

Swindon Borough Council

Environment & Leisure Planning

Local Development Framework

Swindon Core Strategy Draft Issues and Options Paper

Sustainability Statement

April 2007

Consultation arrangements

This document and the Core Strategy Issues and Options Paper are informal consultation documents, designed to stimulate debate on the issues facing Swindon over the next 20 years. It is at this stage that stakeholders and the public, as well as the Council, can put forward potential options. The Council will need to decide which of these options to take forward in the next stage of the process (the Preferred Options stage), and these will be subject to Sustainability Appraisal.

An outline of the consultation process for the preparation of the Core Strategy is set out in Swindon Borough Council's Statement of Community Involvement, which was adopted in January 2007. Further details on the consultation process can be found in Chapter 1 of the Core Strategy Issues and Options Paper.

Consultation will take place over a 6-week period, from 11th April to 23rd May 2007. Your comments are very much welcomed on both documents. They will help shape the Preferred Options Draft of the Core Strategy and accompanying Sustainability Appraisal Report.

Comments may be made in the following ways:

- By e-mail to: forwardplanning@swindon.gov.uk
- Completing the on-line response form on our website at www.swindon.gov.uk/corestrategy
- Downloading the printable response form from the above website and sending in the post to Swindon Borough Council, Environment and Leisure, FREEPOST (SCE5251), Swindon, Wilts, SN1 1SX

This sustainability statement is available at libraries throughout the Borough.

Copies may be purchased from Swindon Borough Council, Environment & Leisure, Premier House, Station Rd., Swindon, SN1 1TZ.

Telephone: (01793) 466031

E-mail: dway@swindon.gov.uk

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1. Introduction and background

- 1.1 This sustainability statement accompanies the Swindon Core Strategy Draft Issues and Options Paper, and should be read in conjunction with that document. It is an informal discussion document, designed to stimulate debate on the key sustainability issues that Swindon faces, and forms an early stage of the ongoing Sustainability Appraisal process.
- 1.2 The statement summarises the key sustainability issues arising from the Issues and Options Paper, and will help ensure that the Core Strategy reflects the principles of sustainable development. The matters raised in this report should be taken into account in moving forward with the preparation of the Local Development Framework and any further consideration of Issues and Options for the Core Strategy.
- 1.3 Preparing a sustainability statement, at this stage, is not a formal requirement. However, government guidance recommends that the consultation requirements for the preparation of the Core Strategy should be combined with the Sustainability Appraisal process. This will help to ensure that the Sustainability Appraisal is comprehensive, and robust enough, to support the Core Strategy during the later stages of consultation and examination.

The Swindon Core Strategy

- 1.4 The Core Strategy is the main, over-arching Development Plan Document within the Local Development Framework (LDF), setting out the Borough's strategic priorities for the next twenty years. The purpose of the Core Strategy is to deliver the land use elements of the Council's vision, establishing the spatial land use policies, regeneration objectives and growth aspirations. Only through the Core Strategy can Swindon deliver a co-ordinated spatial approach to development.
- 1.5 The Issues and Options Paper is an informal consultation document, produced under Regulation 25 as defined by the Town and Country Planning (Local Development) (England) Regulations 2004. It represents the first stage of the Core Strategy, setting out Swindon's vision and aspirations, and the issues and opportunities faced in its implementation.
- 1.6 The findings of the sustainability statement and informal consultation will help inform decisions on which options to take forward in the Preferred Options Draft – the next stage in the preparation of the Swindon Core Strategy.

Sustainable development

- 1.7 Sustainable development is the core principal underpinning the reformed planning system. At the heart of sustainable development is

the simple idea of ensuring a better quality of life for everyone, now and for future generations.

- 1.8 The Planning and Compulsory Purchase Act 2004 requires Local Planning Authorities to develop plans “with the objective of contributing to the achievement of sustainable development”. The integrated treatment of social, environmental and economic factors is a key principle, and planning authorities are required to have regard to these considerations when preparing their development plans.
- 1.9 The Government restated its commitment to sustainable development in its March 2005 Strategy entitled ‘Securing the Future’. This Strategy outlines four priority areas for immediate action:
- Sustainable consumption and production;
 - Climate Change and energy;
 - Natural resource protection and environmental enhancement; and
 - Sustainable communities.
- 1.10 These four priority areas are reflected in the Draft Regional Spatial Strategy (RSS) for the South West 2006-2026, which identifies Swindon as a key regional economic driver, and a primary focus for development within the South West region. The Draft RSS contains many spatial policies that need to be considered in the development of the Core Strategy. It will be important for the Core Strategy to find an appropriate balance between these four priorities for sustainable development to be achieved – acknowledging the need for economic growth and social progress, whilst requiring strong protection of the environment.

