predicts the majority of growth (JCS CD paragraph 4.7) are largely in local services and the public sector. This is surprising and may be out of date. The table below shows that public sector jobs have been declining rapidly. Employment in both central and local government is expected to continue to decline as the austerity cuts deepen. Budgets are also under pressure in education, and it is predicted the NHS will have a £30 billion pa deficit by 2021 (reference 6). There will be a growth in demand for health services, but not the NHS funding to meet it. Moreover, the Key and Important Sectors Gloucestershire 2010 report on the Care Sector (reference 7) notes that spending on private health care is declining, with more patients opting for NHS treatments. So it seems unlikely that private health will provide strong job growth. There may be some increase in low pay jobs in care homes as a result of population ageing. But care homes have also been closing.

		2010	2011	2012	% change
		thousands			2010-12
Public sector	Full time employees	33.4	28.8	26.8	-19.8%
	Part time employees	29.3	30.8	28.0	-4.4%
	Total employees	62.7	59.6	54.7	-12.8%
	Total employees + working proprietors	62.9	60.3	55.3	-12.1%
Private sector	Full time employees	136.9	135.6	141.3	3.2%
	Part time employees	66.2	67.3	69.5	5.0%
	Total employees	203.0	202.9	210.8	3.8%
	Total employees + working proprietors	221.5	215.9	222.0	0.2%

The Consultation Draft says in paragraph 3.15 that 21,800 to 28,200 new jobs need to be created to maintain the vitality of the JCS economy. However, it is clear from the employment trends that the JCS area will be doing well if it can simply halt the current decline. The only prospect for achieving anything approaching the sort of growth that the JCS believes is needed is to attract some major employers to relocate into the JCS area. This will require a change of policy on strategic development sites to identify and protect prestige sites that could be particularly attractive to organisations wanting to relocate. Many other parts of the UK and many other LEPs will also be trying to attract new major employers and the JCS area needs to maximise the attractiveness of its offerings and its ability to tailor these to what is wanted.

The sorts of features that are likely to be important are:

- good suitable premises in an appropriate setting suited to the image of the organisation;
- very good travel and transport links (road, rail and air, but also safe cycling and walking);
- easy commuting for staff and low traffic congestion;
- an especially attractive, vibrant and interesting local environment that would appeal to key staff, beauty of local area, proximity to AONB etc.
- good local leisure facilities and amenities;
- proximity to town or city centre including availability of good hotels and restaurants for visiting customers and staff;
- availability and access to a range of housing suited to the range of employees and the ability to quickly provide extra housing if needed;
- good local amenities including healthcare and schools;
- ability to recruit staff with the right skills;
- scope for expansion if required.

There is no indication from the Consultation Draft that this sort of analysis and identification of prestige sites has been done.

The Consultation Draft also notes in paragraph 2.25 that for the JCS area to maintain a thriving economy and remain an attractive area for business, the number of dwellings and jobs needs to be more closely aligned. It is not clear what is meant by this, but the JCS may have fallen into the mistake of thinking that just building houses creates jobs. One only needs to look at Spain or Ireland or Greece to see that housing by itself does not create jobs. What is required is to be able to provide appropriate dwellings flexibly as and where new employment opportunities arise.

The JCS area needs many more high GVA jobs that bring wealth into the area. Over the period since 2001, gross value added (GVA) per head in Gloucestershire has increased substantially less than the national average. There are too many people with low skills for whom there is less and less employment. Automation is constantly squeezing out low skilled jobs and the decline in traditional manufacturing in the JCS area may also not be helping. It is a high priority to improve education and training. This is also clear from the statistics on deprivation later in section 16.

#### 4.3 Where might the JCS find major new employers?

There would advantage in trying to attract major new employment in sectors that also have strong national priority. In this way it would be more likely that the JCS area could attract national investment. At present Gloucestershire seems to be a backwater in national investment priorities. If you look, for example, at the Department for Transport investment plan for the strategic highway network (reference 8) there is no investment planned for Gloucestershire except a small provision for repair work at the M5 Junction 10. The DfT investment priorities are in the South East, Midlands and North, which is where the government priorities for economic development and innovation lie.

One sector that is critical to the UK economy is high tech engineering and manufacturing. Although manufacturing has declined in the UK it still makes a very big and vital contributor to exports (reference 9). The UK needs high tech manufacturing-led growth that capitalises on its leading world position in science and engineering research.

The SW Regional Economic Strategy identified the JCS area as particularly favourable for growing advanced engineering and high-tech manufacturing. Gloucestershire ranks as one of the best locations in the UK to live in. It has many features that could attract high tech companies. But an important weakness has been the lack of a top local university in science, engineering and technology to supply top quality graduates and stimulate spin-outs. On the other hand, there are six top universities within easy reach – Oxford, Bath, Bristol, Cardiff, Birmingham and Warwick, and locally there is the University of Gloucestershire that offers the possibility of partnership with these universities. The question is how to exploit this. There may now be a real opportunity.

Universities are currently going through a period of great strategic change driven by a number of factors including tuition fees, deregulation, greater competition, weakening barriers to entry for new providers, globalisation of higher education, and huge growth in China, India and other major new economies (reference 10). Of particular relevance to higher education in the JCS area is the impact of new technology. The delivery of higher education is changing radically with internet-based distance learning and free massive open online courses (MOOCs) being offered by top world universities. It is now possible to obtain a degree from a top university remotely and the degree can be identical in status to a residential degree. Post-graduate education is routinely being delivered remotely and through partnerships between universities.

