

JCS Initial Sustainability Appraisal Summary Report

December 2011

Summary

Sustainability Appraisal is a process that promotes sustainable development by integrating social, environmental and economic considerations into major new plans and programmes. It is a way of ensuring sustainable development is at the heart of plans and policies. This report accompanies the 'Developing the Preferred Option' consultation document and describes the Sustainability Appraisal process that is being used to assess the Joint Core Strategy for Gloucester City, Cheltenham Borough and Tewkesbury Borough.

Scoping of the Sustainability Appraisal was carried out during 2008 and this was used as the basis for the development of a sustainability framework for assessing the Joint Core Strategy. The draft framework was subjected to assessment by statutory consultees and general public consultation before being finalised.

The framework was used to appraise the Joint Core Strategy Strategic Objectives, appropriate changes were then made to them. Following this, work on Spatial Options to guide policy formulation of the Joint Core Strategy commenced. The sustainability appraisal found that none of the options was sustainable and a mixture of the options was necessary. As a result of stakeholder and public consultation and the findings of the sustainability appraisal, a balanced approach was adopted albeit with an economic bias.

The choice of the economically biased spatial option necessitates development peripheral to the major urban areas of Gloucester, Cheltenham and Tewkesbury/Ashchurch. A number of possible broad locations for development were identified surrounding the urban areas. These were subjected to sustainability appraisal and the findings used to identify the broad locations with the highest sustainability. Concurrent with this work, a number of scenarios for development were devised. These scenarios implemented the economically biased spatial option through four different alternatives with varying levels of development at and above urban capacity using the most sustainable broad locations as the focus for a specified level of development and employing a residual residential development figure to be allocated as a result of the consultation.

An Initial Sustainability Appraisal of the scenarios has been carried out. Scenario C is the most sustainable overall but Scenario A, which anticipates the lowest level of development, has the lowest impacts on the environment and Scenario D, which has the highest, is the most socially sustainable. There are likely to be significant effects on the Special Areas of Conservation within and bordering the Joint Core Strategy area according to the Habitats Regulation Assessment screening opinion.

There are a number of mitigation measures which would need to be taken to improve the sustainability of the scenarios. The majority of these are policy measures that could be written into the Joint Core Strategy as part of a suite of development management policies. A draft suite of Core Development Management Policies are proposed within the Joint Core Strategy Developing the Preferred Options Document. These currently set out broad principles for policy direction and will be developed into a Core Policy framework for inclusion within the Preferred Options Document in Summer 2012. Further Sustainability Appraisal work will be undertaken on the impacts of these in order to inform the preferred option policies.

Following this stage of the consultation the strategic objectives will be also finalised and subjected to a further sustainability appraisal which will form part of the submission Sustainability Appraisal Report. The selection of a preferred development scenario will also take place and this scenario will be subjected to an iterative sustainability appraisal and Habitats Regulation Assessment process to ensure that, wherever possible, mitigation measure for any negative impacts are written into the Joint Core Strategy. The Joint Core Strategy will then be subjected to further public consultation in Summer 2012 accompanied by a Draft Sustainability Appraisal Report.

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1.0 Introduction

- 1.01 Sustainability Appraisal is a process that promotes sustainable development by integrating social, environmental and economic considerations into major new plans and programmes. It is a way of ensuring sustainable development is at the heart of plans and policies. This report describes the Sustainability Appraisal process that is being used to assess the Joint Core Strategy for Gloucester City, Cheltenham Borough and Tewkesbury Borough. The report has been devised to accompany the “Joint Core Strategy: Developing the Preferred Option” document that has been prepared for public consultation. It is intended to guide readers through the sustainability appraisal process that has been undertaken to date, summarise the key findings of the appraisal and signpost the documents where more information about the impacts of the proposed scenarios can be found.
- 1.02 The report outlines the requirements for sustainability appraisal under the 2004 Planning and Compulsory Purchase Act (as amended 2008) and defines the scope of the Joint Core Strategy (JCS) and its sustainability appraisal, before describing the sustainability appraisal framework that has been developed through consultation. The latter part of the report concentrates on the sustainability appraisal work which has been carried out on the strategic objectives, the early stages of the development of the strategy and the options for taking forward the JCS. In conclusion, the report describes the next stages of the appraisal process.
- 1.03 The sustainability appraisal (SA) process also incorporates the requirements of the EU Strategic Environmental Assessment Directive, which is designed to ensure that new plans will either enhance or preserve the environment. Throughout the report all references to Sustainability Appraisal include the requirements of the Directive. The JCS is also subject to European Habitats Directive 92/43 which requires any plan or project that is likely to have a significant effect on a European designated site, such as a Special Area of Conservation, to be subjected to an Appropriate Assessment. Scoping and screening of the likely significant effects arising from implementation of the JCS has been carried out and is described in the latter half of the report.

1.1 The Sustainability Appraisal Process

- 1.11 Planning Policy Statement 12: Local Development Frameworks. The requirement is formalised in Statutory Instrument 2204 of 2004 - The Town and Country Planning (Local Development) (England) Regulations 2004, which states that a Sustainability Appraisal Report must accompany all Local Development Documents at adoption.
- 1.12 The Sustainability Appraisal process consists of five stages:
- | | |
|----------------|--|
| Stage A | Setting the context and objectives, establishing the baseline and deciding on the scope of the appraisal process |
| Stage B | Developing and refining alternatives and assessing effects |
| Stage C | Preparing the Sustainability Appraisal Report |
| Stage D | Consulting on the draft plan and Sustainability Appraisal Report |
| Stage E | Monitoring the significant effects of implementing the plan |
- 1.13 To date, Stage A, the scoping of the process, has been completed and Stage B, which assesses and refines alternatives, is currently underway and forms part of the current consultation process. Table 1 provides more detail on the discrete stages which must be undertaken for sustainability appraisal and shows how this complies with the Strategic Environmental Assessment directive.

Table 1: The Sustainability Appraisal/ Strategic Environmental Assessment Process

Sustainability Appraisal Stage	Strategic Environmental Assessment Directive Requirement
A1: Identification of other relevant policies, plans and programmes, and sustainable development objectives	An outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes. The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.
A2: Collection of baseline information	The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme. The environmental characteristics of areas likely to be affected.
A3: Identification of sustainability issues and problems	Any existing environmental problems that are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.
A4: Development of an Sustainability Appraisal Framework	
A5: Consultation on the scope of the Sustainability Appraisal with the statutory consultees	The authorities designated by Member States shall be consulted when deciding on the scope and level of detail of the information that must be included in the Environmental Report.
B1: Testing the Joint Core Strategy objectives against the Sustainability Appraisal Framework	
B2: Developing the Joint Core Strategy options	Identification, description and evaluation of likely significant effects on the environment of reasonable alternatives. An outline of the reasons for selecting the alternatives dealt with.
B3: Predicting the effects of the draft Joint Core Strategy	The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors
B4: Evaluating the effects of the Joint Core Strategy	
B5: Considering ways of mitigating adverse effects and maximising beneficial effects	The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.
B6: Proposing measures to monitor the significant effects of implementing the Joint Core Strategy	A description of the measures envisaged concerning monitoring.
C1: Preparing the Sustainability Appraisal Report	Preparation of an Environmental Report.
D1: Public participation on the Sustainability Appraisal Report and the Joint Core Strategy	The draft plan or programme and the Environmental Report shall be made available to the designated authorities and the public.
D2: Assessing significant changes	
D3: Making decisions and providing information	A statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report and the opinions expressed have been taken into account and the reasons for choosing the plan or programme as adopted, in the light of reasonable alternatives.
E1: Finalising aims and methods for monitoring	Member States shall monitor the significant environmental effects of the implementation of plans and programmes in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.
E2: Responding to adverse effects	

2.0 Stage A: Scoping the Sustainability Appraisal

Stage A1 Identification of plans, policies and programmes

Stage A2 Collection and update of baseline data

Stage A3 Identification of key issues

Stage A4 Setting the appraisal framework

Stage A5 Consultation on the SA framework

2.01 The initial stage of developing the sustainability appraisal framework was the scoping of the report. A review of relevant international, national, and local plans, policies and programmes was undertaken to allow sustainability themes from national and local drivers to be identified; this completed stage A1 of the SA process. A list of the plans, policies and programmes of relevance are shown in Appendix 1. Following this assessment, local data was collected to illustrate each of the themes. This data collection had two purposes; it was used to create a baseline which the effects of JCS can be monitored against post adoption and used to identify the key sustainability issues which the JCS would need to address. A summary of all the main issues arising from analysis of the baseline data is shown in Appendix 2. The key issues identified by the analysis included:

- Condition of SSSI – Neither Cheltenham or Tewkesbury are achieving the target for 95% of SSSI to be in either favourable or unfavourable but recovering condition.
- Flooding – there are significant risks from flooding, especially with changing climate.
- Air Pollution – there are an increasing number of Air Quality Management Areas in the JCS Area.
- Brownfield land – high take-up in both Gloucester and Cheltenham means that fewer sites available bringing pressures on garden areas, which potentially impacts on quality of life, opportunities for food growing, wildlife and flooding.
- Employment Land Provision – the need to ensure the provision of future employment land supply.
- Gross Weekly Pay – pay in Gloucester is significantly lower than in Cheltenham and Tewkesbury.
- Affordability – house prices have risen dramatically and fewer affordable homes available. House price to income ratios are very high, especially in Cheltenham.
- Social Deprivation Inequalities – there are significant variations in the level of deprivation between and within the urban areas covered by the JCS.
- Healthy Lifestyles and Health Inequalities – differentials in the number of residents dying early as a consequence of key health problems is evident across the JCS area.
- Education Deprivation – inequalities both between and within urban areas.

2.02 The baseline data has been updated at regular intervals over the development of the JCS. The last update was completed during autumn 2010 and a further update is scheduled for autumn 2011.

2.03 Following the identification of the key issues, a draft sustainability framework was devised. The framework consists of sustainability objectives, decision aiding questions and potential monitoring indicators. Table 2 sets out how the Sustainability Objectives are linked to the key issues. A draft SA scoping report was prepared which outlined the scope of the SA and set out the sustainability framework.

Table 2: Sustainability Objective linked to the Sustainability Themes and Key Issues

Key Sustainability Theme (stage A1)	Key Sustainability Issue (stages A2 & A3)	SEA Topic	Sustainability Objective (stage A4)
Biodiversity	Condition of SSSI, Land Designated as AONB or Green Belt, Air Pollution	Biodiversity, Fauna and Flora, Cultural heritage and Landscape	1. Safeguard and enhance biodiversity and improve connectivity between green spaces.
Climate change	Adoption of Code for Sustainable Homes Level 4, Air Pollution, Car Ownership, Transport Choices	Climate Factors, Air, Biodiversity, Material Assets	2. Reduce contribution to climate change and support households and businesses in reducing their carbon footprint.
Flooding	Flooding	Water and soil, climate factors	3. Adapt to the consequences of climate change. 4. Manage and reduce flood risk and surface water runoff.
Natural Environment and Resources	Brownfield Land, Land Designated as AONB or Green Belt, Condition of SSSI	Biodiversity, Fauna and Flora, Cultural Heritage and Landscape, Water and Soil, Material Assets	5. Protect and improve the quality of natural resources including soil, water and landscape. 6. Minimise the use of natural resources including soil, water and greenfield land.
Built Environment	Conservation Areas and Listed Building, Air Pollution, Brownfield Land, Town Centre Hierarchy, Hotel Bedstock, Affordability	Cultural Heritage and Landscape, Material Assets	7. Protect and enhance distinctive townscape quality and heritage.
Sustainable Transport	Transport Choices, Healthy Lifestyles and Health Inequalities, Employment Land Provision, Car Ownership, Air Pollution	Population and Human Health, Air, Climate Factors, Material Assets	8. Improve accessibility, maximise the use of sustainable modes of transport and reduce the need to travel by the private car.
Waste and Pollution	Population and Household Size, Air Pollution, Healthy Lifestyles and Health Inequalities, Transport Choices	Climate factors, Water and Soil, Population and Human health, Water and Soil, Air, Material Assets	9. Minimise pollution and waste to landfill
The Economy	Employment Land Provision, Business Stock, Unemployment, Education Attainment, Gross Weekly Pay, Inequality in Labour Markets, Transport Choices	Population and Human Health, Climate Factors, Water and Soil, Material Assets	10. Ensure the availability of employment land and premises to encourage inward investment and support growth of existing businesses
City and Town Centres	Town Centre Hierarchy, Hotel Bedstock, Conservation Areas and Listed Buildings, Transport	Population and Human Health, Cultural Heritage and Landscape	11. Support the vitality and viability of city and town centres as retail, service, leisure and learning destinations

Key Sustainability Theme (stage A1)	Key Sustainability Issue (stages A2 & A3)	SEA Topic	Sustainability Objective (stage A4)
	Choices		
Sustainable Communities	Affordability, Social Deprivation inequalities, Inequality in Labour Markets, Healthy Lifestyles and Health inequalities, Education Deprivation, Social Deprivation inequalities	Population and Human Health, Climate Factors, Air, Population and Human health	12. Reduce inequality and promote social cohesion. 13. Reduce crime and the fear of crime
Health	Healthy Lifestyles and Health Inequalities, Air Pollution, Transport Choices	Population and Human Health	14. Improve access to health facilities and promote healthy lifestyles.
Housing	Population and Household Size, Affordability, Vacant Homes and Second Homes, Brownfield Land, land Designated as AONB or Green Belt, Adoption of Code for Sustainable Homes Level 4	Population and Human Health	15. Ensure everyone has access to a decent home that they can afford and meets their needs.
Green space	Condition of SSSI, Land Designates as AONB or Green Belt, Brownfield, Healthy Lifestyles and Health inequalities	Biodiversity, Fauna and Flora, Climate Factors, Population and Human Health	16. Create, enhance and protect open spaces.
Education and Skills	Education Attainment, Education Deprivation, Social Deprivation Inequalities, Gross Weekly Pay	Population and Human Health	17. Improve access to education and lifelong learning and enhance skills.
Culture and Tourism	Town Centre Hierarchy, Conservation Areas and Listed Buildings, Hotel Bedstock	Cultural heritage and Landscape, Material Assets	18. Protect and enhance cultural heritage and promote tourism.

- 2.04 The draft SA scoping report was made available to the three statutory consultation bodies identified under the Strategic Environmental Assessment Regulations (2004): English Heritage, the Environment Agency and Natural England. A roundtable discussion of the framework was undertaken and the comments of the statutory bodies were used to revise the framework and the report in preparation for a period of public consultation which took place during October and November 2008. The report was made publicly available on all three Council's websites and was also sent to Gloucestershire Primary Care Trust, the Gloucestershire Wildlife Trust and Gloucestershire County Council.
- 2.05 A number of comments regarding the SA framework were made as a result of the public consultation. As a result of these comments, further changes to the SA framework were made before it was finalised and published on the JCS website in November 2009. Finalisation of the SA framework marked the completion of Stage A of the SA process. A full schedule of consultation comments together with officer responses and a document setting out the full SA framework is available from the JCS website at <http://www.gct-jcs.org/SustainabilityAppraisal/>. The SA framework is also shown in Appendix 3 to this report.

3.0 Stage B: Assessing and Refining Alternatives

3.1 Appraising the Strategic Objectives

- 3.11 A draft vision and key issues for the JCS were prepared during 2008. The vision and key issues were subjected to stakeholder consultation via an LSP seminar held in November 2008. As a result of this seminar a series of Strategic Objectives for the JCS were developed and changes to the vision made. These were presented as part of the general public consultation on the 'Issues and Key Questions Document' accompanied by the finalised SA Framework carried out in December 2009.
- 3.12 As a result of the December 2009 public consultation further changes were made to the Strategic Objectives. The revised Strategic Objectives were subjected to a sustainability appraisal at this stage. The results of this can be viewed in Table 4. The revised objectives were presented at a series of stakeholder consultation events in June 2010 and subjected to general public consultation via the JCS website for six weeks commencing in June 2010.
- 3.13 The pre consultation SA of the Strategic Objectives showed that the majority of the objectives were compliant with the sustainability indicators. However, due to the early stage of development a significant number of the objectives required further strategy development to allow a full assessment to be made. Most importantly a number of the Strategic Objectives were in conflict with two or more of the sustainability indicators. These included:
- Strategic Objective 3: Housing
 - Strategic Objective 4: Skills and Education
 - Strategic Objective 7: Flooding
 - Strategic Objective 8: Natural Environment
 - Strategic Objective 9: Climate Change
 - Strategic Objective 10: Culture, Leisure and Tourism
- 3.14 In the broadest terms the conflicts between the SA indicators and Strategic Objectives arose from clashes between social and environmental sustainability wherein the achievement of social sustainability aims would be at the expense of the natural environment. This was naturally a cause for concern and meant that further changes to the Strategic Objectives were necessary to ensure that social progress was not at a high environmental cost.
- 3.15 Following the consultation and further work on the policy options, the objectives were revisited and revised in line with the findings of the SA and the consultation. The objectives were then subjected to a further SA, the results of which are shown in Table 5. As can be seen from Table 5 the revised Strategic Objectives generally performed well against the sustainability indicators however Strategic Objective 5: Conserve and Improve the Natural Environment, Strategic Objective 6: Promote Economic Growth and Strategic Objective 7: Provide for Local Housing Need were still in conflict with three or more indicators. As a result of this SA a number of changes to the wording of the Strategic Objectives were made; some of these have been taken forward as part of the consultation on the 'Developing the Preferred Option' document that this report accompanies.