University research is also becoming more globalised with global research networks and 'open innovation' harnessing advances worldwide. Universities are partnering with each other to achieve sufficient competitive scale and excellence in research in order to win grants. There is also greater emphasis on public benefit in awarding grants and on innovation partnerships with business. For a long while, research has been becoming more inter-disciplinary and this is another factor driving greater collaboration between universities.

The JCS should be seeking to exploit these opportunities. Paragraph 2.25 of the Consultation Draft notes that the net outflow of young people aged 15 to 29 is a key challenge for the JCS area. These new ways of delivering higher education could make it possible to deliver locally the full range of degree courses from top universities. It may also be possible to establish collaborative inter-university research in the JCS area that can help to support the growth of high tech industry and advanced engineering and provide attractive jobs for top quality graduates, particularly in science, engineering and technology. The JCS needs to facilitate these opportunities.

Another sector that is very critical to the UK economy is international financial and business services and particularly the City of London (reference 11). A recent report by the City of London says that London's pre-eminence in global financial and business services cannot be taken for granted. There are issues like higher taxation, increased regulation and infrastructure. But also, the high cost of living and housing in London are now seen as a threat, eroding the City's ability to attract enough highly qualified graduates and to respond to emerging competition from Dubai, Moscow, Mumbai and Shanghai (reference 12). London has fallen from second place in 2010 to sixth place in 2011 in the PwC Cities of Opportunity index and this is due, at least in part, to weaker results on more qualitative measures around quality of life where London fares poorly on metrics such as commute time, green spaces, hospitals and air pollution (reference 13).

All of this might create an opportunity for the JCS area to become an adjunct financial centre to the City. As noted earlier, Gloucestershire is seen as one of the most desirable places in the UK to live. The JCS area has entertainment, leisure and culture that could be sufficiently attractive, green spaces as long as it preserves them, and good commuting as long as it does not create large traffic queues. Property prices are well below London levels and there is good road and rail access to other parts of the UK, including the better link to London with the new dual track between Kemble and Swindon. Gloucestershire airport is also a key asset.

These two examples address the two key challenges noted in paragraph 2.28 of the Consultation Draft of diversifying the employment base and creating more employment and training opportunities. The JCS needs to look very actively at such opportunities and be sure it keeps them open. It is very important to safeguard prestige sites that could attract research institutes, high tech companies and City organisations, and other major new opportunities. It is also vital to preserve a working road system and avoid key areas becoming blighted by traffic congestion, as would certainly happen in south Cheltenham if the strategic developments proposed there were to go ahead, even partially.

#### 4.4 What other opportunities are there for growth?

The Consultation Draft says in paragraph 4.5 that 'the Gloucestershire Local Enterprise Partnership (LEP) is developing a Strategic Growth Plan to deliver its vision, which will set out how sustainable growth will be achieved across the county and through the economic programme.' This plan is not currently available and taking decisions about strategic development sites without enough information could do great damage to the existing JCS economy and the prospect for growth.

There are several sources of evidence on potential growth. One referenced in the Consultation Draft is the Gloucestershire Integrated Economic Strategy 2009-2015 and the Gloucestershire Local Economic Assessment 2011, produced by Gloucestershire County Council and GFirst in 2009 and 2011 respectively. Also valuable are the analyses in 2010 of Gloucestershire's Key and Important Sectors published by the Country Council. There are separate reports covering Advanced Engineering, Care, Construction, Creative Industries, Distribution, Environmental Technologies, Finance and Business Services, Food and Drink, ICT, Leisure and Tourism, Care, Manufacturing and Public Sector.

Paragraph 4.9 of the Consultation Draft makes some important points that LWWH PC wishes to support. The first is the need for start-up space that can be accessed easily by those establishing new businesses. But start-up space often needs to be cheap whereas brand new buildings are often expensive. A study published in December 2013 has found that people aged 18 to 24 are twice as likely to have inventive ideas as people in their forties, but lack the confidence and financial resources to pursue them. Some of the greatest entrepreneurial companies have started in a garage. So the JCS should be preserving existing cheap employment buildings and be careful that new employment buildings respond to employers who can afford the higher rental and service costs.

The second point is the importance of clusters. There is no doubt that there are some very important clusters in the UK and many other countries. The City of London is often cited as a giant cluster and this is an important part of its competitive edge (reference 14). London also has a world leading cluster in pharmaceuticals. Close to the JCS area, there is the high-tech cluster of Oxfordshire, which had the highest rate of growth in high-tech sectors in the UK from 1991-2000 (source: OECD "Clusters, Innovation and Entrepreneurship, 2009 – not available online). However, the Oxfordshire cluster took 30 years to develop, and it is quite widely spread geographically. In the era of social networking, clusters may increasingly operate in cyber space and may be international. So the JCS should perhaps not think just in terms of geographically based local clusters but also as being part of existing and new clusters in cyber space. This also chimes with the changes in higher education and internet collaboration discussed in section 4.3.