Table 4: Summary of the Appraisal of the JCS Objectives Against the Sustainability Indicators - Pre Consultation

Key: + Positive correlation
 0 No significant correlation between the objectives
 - Likely negative impact
 ? Further strategy development required to assess impact
 a Compatible with suggested minor amendments

	SUSTAINABILITY INDICATORS																	
	Biodiversity	Climate Change		Flood	Natural Resources		Historic Environment	Transport	Waste/ Pollution	Economy	Urban Centre	Inequalities	Crime/Fear of	Health	Housing	Green Space	Education/Skills	Culture Tourism
		Adaptation	Mitigation		Quality	Use												
SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17	SA18	
Strategic Objectives	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12	SA13	SA14	SA15	SA16	SA17	SA18
SO1: Regeneration	?	?	?	?	?	?	+	+	?	+	+	+	+	+	+	+	+	+
SO2: Jobs and Economy	?	?	?	?	?	?	?	+	?	+	a	+	+	+	+	+	+	+
SO3: Housing	-	-	?	?	?	?	+	a	-	+	+	a	+	+	-	-	+	0
SO4: Skills and Education	-	-	?	?	?	?	0	0	?	+	+	+	+	+	+	0	a	0
SO5: Access to Services and Healthcare	+	0	+	+	+	0	0	a	0	0	+	+	+	+	+	0	0	+
SO6: Transport	?	+	a	+	+	0	+	+	+	+	+	+	0	+	+	+	+	+
SO7: Flooding	+	0	+	+	+	+	+	0	0	-	0	0	0	0	-	+	0	0
SO8: Natural Environment	a	-	+	+	+	+	+	0	-	0	a	+	0	+	-	+	0	+
SO9: Climate Change	+	+	-	+	?	0	-	+	+	-	+	+	-	a	-	a	0	+
SO10: Culture, Leisure and Tourism	-	-	0	0	-	0	+	-	-	a	+	a	+	+	0	a	0	a

Table 5: Summary of the Appraisal of the JCS Objectives Against the Sustainability Indicators - Post Consultation

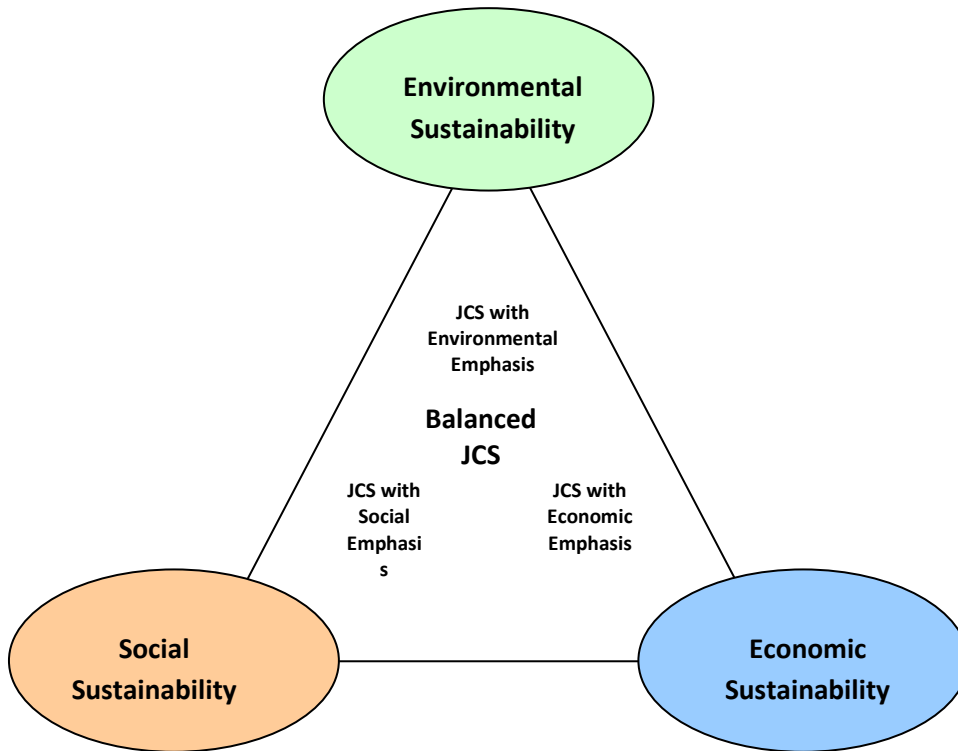
Key: ++ Very positive correlation
 + Positive correlation
 +/- Both positive and negative impacts
 - Likely negative impact
 -- Extremely negative impact
 ? Further strategy development required to assess impact
 0 No significant correlation between the objectives

Strategic Objectives	SUSTAINABILITY INDICATORS																	
	Biodiversity	Climate Change		Flood	Natural Resources		Historic Environment	Transport	Waste/ Pollution	Economy	Urban Centre	Inequalities	Crime/Fear of Crime	Health	Housing	Green Space	Education/Skills	Culture/Tourism
		Adaptation	Mitigation		Quality	Use												
SA 1	SA 2	SA 3	SA 4	SA5	SA6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12	SA 13	SA 14	SA 15	SA 16	SA 17	SA 18	
S01: Climate Change	+	++	+	+	+/-	+	+/-	+	+	+/-	+	+	0	+	+/-	+	?	-
S02: Flood Risk	+	0	++	++	+	+	+/-	0	0	+/-	+/-	+	0	+	-	++	0	0
S03: Strategic Development in Urban and Rural Communities	OBJECTIVE HAS NOT BEEN APPRAISED																	
S04: Built Environment	+	+	+	+	+/?	+	+	+	+	+	++	+/-	+	0	+	+	+	+
S05: Natural Environment	++	-	+	+	++	+	+	-	+/-	-	0	+	0	+	+	+	+	+
S06: Economic Growth	-	-	0	?	+	-	?	+/?	?	++	++	+/-	+/-	+	+	-	++	+
S07: Local Housing Need	-	-	-	+	?	?	-	?	-	+	++	+	0	+	++	-	+	0
S08: Social Equality	+/-	+	+	++	+	0	0	+	0	+	+	++	++	++	+	++	0	+
S09: Skills and Education	0	?	0	0	0	0	0	-	0	++	0	+	+	+	0	0	++	?
S010: Jobs and Services	+/-	?	+/?	0	+	0	0	++	?	+	+/-	++	+	++	+	++	+	+/-

3.2 Appraising the Spatial Options

3.21 It is immediately apparent from a reading of the SA objectives that it would be impossible to satisfy them all and that a compromise needed to be reached on where the JCS would position itself within the sustainability triangle. The diagram in Figure 1 illustrates this point. To this end the baseline data and plans, policies and programme review were used to develop a series of three 'pure' spatial development options pushing environmental, social and economic sustainability to their limits.

Figure 1 – Positioning the JCS



3.22 The three Spatial Options developed were characterised by the element of sustainability they were biased towards but still had to be realistic in terms of implementation. Table 6 summarises the Spatial Options and lists some of the advantages and disadvantages associated with each. The Spatial Options were subjected to consultation with key stakeholders via a series of seminars held in May 2010 and workshop sessions with fifteen parish councils across the JCS area in June and July 2010. As a result of the consultation on the Spatial Options work it was agreed that, with regard to policy development, the JCS would take a balanced approach with an emphasis placed upon the economy.

3.23 In order to ensure that the elements of the spatial option taken forward were compatible with the Sustainability Objective an SA of the spatial options was carried out. Table 7 summarises the SA of the Spatial Options. The results of SA were fairly predictable given their rather generalised nature; further information was required to enable an assessment to be made for the majority of sustainability indicators. However, carrying out the SA was a useful exercise in that it highlighted some of the ways in which the chosen option could be made more sustainable, for example through the use of policies to require sustainable construction or a certain level of affordable housing within residential developments.

Table 6: Spatial Options

<p>1. A strategy focused on achieving stronger communities JCS policies would seek to strengthen, and meet the needs of, communities by providing housing, employment and community facilities in areas with a recognised need. Such need may result from lack of provision, insufficient capacity, or an area's poor accessibility to the urban centres and main rural settlements. This approach would result in a dispersed pattern of development across urban and rural areas alike.</p>	
<p>Advantages</p> <ul style="list-style-type: none"> ▪ Seeks to meet the needs of existing and future populations. ▪ Addresses current social issues and seeks to achieve a more balanced and mixed community. ▪ Directs development to accessible locations, in urban and rural areas. ▪ Seeks to make rural areas more resilient in support of existing communities. ▪ Encourages cycling, walking and public transport use. ▪ Seeks to enhance the built and natural environment, and to promote physical and mental wellbeing. 	<p>Disadvantages</p> <ul style="list-style-type: none"> ▪ The strategy's emphasis on delivery of, and contributions to, affordable housing and community facilities may affect the viability of schemes and redirect investment away from other, equally important infrastructure requirements. ▪ Timescales and viability for identifying and implementing regeneration initiatives in deprived areas (over and above those already happening) may be prohibitive. ▪ Development opportunities within deprived areas are often limited. In order to create opportunities for the benefit of all, the demolition of existing housing or employment uses (which may otherwise be fit for purpose) may be necessary. ▪ Rural locations may be required to accommodate more housing than desired in order to support the desired community facilities.
<p>2. A strategy focused on achieving economic resilience JCS policies would seek to attract investment and development to the major urban centres to establish robust and resilient places which create jobs and in turn wealth, and which support the surrounding JCS area. This strategy would result in urban-focused development, primarily in and adjacent to Gloucester, Cheltenham and Tewkesbury.</p>	
<p>Advantages</p> <ul style="list-style-type: none"> ▪ A focus on the economy provides the greatest opportunity to improve the wealth and prosperity of local residents. ▪ The strategy targets development in more economically sustainable locations and provides the greatest opportunity to deliver urban regeneration which in turn will help to attract further investment. ▪ The strategy focuses development in areas of the JCS with the highest demand for housing/employment and with the greatest potential for delivery. ▪ The strategy directs new housing and employment growth to key centres, allowing for a possible reduction in travel to work journeys, traffic congestion, emissions and air pollution. ▪ The strategy provides opportunities for mixed developments, with a suitable balance of housing, employment, retail and community facilities. ▪ The concentration of development in urban centres reduces development impact on the wider JCS environment. 	<p>Disadvantages</p> <ul style="list-style-type: none"> ▪ Focussing development on the 'urban west' of the JCS area may be regarded as neglecting the 'rural east' in terms of providing housing and employment. ▪ Focusing development around the most accessible parts of the JCS area could also serve the wider sub-regional housing market encouraging commuting both into and out of the JCS area. ▪ The success of this option is reliant on the delivery of infrastructure to ensure concentrated balanced development is deliverable and workable on the ground. Difficulties in providing this will result in problems with delivery of this urban-focussed approach. ▪ Existing satellite settlements (in areas where development would be focussed) have little surplus brownfield land, meaning delivery may result in a change to the landscape.