## **5. Demographic sustainability**

A second major issue that LWWH Parish Council raised in its submissions in February 2012 was the population projections for Cheltenham, which showed a very large rise in the population over-60 and over-75 due to net inward migration of retired people. The Council notes that the Consultation Draft in paragraph 2.25 now clearly identifies the ageing population as a major challenge and that it is more pronounced in the JCS area because of the migration of pensioners from other parts of the country. Paragraph 2.25 also recognises that this raises challenges in the provision of appropriate health and transport services. The Parish Council is still concerned, however, that even though these big challenges are mentioned in paragraph 2.25, they are still not being given the importance they deserve. The austerity cuts are going to make it very hard to maintain adequate services even just taking account of the ageing of the current local population. The large inward migration is simply not sustainable and would leave older residents cruelly neglected and vulnerable.

The response from the JCS team to this issue when the Parish Council raised it in February 2012 was to observe that the problem is insoluble because retiring people, especially if they are coming from SE England, can outbid local people in purchasing houses in Cheltenham. It was therefore argued that to provide homes for local people it is necessary to build enough to satisfy the pensioner migration and have enough left over for local people. The Council believes this approach is wrong.

According to the JCS Spatial Options paper, a strategy based on low net migration scenarios was considered as one of the alternative options in 2004 in the development of the SW Regional Spatial Strategy. This scenario was rejected because of the sheer scale of demand for additional housing stimulated by pressure in London and the South East. This RSS policy of not seeking to constrain inward migration was taken into the JCS planning. The government sought to revoke the RSS in July 2010, but because of legal challenge it was not until May 2013 that the RSS and saved policies of the Gloucestershire Structure plan from the RSS era were finally revoked. In the meantime there were uncertainties of what policies actually applied to the JCS.

The Parish Council believes that the low net migration option should be carefully reconsidered by the JCS now that the RSS has been revoked. Circumstances have changed since 2004. The RSS was developed in a period of great financial optimism. In 2013, against the background of austerity and very tight government funds, the low net migration option may be the only way to avoid collapse of local government services. Inescapably, there will be a tighter and tighter squeeze on government expenditure on welfare and the NHS, which would otherwise leave no other margin for other essential government expenditure. There is a vital need for re-investment, which cannot be postponed indefinitely. So the financial resources from government to support the older population are going to be much lower.

The low net migration option is feasible, but it would require planning approvals to be firmly constrained and tied much more tightly to employment opportunities in both timing and location, as previously noted in section 4. One could not simply give unconstrained outline planning approval for large developments and leave the outcome to the developers. The future of the JCS area is not their responsibility. A lower migration policy would no doubt be contested by developers. But the only alternative might be to allow the quality of life in the JCS area, at least for older residents, to deteriorate so badly that the area was no longer attractive.

## **6. Housing need and strategic allocation policy**

For the past two years there has been constant dispute over the figures for household need, as noted in paragraphs 3.4 to 3.6 of the Consultation Draft. The Parish Council in its submission in February gave evidence that the JCS housing need was far too high. The arguments were confirmed by the outcome from the 2011 census. However, the JCS has persisted with its high figures, using provisional ONS projections based on national birth rates rather than local birth rates in order to justify higher figures. This is clearly contrary to the requirements of the NPPF for objective assessment. Section 14 of the NPPF requires that 'Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change'. This means that the JCS must not misuse data to exaggerate the housing need and that, where there is uncertainty, the JCS should be using the lower figure and then keep land in reserve to respond flexibly if the housing or employment land need should turn out to be larger. The JCS should not risk allowing building on the green belt and high value land such as the Leckhampton fields and then finding too late that this building was not necessary to meet the actual need, and even worse that it has damaged the economic future and local infrastructure.

In the case of Cheltenham, the current JCS figure for the housing need is 10,800 over the period up to 2031, whereas calculations using the ONS long term projections and the data from the 2011 census give a much lower figure of 6,080. Part of the difference arises from the assumption in the JCS that household size will fall once the economy recovers; this is despite the historical data, including the 2011 census, which shows household size has been unchanged in Cheltenham since 2002. The JCS argument rests mainly on the assumption that as the population ages, more old people will be living on their own. However, if people are living in a retirement home, they actually occupy little land area. Are they then each a household, especially if they are using communal facilities? There is also a trend towards older people

sharing accommodation to support each other. This is becoming more prevalent partly because of internet sites that make it easier to find suitable partners.

The ONS in a report in December 2013 (reference 15) on the over-85 age group notes that cohabitation outside marriage is rising rapidly in this age group. It concludes that part of the reason is that living together while unmarried has achieved "greater social acceptance" for individuals of an age who would have risked social stigma for doing so in previous generations. The preferential increase in the life expectancy of men is another factor encouraging cohabitation, married or unmarried. In the 2011 census, women still outnumbered men in the over-85 age group by 2:1, but there was a larger percentage increase in the number of men (45%) than women (16%) over the decade.

Pressure on support services and publicity about the problems of loneliness are making older people in all age groups keener on cohabitation and on communal living and mutual support. Another important factor is higher rates of divorce and re-partnering. This can also reduce under-occupancy of larger houses by married couples continuing to live in their former family home.