3. A strategy focused on addressing the causes and consequences of climate change

JCS policies would seek to reduce carbon emissions (complying with statutory targets of 80% reductions by 2050) and improve resilience to the predicted effects of climate change, while providing for development within the area's environmental capacity. This would result in development consolidated into fewer, larger areas in and adjacent to Cheltenham and Gloucester – or potentially a single new settlement at a size appropriate for a self-contained, sustainable community.

Advantages

- Provides an immediate response to the need to mitigate/adapt to climate change.
- Concentration of development allows for: the protection of environmental assets; safeguards land of the highest ecological and agricultural value; reduces the need to travel; and reduces the impact of flooding on the JCS area.
- A new settlement would minimise the impact of development on Cheltenham and Gloucester.
- Reduces reliance on imported fossil fuels and global and national distribution networks.
- Provides for greener urban areas with more access to biodiverse, open space.
- Allows for more resilient settlements with provision for local food production and energy generation.
- Potentially high provision of social housing and other infrastructure due to economies of scale achievable by the consolidation of strategic development
- Opportunity to establish the JCS area as a location for green industries (building on its high-tech manufacturing heritage).

Disadvantages

- Major impact of strategic development area(s) on the landscape/ biodiversity of the specific selected site(s).
- Strategic development area(s) require a critical mass of development to progress thereby limiting opportunities for development across the wider rural area of Tewkesbury Borough.
- Concentration of development and employment in key centres may have detrimental social and economic consequences for rural communities, threatening their long term viability and the quality of the countryside as a whole.
- Concentrating public transport provision around key areas would lead to isolation of more outlying communities.
- Implementation is reliant on significant infrastructure investment in difficult economic times.
- Demanding high levels of energy efficiency in buildings will impact on viability.
- May increase land take due to the demand for open space, SuDS, urban cooling, etc.

Table 7: Summary of the Appraisal of the Spatial Options against the Sustainability Indicators

Key: + Positive correlation
 0 No significant correlation between the objectives
 - Likely negative impact
 ? Further strategy development required to assess impact

Spatial Option	SUSTAINABILITY INDICATORS																	
	Biodiversity	Climate Change		Flood	Natural Resources		Historic Environment	Transport	Waste/ Pollution	Economy	Urban Centre	Inequalities	Crime/Fear of Crime	Health	Housing	Green Space	Education/Skills	Culture/Tourism
		Adaptation	Mitigation		Quality	Use												
	SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12	SA 13	SA 14	SA 15	SA 16	SA 17	SA 18
Climate Change	+	+	+	+	?	?	-	?	?	?	?	?	?	+	?	+	+	?
Economic Resilience	?	?	?	?	?	?	?	?	?	+	+	?	?	+	+	?	+	+
Stronger Communities	+	?	?	?	?	?	?	?	?	+	+	?	+	?	+	+	+	?

3.3 Appraising the Broad Locations

- 3.31 The choice of the economically biased spatial option necessitates development peripheral to the major urban areas of Gloucester, Cheltenham and Tewkesbury/Ashchurch. A number of possible broad locations for development were identified surrounding the urban areas. These were subjected to SA and the findings used to identify the broad locations with the highest sustainability.
- 3.32 The Initial SA of the Broad Locations was crucial in helping to identify the location around the urban areas which would be most sustainable with the least sensitivity to development. Figure 2 identifies each of the broad locations on a map. A summary of the SA for each location is given in Table 8. The full SA of each broad location is shown in Appendix 4. The SA of the Broad Locations found that areas G1, G2, G3, G9, C3, T2 and parts of C2, C5 and C6 performed best in terms of sustainability. Broad location G5 performed reasonably well but the majority of the area had already been allocated for development. The broad locations taken forward by the scenarios accord with the findings of the sustainability appraisal.

Figure 2: Map showing the Broad Locations broken down by sub area

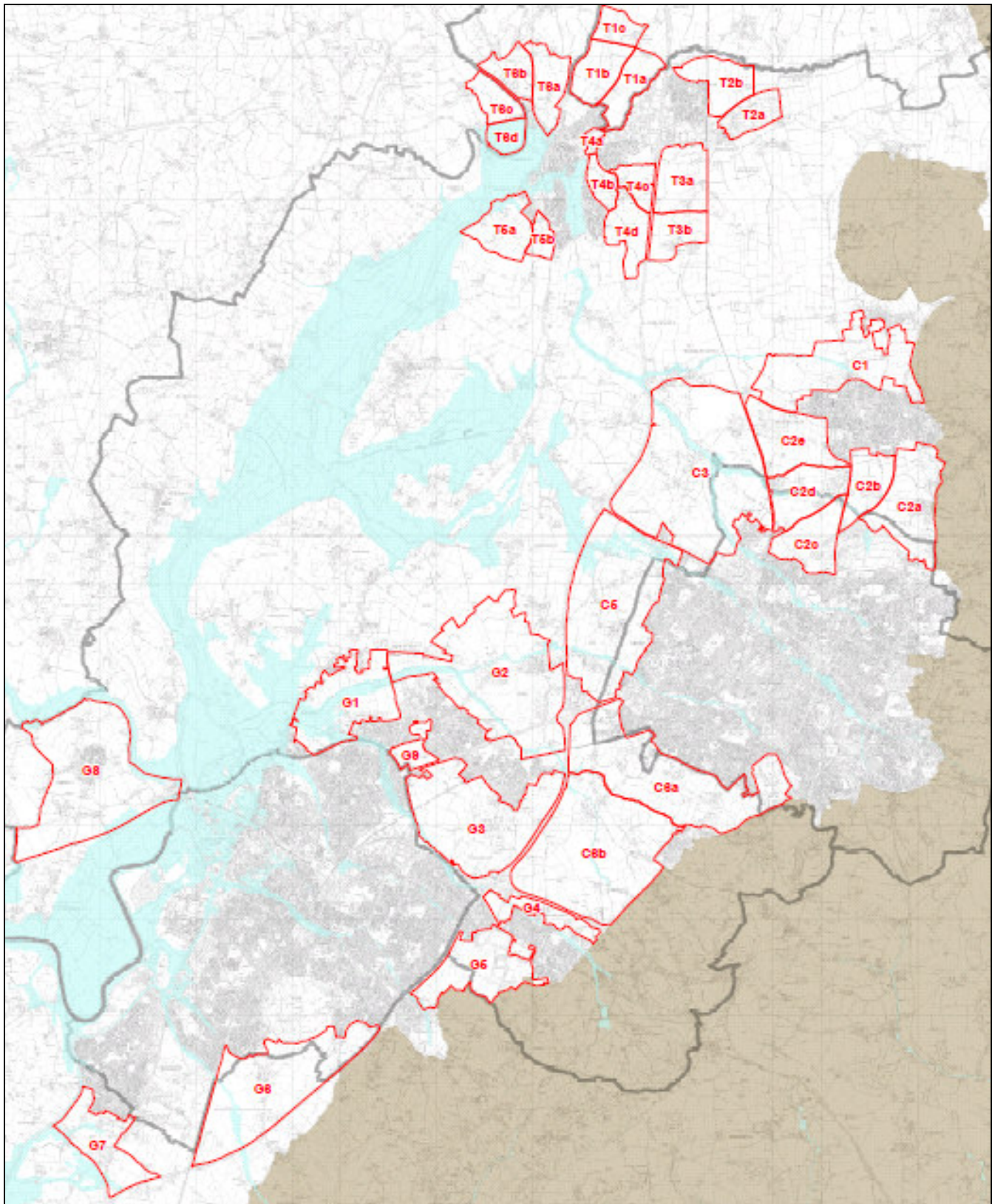


Table 8 – Summary of the sustainability appraisal of each of the broad locations.