It is hard to predict the future, but the indisputable facts are that the historical data shows household size is not declining, and this is true not only in Cheltenham but over the whole of the UK. The JCS is arguing that household size will change once the economy starts to recover. But as already noted in section 4.1, even if the present recovery is sustained, austerity may well last until 2031 or beyond. Overall therefore there is no evidence for thinking that household size will fall; indeed, it could start to rise.

Population growth is the other factor in estimating housing need. Growth or decline in employment is one component of population growth. The Consultation Draft suggests 21,800 to 28,200 new jobs are needed. But these are just an aspiration and, as discussed in sections 4.2, the historical statistics predict that employment in the JCS area will remain flat or continue to decline. Section 4.3 has suggested ideas for how employment growth might be achieved. But the realistic projection at present would be for a net outward migration of people of working age over the period up to 2031, as there already is of young people.

A recent factor in population growth has been the higher birth rate between 2001 and 2011 which is a second generation result of the post-war baby boom. However, from now to 2031, the birth rate is expected to be normal. This leaves just one other factor - the ageing population, which was discussed in section 5 above. The net inward migration of pensioners is the major component in this. If a low migration policy is adopted, the population growth will be substantially lower. For a lower migration policy to be acceptable at the JCS inspection stage it would need to be supported by an objective scenario-based assessment of how large an older population the JCS area can sustainably support. This is a key issue that the JCS needs to tackle.

## **7. Promoting sustainable transport**

Promoting sustainable transport is one of the key requirements of the NPPF and closely linked to other NPPF requirements. Transport and commuting are vital to building a strong and competitive economy; reducing vehicle emissions is important for meeting the challenges of climate change and for promoting healthy communities. Sustainable transport places severe constraints on development, certainly in south Cheltenham.

The DfT report "Action for Roads" (reference 8) gives salutary warning that congestion could seriously damage economic competitiveness. It observes that the compactness of the UK should be a strong competitive advantage because of the shorter travel distances, but that it could

easily become a weakness if people are no longer able to commute to work. The JCS area, which is very car dependent, is particularly vulnerable.

The DfT report explains that small changes in traffic density can quickly break the system. Traffic systems have tipping points; the A46 is a good example as discussed in Annexes 2 and 3 of the LWWH/Shurdington Concept Plan. The A46 tipping point is created by the capacity of the A46/Moorend Park Road intersection, which has a maximum throughput of 12-15 vehicles per minute for traffic travelling into Cheltenham on the A46. Below this flow rate, the traffic is fine; above it the traffic queue spreads rapidly back initially at a rate of a mile per 200 extra vehicles, but then faster as the queue blocks traffic flows at the intersections along the way. The modeling in Annex 3 indicates that the JCS strategic developments proposed on the Leckhampton fields and at Brockworth would together create a queue stretching to the A417 and beyond, possibly disrupting traffic flow on the A417 and M5. It would take over an hour to commute into Cheltenham from the A417. Moreover, this does not take into account the development also proposed between Up Hatherley Way and Chargrove Lane. This could add a further 1.5 miles to the queue.

The JCS needs to take the DfT warning seriously. If it becomes very difficult to commute into Cheltenham on the A46, this would not only affect jobs in Cheltenham but also in Cotswold District as Cheltenham is an important centre of employment for parts of the Cotswolds. The Parish Council wonders whether JCS officials have engaged with Cotswold District over these implications under the 'duty to co-operate' in Section 110 of the Localism Act 2011.

The traffic congestion also has implications for health. The level of nitrogen dioxide pollution measured by Cheltenham Borough Council exceeds the EU permitted level on the A46 in the vicinity of the Moorend Park Road intersection. Although measurements over a whole year have not yet been made, it is expected that the pollution level will exceed the EU permitted limits over the whole year. This would make the Borough and County councils liable to prosecution by the European Commission, particularly if they allowed the level to increase further (reference 16).

A slow moving traffic queue creates a very much higher level of emissions than normal traffic. The fuel consumption per mile at speeds below 5 mph is 4 to 10 times higher than at the optimum speed of 40 mph. The much higher fuel consumption generated by such a long traffic queue would conflict with the requirement to reduce carbon emissions.

The way that the much longer traffic queue would affect nitrogen dioxide pollution is more complex. How much nitrogen dioxide a vehicle emits depends on its engine temperature, on the temperature of its catalytic converter, and whether the engine is diesel or petrol. At low speeds, the engine temperature is lower, which produces less nitrogen oxides, but this is offset because the catalytic converter is also colder and operating inefficiently.

The queue on the A46 is very slow moving and vehicles stop-start. The proposed developments in south Cheltenham would be contributing vehicles that have only come a short distance and would still be cold. This is the worst scenario for emissions, not only of nitrogen dioxide but also of particulates and toxic organic compounds. The main health risks are respiratory disease, asthma, cardiovascular disease, lung cancer and other cancers, particularly to older people and to children and young people.

As well as the injury to residents along the A46, there is also a health risk to drivers and passengers inside the vehicles in the queue (reference 17). Wind tunnel modeling has shown that the flow of air over a typical vehicle body traps pollutant at positions where the air inlets for the ventilation system are often located. Air inlets situated in the front grille draw in exhaust from the vehicle immediately in front, and vents below the windscreen can draw in polluted air which

is trapped there by the flow regime over the bonnet. Model tests have also shown that the majority of pollutants present inside a car originate from the vehicle immediately in front. Some vehicles, notably buses, also ingest their own emissions. The type of situation in the A46 queue with vehicles nose to tail at an average gap of 3 to 4 metres between vehicles is particularly bad. Cyclists and motor cyclists in the traffic queue would also experience high pollution levels, and so also would pedestrians on the pavement beside the traffic queue (reference 18). Studies also show that the worst pollution levels of all can be inside buses travelling in the queue.