Broad Location	Sustainability Appraisal Summary
G1 Land North of Gloucester	Scores highly against all the sustainability criteria apart from Flood Risk and Use of Resources, almost 50% of the area is Grade 1 agricultural land. Reducing the development area to land south of the area of flood risk is likely to greatly increase the sustainability rating of this broad location. Development of this site offers significant opportunities to improve natural habitats and enhance biodiversity and for this reason scores particularly highly against this objective. The initial determination of the landscape sensitivity of this site is of low quality and it is expected that the landscape character could be replaced or substituted. The area is well related to the Gloucester urban area and key facilities and services would be readily accessible.
G2 Land North/North East of Gloucester	Scores well in relation to flood risk and use of natural resources, and reasonably well in relation to biodiversity impact. This is a large site with varying habitat, much is mown grassland of either the airport or the golf course. The area scores poorly as regards landscape sensitivity. The location is located centrally within Gloucester and Cheltenham and offers good access to existing highway infrastructure. It is also centrally located between the two main area of population and employment and has the opportunity in the long term to provide a sustainable location for development opportunities. The area does, however, provide a visual gap between the two settlements of Gloucester and Cheltenham.
G3 Land North East of Gloucester	Scored reasonably well against most sustainability objectives, apart from landscape sensitivity. The area, which has the influential landscape form of Churchdown Hill at its centre, is considered to be an important part of the wider green corridor creating a visual gap dividing the two large urban areas. The area is not well linked for residential purposes to an existing community although the north western sector of this site between the A40 Golden Valley and railway could provide an excellent employment opportunity with good highway infrastructure linkages. This broad location site is not considered suitable for large scale housing, but part of the site could be taken forward for consideration for some employment land use.
G4 Land East of Gloucester	Scored extremely well in relation to most of the sustainability objectives. Sympathetic development could result in significant biodiversity improvements. The site is largely unconstrained by flood risk, and although currently designated as greenbelt its landscape sensitivity has been assessed as low. The westernmost parcel of land is probably more appropriate for industrial use with potential for residential development on land to the south of the A417 and west of Brockworth Road. The site is well connected to existing employment and services/facilities, and is reasonably close to Gloucester city, with good transport connections. The results of this initial SA appraisal suggest that the site should be taken forward for further consideration as part of the JCS site search.
G5 Land East of Gloucester at Brockworth	This area scores well against the sustainability objectives. However, much of the area has already been developed or is already allocated for development. Part of this broad location lies outside the JCS area within Stroud, however this part of the area is considered to be less suitable for further development owing to poor highway infrastructure to and nature conservation constraints. For these reasons it is recommended that this site is removed from the broad location search.

Broad Location	Sustainability Appraisal Summary
G6 Land to the South of Gloucester at Brookthorpe with Whaddon	<p>This broad location performed quite poorly against many of the sustainability objectives. G6 is subject to landscape designations owing to proximity of lower scarp slopes of Cotswolds AONB escarpment and presence of Robinswood Hill outlier which dominate the topography of this broad location. The biodiversity value of the area is not considered to be of high importance, although there could potentially be opportunities to enhance biodiversity.</p> <p>The area is not particularly suitable for employment development owing to poor highway infrastructure and relative remoteness from trunk roads. A major issue for any large scale development is that the area is subject to a number of significant access barriers that limit the availability of both private and public transport infrastructure. New infrastructure to access the site is also difficult to achieve and likely to be highly costly, particularly with regard to the crossing the mainline railway. This broad location is a long distance from the city centre for access to shops, services and facilities. Development of this area could have a detrimental impact on the strategic aim to create and sustain a vibrant community, and has the potential to increase inequalities especially for those without access to a private car, and would constitute a continuation of urban sprawl away from the main city centre.</p>
G7 Land to the South of Gloucester at Hardwicke	<p>Similar to the findings of the SA of G6. This broad location performs poorly against much of the sustainability criteria, particularly in relation to adverse impact on biodiversity value, accessibility to key services and facilities, and the need to ensure greater self containment of the main urban areas and protecting against urban sprawl. The area does not perform well in terms of sustainable transport, or connectivity with existing settlements. It did perform well in relation to the economic objectives as there are existing employment opportunities nearby and the area has good access to the motorway network, however current development is already causing pressure on the M5 Junction 12, large scale development at this broad location would exacerbate this situation</p>
G8 Land to the West of Gloucester at Highnam	<p>This area performed poorly against several of the SA objectives and did not score well against any of the objectives. While much of the area is unconstrained against flood risk, the flood zone lies to the east and south of the area which could have implications for access into this broad location area unless significant infrastructure is put in place to ensure new development does not become isolated following a flood event. This area performed particularly poorly against the objective to preserve the best and most versatile agricultural land; approximately 50% of the area is the highest classification, Grade 1. The broad location is remote and rural; large scale development would be expected to overwhelm the small settlement of Highnam. Accessibility would also be an issue and development at this broad location is expected to increase the use of the private car to access employment, education, and community services and facilities, unless significant investment into public transport and sustainable transport measures were made.</p>
G9 Land to the South of Churchdown	<p>The broad location is surrounded by urban development and is closest to the urban centre of Gloucester. Its development is likely to lead to greater self-containment of the urban area. There is a concern that development of the area could lead to the agglomeration of Innsworth and Churchdown with Gloucester, although this can be mitigated through careful masterplanning to provide green public space along the northern border of this broad location to help retain some separation between the settlements. The area is considered to be of low biodiversity value, but does contain an important green space which is allocated in the Tewkesbury Local Plan. The area is currently within the greenbelt and its landscape sensitivity is considered to be medium to high although the value of the landscape lies with providing a green amenity and visual divide between the city and the two villages, rather than a visual divide between the two major urban areas. If the site could be developed without encroaching on the designated important greenspace and masterplanned to retain some green and visual divide between the settlements, it may be one of the most sustainable peripheral broad locations.</p>

Broad Location	Sustainability Appraisal Summary
C1 Land to the West and North of Bishop's Cleeve	<p>This broad location is considered to be poor in terms of biodiversity value so performed well against biodiversity objectives compared to some of the other broad location sites. However it scored extremely poorly on most of the other sustainability objectives used within the broadbrush assessment. In particular, this location is not peripheral to Cheltenham and its distance from the main urban area is likely to increase the necessity to use the private car to access jobs and services.</p> <p>Development of this area (which forms the countryside fringe of Bishops Cleeve to the north), particularly large scale residential development, would be expected to increase the problem of the urban sprawl of Bishops Cleeve northwards and away from Cheltenham town centre, and is therefore not expected to increase levels of self containment and ensure the continued vitality and vibrancy of the main urban centres. Bishops Cleeve has seen tremendous residential growth in recent years. Services and facilities within this settlement are limited; any additional development is likely to put additional stress on current services in the village. For these reasons it is felt that parts of the other broad location areas are likely to perform much better against the sustainability objectives and would be more suitable to undergo more detailed assessment. It is recommended that this broad location area be removed from the JCS broad location search.</p>
<p>C2 Land between Cheltenham and Bishop's Cleeve</p> <p>At the earliest stages of appraisal it became apparent that this broad location site, had widely different opportunities and constraints, along with well defined boundaries such as roads, railway lines, and flood corridors. For this reason it was decided to split the site into five segments. Parts of this broad location area scored reasonably well against the sustainability criteria and should now be taken forward for further and more detailed sustainability appraisal, namely: southern most part of sub-area C2d and sub-area C2c.</p>	<p>C2a Land between the GW Railway and the AONB, performed particularly poorly in the sustainability assessment especially as regards landscape sensitivity, biodiversity value, likelihood to fragment important habitats and the need to protect rural settlements from urban sprawl. This sub-area is designated in the local plan as a special landscape area and lies adjacent to the AONB. Due to the openness of the area, scope for mitigation for any development would be difficult without detrimental effects on its overall character and value. The part of the site nearest the southern boundary of this site would be better related to Cheltenham; however this part of the site is constrained due to flood risk. In conclusion it is recommended that this sub-area of Broad Location C2 be removed from the JCS Broad Location Search.</p> <p>C2b Land between the GW Railway and the A435. Was found to have some biodiversity value, although generally poor biodiversity potential and moderate to high landscape sensitivity. Floodrisk is not considered to be a constraint but this sub area is considered to form an important strategic landscape buffer between Bishops Cleeve and Cheltenham. Most of the site is closer to Bishops Cleeve than Cheltenham and is therefore mainly remote from the main urban centre. The southernmost part of this sub-area is better connected and is also on the public transport corridor. In conclusion most of this site is unlikely to be considered one of the more sustainable locations within the JCS search and it is recommended that it be removed from the JCS broad location search.</p> <p>C2c Land to the West of Cheltenham Race Course, performed reasonably well against most of the sustainability objectives. It was considered to have a low biodiversity value compared to many of the other broad location areas, flood risk is not considered to represent a constraint in this sub area of C2. Generally the landscape value is of low amenity, historic or ecological value, although parts of the site have clear distant views to the Malverns and in part to the Cotswolds. It was considered to have a moderate landscape value, although parts of the area are clearly more sensitive than others. The northern boundary of this sub area is peripheral to Cheltenham and its range of services, facilities and employment opportunities. Any development in this part of the sub-area would be expected to have a positive impact on the objective to create and sustain a vibrant community which would support the existing town and city centres. In conclusion it is recommended that this sub-area be retained in the JCS Broad Location Search and undergo a more detailed sustainability appraisal.</p>