The European Commission last year rejected the UK government's plea for further time to introduce anti-pollution measures. The UK now risks being referred to the European court of justice (reference 16) and many UK cities face the risk of multimillion euro fines if they do not improve pollution. Cities and towns that create developments that make pollution worse could be even more likely to face prosecution. So the County and Borough Councils could face heavy fines over traffic pollution from the developments in south Cheltenham proposed by the draft JCS.

## **8. Flood Risk Management**

The Parish Council strongly supports the policies on flood risk management on page 45 of the Consultation Draft and in particular the policy in paragraph 4.28 that as an overarching principle all new developments should seek to provide an overall reduction in flood risk.

LWWH Parish is vulnerable to flash flooding from run-off from Leckhampton Hill. This runoff has caused flooding of houses on a number of occasions. The worst recent events were in 2007. On 27 June 2007, 50 mm of rain fell on the fields above Leckhampton Village in a period of little over an hour, and on 20 July 2007, 130 mm of rain fell in about 8 hours with a peak of 25 mm in an hour. Warden Hill was flooded on both occasions by water flowing along the tributaries of Hatherley Brook. On 20 July, the flooding was in some places four feet deep and sewage was swept out contaminating properties. Some residents were not able to return to their properties for a year. Flood defences were constructed in 2010, but many local residents are still very worried about the flooding risk. Some still experience regular flooding in their gardens from Hatherley Brook and from water flows underground through the mixed clay and alluvial sand/gravel in the Leckhampton fields.

It is impossible to be certain what the effects of climate change will be. But one concern is that an event might occur that was a combination of the very high rate of rainfall on 27 June 2007 and the total rainfall on 20 July. This could overwhelm Hatherley Brook. The Leckhampton fields, which are currently being proposed as a strategic development site by the JCS, could at present be used to construct a flood alleviation scheme for Hatherley Brook similar to that used for the River Chelt. Building on the fields on the scale currently proposed by the JCS would remove that future option.

## **9. Sustainable design and construction and Design requirements**

The Parish Council supports core policy S3 on sustainable design and construction and core policy S4 on design requirements. The Council supports the aim of reducing the need to travel by car and increasing the use of cycling and public transport.

## **10. Green Belt**

The Parish Council strongly supports the policy of maintaining the green belt separation between Cheltenham and Gloucester. This separation would be weakened by the proposal for a strategic development site in the green belt between Up Hatherley Way and Chargoave Lane.

Up Hatherley Parish Council and Shurdington Parish Council have both objected strongly to this proposal. LWWH Parish Council shares their concern. As noted in the 2011 JCS Green Belt Assessment, this land makes a substantial contribution to the strategic gap between Gloucester and Cheltenham. This gap depends not only on its overall width but also on maintaining sufficient separation between Cheltenham, Badgeworth and Shurdington.

## **11. Landscape Policy and Cotswold AONB**

The Parish Council supports the Landscape Policy S6 on page 63 of the Consultation Draft and the policy S7 on the Cotswold AONB. Both policies support the Local Green Space application for the Leckhampton fields, which border the AONB. The Council believes that the proposed designation of the Leckhampton fields as a strategic development site is in conflict with policy S7. The Parish Council also notes that Natural England and CPRE have opposed development on the Leckhampton fields for the same reason. Leckhampton Hill is one of the most outstanding locations in the Cotswold AONB. It is one of the chief highlights on the Cotswold Way National Trail, which is walked by many UK and foreign visitors.

## **12. Built and Historic Environment**

The Parish Council support policy S8 on the built and historic environment. The Council agrees strongly about the importance of heritage assets to the success of the local economy by generating inward investment and tourism. In addition the heritage assets and the local character and distinctiveness that they provide are very important for attracting major new employment to the JCS area as discussed in section 4. Policy S9 bears on the LWWH/Shurdington Parish Council Local Green Space application for the protection of the Leckhampton fields.

## **13. Conservation and improvement of biodiversity and geodiversity**

The Parish Council supports policy S9 on conservation and improvement of biodiversity and geodiversity. It bears on the LWWH/Shurdington Parish Council Local Green Space application for the protection of the Leckhampton fields.

## **14. Green Infrastructure**

The Parish Council supports policy S10 on green infrastructure. The Council notes that one purpose of the Local Green Space application for the Leckhampton Fields is to preserve the green corridor link that this provides from the AONB into central south Cheltenham. The importance of green open space to attracting high GVA employment to the GCT area has already been emphasised in section 4.3 above.

## **15. Affordable Housing and tackling deprivation**

Local authorities are required to identify whether there is a need for affordable housing in their area and how they plan to meet this need. Within the JCS area there are eight neighbourhoods amongst the most multiply deprived 10% of neighbourhoods in England; five of these are in Gloucester and three in Cheltenham (reference 19).

The table below shows the number of people in the JCS area in 2010 who were living in neighbourhoods that were in the bottom national quintile for each of the seven indicators of deprivation and overall multiple deprivation. The table also shows that housing is only a small factor in deprivation in Cheltenham, although larger in Gloucester and surprisingly large in

Tewkesbury. Housing is also a small component in overall deprivation. Income deprivation and employment deprivation are the chief components of overall multiple deprivation.

Indicator of deprivation	Weight	Gloucester	Cheltenham	Tewkesbury	Total
Income	22.5%	24823	15636	3124	43583
Employment	22.5%	21773	12320	2758	36851
Education, skills and training	13.5%	28701	18716	4513	51930
Health and disability	13.5%	8334	4217	0	12551
Housing		14155	3513	13349	31017
Geographical access to services	9.3%	17638	14704	36607	68949
Living environment	9.3%	28701	18716	4513	51930
Crime and disorder	9.3%	40054	32021	3233	75308
Overall multiple deprivation		29943	12809	1369	44121

Number of people in the JCS area in 2010 living in neighbourhoods amongst the 20% most deprived areas in England for each indicator of multiple deprivation and overall. The weight shows how each indicator contributes to the indicator of overall multiple deprivation. Housing and geographical access to services have a joint weight of 9.3%. The other indices are weighted individually with the weights shown.

Source: Indices of multiple deprivation 2010: Gloucestershire Summary.

The Cheltenham Housing Need Assessment in 2009 estimated that 2686 household in Cheltenham were living in unsuitable housing and that 1915 would need to move home to find a solution to the unsuitability of their housing. These figures are broadly consistent with the figure of 3513 in the above table. In only 479 of the 2686 cases was accommodation too expensive. The biggest problem was overcrowding (1093 cases) and mobility or support needs (642 cases).

The deprivation indices indicate that, at least in Cheltenham, the living environment, crime and disorder, and lack of geographical access to services are far more serious causes of deprivation than actual lack of housing. So for Cheltenham the argument sometimes made that building on greenfield sites is necessary to provide enough affordable housing may not be a strong one.

## 16 Community facilities

The Consultation Draft in paragraph 4.136 notes that everyone living in the districts of Gloucester, Cheltenham and Tewkesbury deserves to have access to facilities that meet their everyday needs. Essential community facilities include schools, community centres, libraries, sports pitches, open space and children's play provision. The Parish Council agrees with this and strongly supports policy C5.

## 17. Supporting health lifestyles and wellbeing

The Parish Council strongly supports policy C6 that all development should aim to support active and healthy lifestyles and must not have any adverse impacts on the health of existing or future populations that cannot be mitigated.

Policy C6 conflicts with the proposed strategic development sites in south Cheltenham because of the health impact of the large increase in traffic pollution as discussed in section 7 above. The analysis and traffic modelling that the Council has done indicates that there is no way to mitigate this pollution sufficiently, even if a park-and-ride scheme were introduced and even allowing for tighter regulation of vehicle emissions under EU laws. Although much stricter EU regulations have improved vehicle emission levels as measured in the laboratory, the improvement under actual driving conditions has been considerably poorer. Furthermore, traffic levels are expected

to rise substantially over the period of the JCS. According to the DfT “Action for Roads” report (reference 8), traffic levels could be 19% higher in 2025 than in 2012 and 23% higher by 2031.

The Council supports the points made in paragraphs 4.146 on the importance of access to open spaces and facilities for sports, recreation and leisure in order to encourage physical activity and social interaction. The strategic development sites currently proposed in south Cheltenham are both used by local residents for walking and recreation. The proposed developments would have a particularly adverse effect on residents in Warden Hill and Up Hatherley, who use both sites. In the case of the site between Up Hatherley Way and Chargrove Lane, there are two footpaths across the area and these connect to footpaths north and south of Badgeworth. A large number of people from a wide area use the network of footpaths on the Leckhampton fields including the Leckhampton Fields Circular Path. Although in any development the footpaths on both of the proposed strategic sites would be retained, their attractiveness and charm as a means of recreation would be much reduced. The Leckhampton fields are particularly important as a walking and recreation area for south Cheltenham and planning inspectors have previously commented to the value of protecting this land for its network of attractive footpaths.

## **18. Infrastructure requirements**

The NPPF requires that the JCS spatial strategy ‘should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements’. The problem, as is explained in the draft JCS Infrastructure Development Plan produced by Arup and Partners Ltd (version 1, October 2013), is that the cost of the new infrastructure needed to support the strategic developments proposed in the JCS will be very high and it is not clear how enough funding can be found. Contributions from developers could be obtained through S106 Planning Obligation and Community Infrastructure Levy (CIL) mechanisms. However, the JCS IDP also notes that ‘It is important to be aware of the interaction between affordable housing policy and the extent that developer contributions can be sought towards infrastructure provision.’ It also notes that ‘Councils are required to ensure that development and the plan as a whole remain viable, taking into account both affordable housing and infrastructure/CIL requirements.’ So it notes that councillors will have to make some difficult prioritisations.