Broad Location	Sustainability Appraisal Summary
	<p>C2d Land between the mainline railway and the A435. Was found to have some good biodiversity value and potential. This site is partially constrained by floodzone and was considered to have an overall landscape sensitivity rating of moderate to high. Whilst the landscape is generally of low amenity with little ecological value, its location viewed from the AONB makes it fairly prominent and a key part of the green division between Bishops Cleeve and Cheltenham. However the southern most part of this sub-area is reasonably close to central Cheltenham and is close to the public transport corridor, therefore any development in this part of the sub area may be more sustainable in terms of accessibility to key facilities, services and employment sites. It is recommended therefore that the most southern part of this broad location (the part most peripheral to Cheltenham) be retained within the JCS search and undergo more detailed sustainability appraisal.</p> <p>C2e. This sub-area of C2 performed poorly against most of the sustainability objectives. The broad location includes a SSSI and BAP habitat close to Wingmore Farm landfill site. The north west quadrant of the broad location lies within a current landfill site which means a large part of this area cannot currently be developed, and it is expected that post landfill completion this part of the sub-area could have high biodiversity potential provided it is re-landscaped sympathetically. Whilst flooding is not considered to be a constraint, this area is remote from the main settlement of Cheltenham and its development is therefore not expected to support the existing town centre. Its development could unlock some identified needed facilities in nearby Bishops Cleeve, but would be more likely towards the continued urban sprawl of this village (which has already seen significant housing growth in recent years) westwards towards Brockhampton and increased commuting to the main centres. For these reasons it is recommended that this sub-area of Broad Location C2 cannot be considered to be one of the least sustainable locations.</p>
C3 Land to the North West of Cheltenham	<p>This broad location came out as average against most of the sustainability objectives. However it is a large broad location and the northernmost part of it is not well located or easily accessible. The area naturally splits into three by the flood zone. If this broad location was reduced in size through the removal of the northern section, this broad location would have scored extremely favourably against most of the sustainability objectives. Parts of this broad location, in particular land at Uckington and Swindon to the South East of this broad location, did not score well in the recent Green Belt Review; they were considered to perform no separation role between the urban areas. In conclusion parts of this broad location are likely to perform well against the sustainability objectives in particular reducing the need to travel by private car and helping to ensure the continued vitality and vibrancy of the main urban centres. These areas may perform well against the sustainability objectives and could be taken forward in the JCS process for a more in depth sustainability appraisal.</p>
C4 Land a distance to the West of Cheltenham incl. Boddington	<p>Was not assessed. This broad location was discounted as it is not close to any of the main urban centres. It is separated from Cheltenham by the M4. C4's southern boundary forms the northern boundary of Gloucester broad location area G2. The northern part of G2 scored poorly on sustainability appraisal.</p>
C5 Land to the West of Cheltenham	<p>The northern part of this broad location is heavily constrained by flood zone, therefore the northernmost part of this broad location is unlikely to be suitable for development. This broad location area performed well as regards accessibility and the transport network. The central eastern part of the broad location near Fiddlers Green/Hayden is situated within close proximity to Hayden Sewage Works, this is likely to make this part of the broad location negative for housing development but could still allow some high tech industrial use. However, opportunities should be sought to discuss with the water authority on both the long-term plans for the site at Hayden Sewage Works and whether the extent of the cordon sanitaire zone is correct. The southern and eastern parts of this broad location performed reasonably well, particularly against the employment potential objectives and opportunities to access Cheltenham by non-car modes, and notwithstanding constraints such as Green Belt, it is recommended that these parts of this broad location are taken forward for further consideration and more detailed appraisal in the JCS process.</p>

Broad Location	Sustainability Appraisal Summary
C6 Land to the South of Cheltenham	<p>This large broad location area was deemed to be important for biodiversity value and therefore scored relatively highly. Overall C6a displays a good mosaic of habitat types which could make mitigation difficult, however there could be opportunities to link habitats and create wildlife corridors. If all, or parts, of this broad location area were to be taken forward for further consideration within the JCS process a detailed environmental impact assessment would need to be undertaken to help assess the impact of various options on biodiversity. Flooding is not a constraint within this broad location area. Land closest to the north/north eastern boundary of this broad location area is most peripheral to the Cheltenham urban core. Land around Leckhampton is particularly well connected to the urban centre. Much of this broad location area, especially Eastern parts are close to a range of good community facilities, services and would be expected to have a positive contribution in regards helping to sustain a vibrant town centre. The central and southern areas of the broad location are however increasingly remote from Cheltenham. Whilst the landscape sensitivity (for those areas for which evidence has been gathered in this broad location) has been considered to be moderate to high, the proximity of parts of this broad location to the urban centre and connectivity to transport infrastructure, and the fact that flooding is not a constraint; would indicate that this broad location area be reduced in size and three segments should be taken forward for further appraisal to enable the environmental, social and economic impacts/opportunities to be assessed, namely segment of land near The Reddings defined as land between the A40 to the North, Badgeworth Lane to the West and the Rail line to the South; Segment of land South-east of the railway line around Up Hatherley on either side of Sunfield Lane between Coldpool Lane and Chargrove Lane; and, Land to the south-west of Leckhampton bounded to the north-west by the A46 Shurdington Road, to the West by Farm Lane, the North by Church Road and to the East by public greenspace and allotments.</p>
<p>T1 Land at Mitton (in Wychavon District)</p> <p>Recommended that most of this broad location area be discounted from the JCS search area, due to biodiversity, landscape and flooding constraints and accessibility issues. However given the proximity of the southern half of sub area T1a to existing residential and employment development and its relative proximity to Tewkesbury Town it is considered that this segment up to Mitton Lodge should be taken forward for further in depth sustainability appraisal.</p>	<p>T1a identified as lowland agricultural landscape in Worcestershire Biodiversity Action Plan. The area does not have any landscape constraints; the main constraint on this area is flooding along the Carrant Brook and across the southernmost sector. There is a likelihood of archaeological deposits along the Carrant Brook. The southern part of the area is reasonably well located adjacent to existing residential and employment development however the presence of an area of high flood risk is a constraint to further development in this location. The need for a Tewkesbury Northern Relief Road to reduce congestion and prevent problems with air quality in Tewkesbury Town is a further constraint towards bringing forward this area for development. The southern sector of this area is well located with regard to access to primary school and secondary school facilities (if short cut cycle/footways are used) but is not within reasonable walking distance of services and facilities in Tewkesbury Town. The area is not well served by public transport however there may be opportunities to enhance facilities for other sustainable modes of travel.</p> <p>Given the proximity of the southern half of the area to existing residential and employment development and its relative proximity to Tewkesbury Town it is recommended the southern part of the area up to Mitton Lodge should be taken forward for further in depth sustainability appraisal. The northern half of this sub area is considered to be too remote to be sustainable and its development would result in urban sprawl northwards into open countryside.</p> <p>T1b - The majority of this area lies within the River Avon floodplain and is the site of a SSSI. Development at this location would not relate well to the existing built form of Tewkesbury as it would result in urban sprawl into open countryside to the north of the town. The part of the area which is developable land; namely a thin strip adjacent to the B4080 is remote from the services and facilities found in Tewkesbury Town and the not well served by public transport. This area is therefore discounted as a broad location for further investigation as it does not perform well in sustainability appraisal.</p>

Broad Location	Sustainability Appraisal Summary
	<p>T1c – Is a northerly rural outlier with a recreational and tourist facility equidistant between Tewkesbury and the village of Bredon. The area has a SSSI and is remote from services and facilities found in either Tewkesbury or Northway/Ashchurch. The area is not well served by public transport and therefore is discounted as a broad location for further investigation as it does not perform well in sustainability appraisal. Development of this area would not relate well to the existing built form of Tewkesbury as it would result in urban sprawl into open countryside to the north of the town.</p>
<p>T2 Land to the East of Ashchurch</p> <p>It is recommended this site be taken forward for further consideration in the JCS broad location search. This broad location performed well against most of the sustainability objectives and is the only Tewkesbury broad location area which is not subject to major flood constraints. A large part of the site is brownfield, probably contaminated land, of little biodiversity value. Regenerating this area will have extremely important environmental benefits and will help reduce the loss of Greenfield land to development. The drawback is the distance of this site from the main town centre, the site would need to be carefully masterplanned to ensure essential community facilities and services are easily accessible, whilst also helping to ensure that the development will help support the town centre's continued vitality. Deliverability and cost of land remediation may also be an issue.</p>	<p>T2a - This area is not affected by flooding and has low biodiversity value. It is a large brown field site situated 3.5/4km distant from Tewkesbury town centre which provides a range of facilities and services including primary health care and a large supermarket. The area is located adjacent to Ashchurch for Tewkesbury Railway Station and adjacent to Ashchurch Industrial Estate employment area and has good access to the M5 motorway. Redevelopment of this site would involve costs associated with decontaminating the site which has a railway, many hectares of hard surfacing and possible sources of asbestos. Any sustainable redevelopment of this area will need to provide a range of community infrastructure including primary healthcare as well as a district/local centre. Redevelopment of the site would provide opportunities to enhance biodiversity and the landscape of the area. Owing to its brown field status and lack of biodiversity, despite its distance from Tewkesbury Town, it is considered that this broad location should be taken forward for further consideration with a more detailed sustainability appraisal to ascertain its suitability for redevelopment.</p> <p>T2b – The northern part of this area is subject to flooding associated with the Carrant Brook and the biodiversity value of the riparian edge is high. Also a high probability of significant archaeological deposits to south of Carrant Brook mirroring finds on Worcestershire side of the Brook. The north western sector of this area to the west of the railway would provide a natural extension to Northway in close proximity to primary school facilities. The area to the east of the railway is more isolated but still performs reasonably well as a green field site in close proximity to primary education and in close proximity to Ashchurch Industrial Estate employment area. Development of this site would benefit from any community and highway infrastructure that might be provided at T2a however T2b would integrate more easily into existing development and community facilities at Northway than any new development at T2a. Owing to its proximity to existing residential, employment and community facilities at Northway and accepting that the northern part of the site is at high risk of flooding with biodiversity and archaeological constraints, it is considered that this site should be taken forward for further consideration with a more detailed sustainability appraisal to ascertain its suitability for redevelopment.</p>