The JCS Infrastructure Delivery Plan does not yet include all of the infrastructure costs, such as site specific transport and flood risk management infrastructure which cannot be determined at this stage. Of those costs that are included the main component is education - pre-school, primary, secondary and higher education – which accounts for about 70% of the total cost. The scope to make savings here is limited – there are statutory limits to how large class sizes can be and many local schools are already up to or near their maximum. (The government has recently relaxed the size limit to help cope with the current bulge in school children born between 2001 and 2011. But this relaxation is only temporary and not a relaxation that could be used for planning purposes). It is also clear both from the deprivation indices and from assessment of economic competitiveness that education, skills and training is where the JCS area particularly needs big improvements.

The cost of new transport infrastructure would be very high and Gloucestershire Highways have told the Council that, as regards south Cheltenham, there is no realistic hope for any major investment in the next 20 years. According to government figures, the average cost of building a new highway is about £20 million per mile for a dual carriageway and around £13 million per mile for a single carriageway or for adding an extra lane to an existing highway.

The Gloucestershire Transport Plan (reference 20) notes that very little funding is available for road infrastructure and that this investment will depend heavily on developer contributions. This implies that if the JCS is seeking to provide a substantial amount of affordable housing as well

as essential new infrastructure, strategic sites should be located where the necessary road infrastructure is already available and can cope with the extra traffic without requiring large investments. This is a strong argument against the proposed strategic developments in south Cheltenham.

## **Annex A: References (in addition to those included in the JCS evidence base)**

1. Land at Kidnappers Lane, Leckhampton, Cheltenham: Outline Planning Application for Residential and Associated Development  
[www.cheltenham.gov.uk/southcheltenham](http://www.cheltenham.gov.uk/southcheltenham)
2. Destination 2030: How the UK Economy could fare. Price Waterhouse Coopers Economic Views November 2013.  
[www.pwc.co.uk/en\\_UK/uk/assets/pdf/destination2030.pdf](http://www.pwc.co.uk/en_UK/uk/assets/pdf/destination2030.pdf)
3. "UK economic recovery built on shaky foundations – again."  
[www.theguardian.com/business/economics-blog/2013/oct/27/uk-economic-recovery-shaky-ground](http://www.theguardian.com/business/economics-blog/2013/oct/27/uk-economic-recovery-shaky-ground)  
"Is the economic recovery built to last?"  
[www.hsbcnet.com/gbm/global-insights/insights/2013/stephen-king-is-the-economic-recovery-built-to-last.html](http://www.hsbcnet.com/gbm/global-insights/insights/2013/stephen-king-is-the-economic-recovery-built-to-last.html)  
BCC Economic Forecast: growth is gathering momentum, but recovery is not secure  
[www.britishchambers.org.uk/press-office/press-releases/bcc-economic-forecast-growth-is-gathering-momentum,-but-recovery-is-not-secure.html](http://www.britishchambers.org.uk/press-office/press-releases/bcc-economic-forecast-growth-is-gathering-momentum,-but-recovery-is-not-secure.html)  
UK Economic Prospects PWC Nov 2013-12-10  
[www.pwc.co.uk/the-economy/publications/uk-economic-outlook/ukeyo-nov13-uk-economic-prospects.jhtml](http://www.pwc.co.uk/the-economy/publications/uk-economic-outlook/ukeyo-nov13-uk-economic-prospects.jhtml)  
(There are many similar articles in the media).
4. "Local Government Association says trajectory of spending and rising demand will lead to £14.4bn funding shortfall by 2020"  
[www.theguardian.com/society/2013/jul/04/local-council-cut-skeleton-service-lga](http://www.theguardian.com/society/2013/jul/04/local-council-cut-skeleton-service-lga)
5. ONS Business Register and Employment Survey, Gloucestershire, 2010-2012  
<http://www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/2012-provisional/stb-bres--2012-provisional.html>  
[www.ons.gov.uk/ons/search/index.html?newquery=BRES+2010+Gloucestershire](http://www.ons.gov.uk/ons/search/index.html?newquery=BRES+2010+Gloucestershire)
6. NHS 'heading for £30bn funding gap' BBC News 11 July 2013  
<http://www.bbc.co.uk/news/health-23258962>  
Closing the NHS funding gap Monitor 9 Oct 2013  
[www.monitor.gov.uk/sites/default/files/publications/ClosingTheGap091013.pdf](http://www.monitor.gov.uk/sites/default/files/publications/ClosingTheGap091013.pdf)
7. Key and Important Sectors Gloucestershire 2010: Report on Care Sector  
[www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=38544&p=0](http://www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=38544&p=0)  
Key and Important Sectors Gloucestershire 2010: Summary Report  
[www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=38550&p=0](http://www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=38550&p=0)

8. Action for Roads: a network for the 21<sup>st</sup> century. Dept for Transport and Highways Agency  
July 2013 Ref: ISBN 9780101 867924, Cm 8679  
<https://www.gov.uk/government/publications/action-for-roads-a-network-for-the-21st-century>
9. Economic Growth: Executive Summary  
Dept. for Business Innovation and Skills Economic Paper 9 2010  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/32102/10-1311-economic-growth-executive-summary.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32102/10-1311-economic-growth-executive-summary.pdf)  
  
Policy: Investing in research, development and innovation Dept for BIS March 2013  
<https://www.gov.uk/government/policies/investing-in-research-development-and-innovation>  
  
UK technology sector is key engine for job creation and growth  
[www.nmk.co.uk/article/2013/10/25/uk-technology-sector-is-key-engine-for-job-creation-and-growth](http://www.nmk.co.uk/article/2013/10/25/uk-technology-sector-is-key-engine-for-job-creation-and-growth)  
  