Broad Location	Sustainability Appraisal Summary
<p data-bbox="128 175 758 207">T3 Land South of Ashchurch including Fiddington</p> <p data-bbox="128 240 758 475">This broad location area scored reasonably well against most the sustainability objectives. However, the problem with this site is that the most sustainable northern part of this area in regards to accessibility and proximity to essential infrastructure, is severely constrained by flood zone, which runs across the whole of the northern edge of this broad location area. It is recommended that T3 be discounted from the JCS search area.</p>	<p data-bbox="758 175 2032 597">The north of T3a is well connected to highway infrastructure via A46 and M5 Junction 9, however this part of the broad location also suffers from flooding which has a considerable impact in the developable area. The area is not subject to any landscape or biodiversity designations. However, that does not mean to say it has no biodiversity value, if the area were to be taken forward for further analysis its would need a detailed biodiversity and landscape assessment. It is close to sources of employment however it is remote from services and facilities provided in Tewkesbury town centre. Access from the north of the site to Ashchurch primary school is good, however access to the secondary school is truncated by the M5 motorway. The southern areas of T3a are remote from services and facilities. Public transport to Tewkesbury and Northway is provided via the A46 corridor. The close proximity of the M5 may cause problems with relation noise pollution should any new development be located close to the motorway. It is considered that this area should be discounted as a broad location and should not be taken forward owing to the presence of an extensive flood zone to north of site along the Tirl Brook which would effectively result in any new development being segregated from the existing built up area forming stand alone development in the open countryside. The further south any new development were located in the broad location the more remote it would become from existing services, facilities and public transport.</p> <p data-bbox="758 597 2032 813">T3b is remote from all services and facilities and is bounded to west by M5 motorway and to the east by mainline railway, the area is not served by public transport and is truncated by flooding. This area is not subject to any landscape or biodiversity designations. However, that does not mean to say it has no biodiversity value, if this area were to be taken forward for further analysis it would need a detailed biodiversity and landscape assessment, however it is discounted as a broad location and should not be taken forward because of its remoteness from existing services and facilities and the lack of access to public transport or ease of use of walking or cycling owing to its distance from the existing settlements of Tewkesbury of Northway.</p>
<p data-bbox="128 813 758 873">T4 Land to the South East of Tewkesbury including Walton Cardiff</p> <p data-bbox="128 906 758 1019">It is recommended that the whole of this broad location be discounted from the JCS search area due to considerable flood constraints and poor accessibility concerns.</p>	<p data-bbox="758 813 2032 906">Owing to the high level of flood risk within this broad location, despite its relative proximity to Tewkesbury town centre with its associated service and facilities, areas T4a and T4b are discounted as broad locations for further consideration as suitable for future development</p> <p data-bbox="758 906 2032 998">T4c is located in close proximity to a primary and secondary school and areas of employment however it is not easily accessible and opportunities to improve its accessibility are very limited, it is therefore discounted as a broad location for further consideration.</p> <p data-bbox="758 998 2032 1089">T4d is located furthest from Tewkesbury Town within this broad location and is also subject to flooding. Its development is considered unlikely to encourage sustainable modes of transport owing to its distance from services and facilities, therefore it is also discounted from further consideration as a location suitable for future development.</p>
<p data-bbox="128 1089 758 1122">T5 Land to the South West of Tewkesbury</p> <p data-bbox="128 1154 758 1300">This broad location area is one of the few areas peripheral and easily accessible to Tewkesbury town centre which is not subject to major flood constraints, however this is countered by other significant constraints. However, it is considered that the small sub area of T5b</p>	<p data-bbox="758 1089 2032 1300">T5a This broad location has good links to the SSSI of Severn Ham to the north and good green infrastructure links for wildlife to the Severn Ham & River Severn to the north and west. The whole area lies within a Landscape Protection Zone. The northern part of the broad location is subject to flooding, the whole area lies within the Battlefield register boundary and a large part of the area lies within a cordon sanitaire of a water treatment plant. Although the broad location is located in relative close proximity of the Tewkesbury Town centre the aforementioned constraints are significant enough to suggest that T5a should be discounted as an area of search for future development and accordingly it is recommended that this area should not be taken forward for further investigation.</p>

Broad Location	Sustainability Appraisal Summary
<p>that is developable would a) not enable a significant amount of development and b) could be considered to constitute ribbon development/urban sprawl and for these reasons it is recommended that the whole of T5 be discounted from further consideration in the JCS search.</p>	<p>T5b – This area is also within the Battlefield register boundary, is subject to Landscape Protection Zone designation and the northern part of the broad location is subject to flooding, however it has good access to the A38 to the east and via the A38 Tewkesbury Relief Road to the M5 at Junction 9. The area lies adjacent to existing residential development to the north and on the eastern side of the A38 and is within walking distance of a primary school in York Road. A public transport corridor along the A38 provides access to Tewkesbury Town & Ashchurch to the north and to Gloucester and Cheltenham to the south. Despite these constraints the eastern section of this broad location south of the Gupshill Manor public house could perhaps be considered further and undergo more in depth appraisal in particular the landscape value of this part of the broad location area and its importance to the historical battlefield designation (bearing in mind that there is already some built development within the historical designated area).</p>
<p>T6 Land to the North of Tewkesbury</p> <p>All of this broad location area performed poorly or average for all the sustainability objectives which were considered in this first broadbrush appraisal process. It is recommended that this broad location be removed from the JCS search area.</p>	<p>T6a – This broad location is subject to flooding from the River Avon along eastern boundary and although there are no SSSI's the seasonal flooding of the meadows adjacent to the River result in an area that is rich in biodiversity and regionally important for wading and over wintering species. The whole area lies within a Landscape Protection Zone. The southern part of the broad location lies in close proximity to Tewkesbury Town but does not enjoy good access to public transport services such that development would be generally dependent on car bourn journeys. There are no schools or primary health care facilities within a 20 minute walk of the area and it does not lie in close proximity to areas of employment other than Tewkesbury Town Centre. The area would be relatively inaccessible from Junction 9 of the M5 motorway for employment purposes and any increased volume of traffic would require the completion of the Tewkesbury Relief Road. For the reasons described above it is recommended that this area is discounted from the study and not taken forward for further consideration</p> <p>T6b – The western half of this broad location is subject to flooding associated with the River Severn and the whole area lies within a Landscape Conservation Area. There are Key Wildlife Sites at Shuthonger Common and adjacent to River Severn along Mythe Brook. The area well served by the A38 along the eastern boundary however this route does not enjoy good access to public transport services such that development would be generally dependent on car bourn journeys. There are no schools or primary health care facilities within a 20 minute walk and it does not lie in close proximity to areas of employment other than Tewkesbury Town Centre. The area is relatively inaccessible from Junction 9 of the M5 motorway for employment purposes and any increased volume of traffic would require the completion of the Tewkesbury Relief Road. For the reasons described above it is recommended that this area is discounted form the study and not taken forward for further consideration.</p> <p>T6c – This 100% green field site lies within the administrative area of Malvern Hills District Council and is totally floodplain associated with the River Severn. For this reason it is recommended that this area is discounted form the study and not taken forward for further consideration.</p> <p>T6d - This 100% green field site lies within the administrative area of Malvern Hills District Council and is totally floodplain associated with the River Severn. For this reason it is recommended that this area is discounted form the study and not taken forward for further consideration.</p>

3.4 Appraising the Scenarios

3.41 Concurrent with the work undertaken to identify broad locations for development peripheral to the urban areas was the development of a number of scenarios. These four scenarios implement the economically biased development strategy through four different alternative scenarios with varying levels of development. The scenarios use the most sustainable broad locations as the focus for a specified level of development and employing a residual residential development figure to be allocated as a result of the consultation. The main characteristics of the scenarios are given below:

3.42 Scenario A

This scenario focuses the majority of residential development on the existing urban areas of Gloucester, Cheltenham and Tewkesbury/Ashchurch with an additional 2400 homes to be delivered across the rural part of the JCS area over the plan period. To achieve this, only land already within the existing supply either as existing permissions, allocations or windfall development are taken into account.

3.43 Scenario B

In addition to the land already within the existing supply either as existing permissions, allocations or windfall development this scenario anticipates a further 13,200 dwellings being brought forward together with a minimum of circa 40ha of employment land. Within the rural areas, 2400 homes are to be delivered at a rate of 120 per annum over the plan period. In addition to this a further 3,700 homes will need to be delivered in unspecified locations. The rate of delivery under this scenario aims to meet the needs of 90% of the estimated population to 2031. This scenario anticipates a balanced rate of delivery throughout the JCS with development in the first ten years approximately equal to the development expected in the latter half of the plan period.

3.44 Scenario C

In addition to the land already within the existing supply either as existing permissions, allocations or windfall development this scenario anticipates a further 13,200 dwellings being brought forward together with a minimum circa 40ha of employment land. Within the rural areas, 2400 homes are to be delivered at a rate of 120 per annum over the plan period. In addition to this a further 7,400 homes will be delivered in unspecified locations. The rate of delivery under this scenario aims to meet the needs of 100% of the estimated population to 2031. This scenario anticipates a rate of delivery throughout the last ten years of the plan period equal to approximately 56% of the total development expected.