£50 million boost for universities to stimulate UK's economy  
[www.hefce.ac.uk/news/newsarchive/2013/news81868.html](http://www.hefce.ac.uk/news/newsarchive/2013/news81868.html)
10. Future for Higher Education – Analysing Trends  
[www.universitiesuk.ac.uk/highereducation/Documents/2012/FuturesForHigherEducation.pdf](http://www.universitiesuk.ac.uk/highereducation/Documents/2012/FuturesForHigherEducation.pdf)
11. London's Competitive Place in the UK and Global Economies  
Oxford Economics 2011  
[www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2011/London%27s%20Competitive%20Place%20in%20the%20UK%20and%20Global%20Economies\\_2011.pdf](http://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2011/London%27s%20Competitive%20Place%20in%20the%20UK%20and%20Global%20Economies_2011.pdf)
12. The Competitiveness of London – Future Challenges from Emerging Cities  
London Chamber of Commerce 30 April 2012  
[www.londonchamber.co.uk/DocImages/3493.pdf](http://www.londonchamber.co.uk/DocImages/3493.pdf)
13. London's current and future competitiveness: a review of city competitor data.  
London First August 2011  
[http://londonfirst.co.uk/wp-content/uploads/2012/09/Competitiveness\\_report\\_-\\_FINAL.pdf](http://londonfirst.co.uk/wp-content/uploads/2012/09/Competitiveness_report_-_FINAL.pdf)  
  
PwC, Cities of Opportunity, 2011 and 2012  
[www.pwc.com/gx/en/psrc/global/cities-of-opportunity-2011.jhtml](http://www.pwc.com/gx/en/psrc/global/cities-of-opportunity-2011.jhtml)  
[www.pwc.com/us/en/cities-of-opportunity/](http://www.pwc.com/us/en/cities-of-opportunity/)
14. Economic Views: Future Industry Clusters PwC September 2010  
[www.pwc.com/gx/en/consulting-services/see-the-future/industry-clusters.jhtml](http://www.pwc.com/gx/en/consulting-services/see-the-future/industry-clusters.jhtml)  
[www.pwc.com/gx/en/consulting-services/see-the-future/assets/see-the-future.pdf](http://www.pwc.com/gx/en/consulting-services/see-the-future/assets/see-the-future.pdf)
15. Cohabitation and Britain's Older Old  
[www.huffingtonpost.co.uk/claire-reid/cohabitation-and-britains\\_b\\_4411420.html](http://www.huffingtonpost.co.uk/claire-reid/cohabitation-and-britains_b_4411420.html)  
  
[www.ons.gov.uk/ons/rel/mortality-ageing/characteristics-of-older-people/what-does-the-2011-census-tell-us-about-the-oldest-old-living-in-england-and-wales-/characteristics-of-the-oldest-old--from-the-2011-census.html](http://www.ons.gov.uk/ons/rel/mortality-ageing/characteristics-of-older-people/what-does-the-2011-census-tell-us-about-the-oldest-old-living-in-england-and-wales-/characteristics-of-the-oldest-old--from-the-2011-census.html)  
  
[www.ons.gov.uk/ons/dcp171776\\_342117.pdf](http://www.ons.gov.uk/ons/dcp171776_342117.pdf)

16. UK Cities Face Ban on Heavily Polluting Traffic, The Guardian, 28 June 2012.  
[www.theguardian.com/environment/2012/jun/28/uk-cities-ban-polluting-traffic#history-link-box](http://www.theguardian.com/environment/2012/jun/28/uk-cities-ban-polluting-traffic#history-link-box)
17. A Driver's Exposure to Traffic Pollution, Clarke R, U of Nottingham, 1998.  
[http://etheses.nottingham.ac.uk/3664/1/Thesis\\_All.pdf](http://etheses.nottingham.ac.uk/3664/1/Thesis_All.pdf)
18. The exposure of cyclists, car drivers and pedestrians to traffic-related air pollutants.  
[www.ncbi.nlm.nih.gov/pubmed/7591177](http://www.ncbi.nlm.nih.gov/pubmed/7591177)  
  
Differences in cyclists and car drivers exposure to air pollution from traffic in the city of Copenhagen.  
<http://www.ncbi.nlm.nih.gov/pubmed/11712590>  
  
Determination of personal exposure to traffic pollution while travelling by different modes  
NZ Transport Agency research report 457 Nov 2011  
<http://www.nzta.govt.nz/resources/research/reports/457/docs/457.pdf>
19. The English Indices of Deprivation 2010, Department of Communities and Local Government, Mar 2011, ISBN:978-1-4098-2924-9  
[www.communities.gov.uk/corporate/researchandstatistics/statistics/](http://www.communities.gov.uk/corporate/researchandstatistics/statistics/)  
  
Gloucestershire Indices of Deprivation 2010  
[www.gloucestershire.gov.uk/inform/index.cfm?articleid=104149](http://www.gloucestershire.gov.uk/inform/index.cfm?articleid=104149)
20. Gloucestershire Transport Plan 2011-2026  
<http://www.gloucestershire.gov.uk/extra/article/108065/Local-Transport-Plan-3>