3.45 Scenario D

In addition to the land already within the existing supply either as existing permissions, allocations or windfall development this scenario anticipates a further 13,200 dwellings being brought forward together with minimum circa 40ha of employment land. Within the rural areas, 2400 homes are to be delivered at a rate of 120 per annum over the plan period. In addition to this a further 11,000 homes will be delivered in unspecified locations. The rate of delivery under this scenario aims to meet the needs of 110% of the estimated population to 2031. This scenario anticipates a rate of delivery of 60% of the overall development delivered in the latter half of the plan period.

- 3.46 An Initial SA of each of the scenarios has been carried out, the full results of which are shown in Appendix 5. Scenario C was assessed as being the most sustainable overall but Scenario A was found to have the lowest impacts on the environment and Scenario D to be the most socially sustainable. There are likely to be some 'significant effects' on the SACs within and bordering the JCS area according to the HRA screening opinion. There are a number of mitigation measures which would need to be taken to improve the sustainability of the scenarios. The majority of these are policy measures that could be written into the JCS as part of a suite of development management policies. Further work on these will be undertaken as part of the Preferred Options JCS in Summer 2012.
- 3.47 Limitations placed on development by Scenarios A and B may lead to an increase in long distance car borne commuting both into and out of the JCS area in the long term. Development within the broad locations offers opportunities to make best use of existing public transport links to the urban centres.
- 3.48 For all the scenarios there is potential for some loss of biodiversity due to redevelopment of long term brownfield land within the urban areas, however these impacts can generally be mitigated. In addition, there is some potential for increased development pressure on existing green corridors and green open spaces due to urban intensification which is less likely to accommodate wildlife into new development. Potential improvements to both biodiversity and access to green and open space are most likely to be achieved under Scenario B as the moderate level of development envisaged could be accommodated in such a way as to maintain or enhance existing levels. Impacts on the European sites within and adjacent to the JCS area are minimised under Scenario A and increase with the rising level of development envisaged under the subsequent scenarios with Scenario D the most likely to impact on them. Significant effects are most likely to arise from development within broad locations T2 and G1.
- 3.49 For all the scenarios the development envisaged within the broad locations could be accommodated within areas not affected by flooding and careful use of SUDs could mean that surface permeability is maintained. However, the eventual location of the residual development could make this more difficult to achieve.
- 3.410 Further detailed work is required in assessing the broad location options presented in the JC document as part of addressing the shortfall requirement but initial SA work has outlined that concentrating the residual development within the broad locations already put forward for development could have the effects of; increasing any landscape impacts, reducing the amount of green and open space that can be included within the developments, impacting negatively on biodiversity and would be likely to make the implementation of SUDs and the avoidance of any flood prone areas more problematic.
- 3.411 Worsening housing affordability is the key negative impact associated with Scenarios A and B, and to some extent C. Despite early decreases made to the net newly arising need in affordable housing, it is likely that by the end of the plan period the JCS would need to be delivering a number of homes far in excess of the overall annual development target just to meet the need for affordable homes. Scenario D has the biggest impacts on the requirement for affordable homes as under this scenario significant decreases are anticipated in the net newly arising need in affordable housing in the first fifteen years of the plan period, overall the requirement for affordable housing will rise by a modest amount in both Gloucester City and Cheltenham Borough but is likely to fall by approximately a fifth across Tewkesbury Borough.

- 3.412 The ability of people to meet the cost even of an 'affordable rent' product is also likely to decrease over the plan period. Lack of affordability could also lead to stagnation in the housing market leading to increased under-occupation of homes by the growing lone over 60s households, possible increases in long distance commuting as people can no longer afford to live in the area, and impacts on the attractiveness of the area for employers.
- 3.413 Under Scenarios C and D the number of people able to afford to buy increases with approximately half of all people being able to afford a home by 2031. This will have positive impacts on ensuring that everyone has access to a decent home at a price they can afford. In addition the level of people able to meet the cost of both market rents and 'affordable rent' products remain approximately stable over the plan period under both these scenarios. Scenario D has the biggest impacts on
- 3.414 Development within the urban area under all scenarios is likely to result in a more dense urban fabric with a higher population density. This will make access to goods and services by walking, cycling and public transport a more viable option due to the shorter distances that need to be covered. Restrictions to the levels of development made by Scenario A mean that the level of developer contributions that can be secured towards improvements to services will be limited; in the long term this may lead to services declining due to lack of continuous investment. Development within the Broad Locations is of an order that the level of developer contributions that can be secured towards improvements to services is likely to secure the continuation of existing services and secure new services where required. With the exception of Broad Location C6, the levels of development envisaged at the broad locations would be likely to require enhanced healthcare facilities which could result in better access to healthcare for the surrounding populations. Under Scenarios B, C and D, Broad Location T2 could accommodate some additional development from the residential residual which may make the development more sustainable with regard to access to services.
- 3.415 In the early part of the plan period a degree of economic growth can be secured due to "spaceless" growth and accommodated through existing allocations and permissions. In the mid and latter half of the plan period, employment land will need to be provided within the broad locations. Under Scenarios B, C and D there may be a certain lag in the development of employment sites within the broad locations. This may mean that employment led development opportunities come forward within the urban areas but further inward investment and expansion of existing businesses is delayed for a short time. Under Scenario A the limitations placed on development land is likely to lead to restrictions on economic growth in both the B and non B class sectors in the latter half of the plan period and would be likely to lead to the JCS area becoming a less attractive place to for business to relocate, start up, or expand in. There may also be an associated reduction in skills, training and apprenticeships opportunities across the area as employers cannot expand or move to alternative premises more suitable for their requirements.
- 3.416 A large proportion of the economic growth over the plan period is predicted to be in the non B class sectors such as retail, tourism and construction. There are land requirements associated with these sectors that are unlikely to be met under the restricted development envisaged under Scenario A and it will be difficult to meet this requirement within the broad locations proposed for development if the residual requirement for residential development were also to be accommodated in these areas under Scenarios C and D.

3.5 Appraising the Phase 2 Options

- 3.51 The approach to be taken in distributing the residual development envisaged under Scenarios B, C and D forms a major part of the consultation on developing the preferred option. Three options have been developed for consultation: Maximising economic opportunities, Preventing the Coalescence of Gloucester and Cheltenham and Cheltenham and Bishops Cleeve and Making the Best use of Existing Infrastructure. These three options were subjected to an initial SA based primarily on the broad locations which were targeted for residual development. This is a preliminary SA as the level of development envisaged for each of the broad locations under each of the options has yet to be quantified. A summary of preliminary SA of the options is shown in Table 9.
- 3.52 The preliminary SA of the three options shows that Option 1 and Option 3 are broadly equal in sustainability terms. Option 2 scores less well than the other options in terms of sustainability primarily due to the inclusion of both Broad Location G8, which has significant levels of Grade 1 Agricultural land and the northern sector of Broad Location T3, which is liable to flooding. Option 2 also performs poorly in terms of public transport accessibility and the potential negative impacts on Cheltenham town centre of directing further development to Broad Location C1.

4.0 Next Stages of the Sustainability Appraisal Process

- 4.01 The consultation on 'Developing the Preferred Option' will give the JCS authorities a steer on the direction which the JCS will take particularly with regard to the level and location for new development. Once the preferred policy options for the Joint Core Strategy have been agreed, the social, economic and environmental effects of implementing these policies - and any other viable policy alternatives - can be predicted. These Predicted Significant Effects will be reported in the Draft Sustainability Appraisal Report at Preferred Options Stage.
- 4.02 Once the Predicted Significant Effects of implementing a policy option have been identified they then need to be subject to a Predicted Significant Effect Analysis to ascertain the Magnitude, Significance, Duration, Probability, Reversibility and the Potential for Cumulative Effects of the effect. Mitigation measures will then be outlined for any adverse effects of implementing the policy.
- 4.03 Finally, the Joint Core Strategy will be the subject of an Examination in Public presided over by a planning inspector. The inspector will consider the Joint Core Strategy and supporting documents, including the Sustainability Appraisal Report, and may advise that the Strategy be amended. Any amendments will also be subject to Sustainability Appraisal and the results will be recorded in a Final Sustainability Appraisal Report that will accompany the Joint Core Strategy as it is adopted.

Table 9: Summary of the Appraisal of the Sustainability Appraisal of the Phase 2 Options

Key

- + Positive correlation
- 0 No significant correlation
- Likely negative impact
- ? Further strategy development required to assess impact

	SUSTAINABILITY INDICATORS																		
	Biodiversity	Climate Change			Flood	Natural Resources		Historic Environment	Transport	Waste/ Pollution	Economy	Urban Centre	Inequalities	Crime/Fear of Crime	Health	Housing	Green Space	Education/Skills	Culture/Tourism
		Adaptation	Mitigation			Quality	Use												
		SA 2	SA 3	SA 4		SA 5	SA 6												
SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12	SA 13	SA 14	SA 15	SA 16	SA 17	SA 18		
Phase 2 Options																			
Option 1: Economic Opportunities	+	?	?	+	+	-	?	+	?	+	+	?	?	?	+	+	?	0	
Option 2: Prevent Coalescence	+	?	?	-	+	-	?	-	?	?	-	?	?	?	+	+	?	0	
Option 3: Existing Infrastructure	+	?	?	-	+	+	?	+	?	+	+	?	?	?	+	+	?	0	