Sustainability Appraisal

- 1.11 The principal purpose of Sustainability Appraisal is to promote sustainable development. It is a systematic and iterative appraisal process, undertaken from the outset of the preparation process of a Local Development Document. The results contribute to the reasoned justification of policies.
- 1.12 Under Section 39(2) of the Planning and Compulsory Purchase Act 2004, Sustainability Appraisal is mandatory for new or revised Local Development Documents. Local Planning Authorities must also comply with European Union Directive 2001/42/EC (the SEA Directive) which requires formal strategic environmental assessment of certain plans which are likely to have significant effects on the environment. The Sustainability Appraisal process combines these two distinct legal requirements.
- 1.13 The Sustainability Appraisal will assess the extent to which the emerging policies and proposals within the Core Strategy help to

achieve relevant social, environmental and economic objectives. It provides an opportunity to identify and address any adverse (and beneficial) effects that the policies and proposals may have, and makes recommendations to ensure that policies deliver sustainable development.

Core Strategy and Sustainability Appraisal preparation process

1.14 The various preparation stages of the Core Strategy and Sustainability Appraisal are shown in Table 1. The current, informal consultation stage relates to Regulation 25 (Sustainability Appraisal stage B). The Draft Sustainability Appraisal Report, that will accompany the Core Strategy Preferred Options (Regulation 26), is a key output of the appraisal process, presenting information on the effects of the Plan on which formal public consultation is carried out. This will meet the requirements of EU Directive 2001/42/EC and the Planning and Compulsory Purchase Act 2004.

Table 1: Swindon Core Strategy and Sustainability Appraisal preparation process

Swindon Core Strategy stage	Swindon Core Strategy process	Sustainability Appraisal stage	Sustainability Appraisal process
YEAR 0: Pre-production	Evidence gathering	A	Setting the context, establishing the baseline and deciding on the scope
	Reg25: Prepare issues and alternative options in consultation (ongoing engagement)	B	Developing and refining options and assessing effects
YEAR 1: Production	Reg26: Public participation on preferred options (statutory consultation)	C	Preparing the Draft Sustainability Appraisal Report
	Reg27: Representations on preferred options	D	Consulting on the Core Strategy and Sustainability Appraisal Report
	Preparation of Submission Core Strategy		
	Reg28: Submission of Core Strategy (statutory consultation)		
Reg29: Representations on submitted Core Strategy			
YEAR 2: Examination	Pre examination meeting		
	Independent examination		
	Binding Report		
YEAR 3: Adoption	Adoption and Monitoring	E	Monitoring the significant effects of implementing the Core Strategy

Note: This Sustainability Statement relates to Stage B (highlighted).

2. Methodology

- 2.1 In this section, the general methodology of the Sustainability Appraisal process is explained, including work that has been carried out so far, the structure of this report and the development of the Sustainability Appraisal Report for the Core Strategy Preferred Options.

Sustainability Appraisal Stage A - Draft Scoping Report

- 2.2 The first stage of the Sustainability Appraisal involved the production of a Draft Scoping Report (see Table 1). This sets the context and sustainability objectives, establishes the baseline and decides on the scope of the Sustainability Appraisal process. The Scoping Report met the requirements of the SEA Directive for information to be provided in an Environmental Report.
- 2.3 The Draft Scoping Report has been prepared with sufficient information to allow it to be used to appraise each Local Development Document in the LDF. It was published for consultation during the period 24th July 2006 to 5th September 2006, with views sought from the environmental consultation bodies and a number of other relevant local, regional and national organisations. A total of twenty responses were received. All responses have been taken into account, with a revised report published in December 2006.
- 2.4 The Scoping Report will be continually revised during the development of the Local Development Framework, through consultation and as additional information is available. A copy of the Scoping Report, including consultation responses, can be viewed or downloaded from the website www.swindon.gov.uk/sustainabilityappraisal.
- 2.5 The Draft Scoping Report culminates in the development of an appraisal framework. This framework is central to the Sustainability Appraisal process and is used to assess, and evaluate, significant effects. The framework is included in this report (Appendix B). Sustainability objectives are purposely broad ranging in nature, with the decision-aiding questions used to help clarify the sustainability issues relevant to each objective.

Sustainability Appraisal Stage B (Issues & Options Reg. 25)

- 2.6 This Sustainability Statement focuses on two areas – an appraisal of the key principles and an appraisal of the spatial options - outlined in the Issues and Options Paper.
- 2.7 The Issues and Options Paper identifies 30 key principles and it is important for these principles to be in accordance with sustainability principles. Therefore, in Section 3 of this report, the key principles are tested for compatibility with the Sustainability objectives.

- 2.8 Owing to the large number of key principles outlined in the Issues and Options Paper, it was decided to group these key principles under the 8 sustainability themes outlined in the Sustainability Appraisal Framework (Appendix B). In Section 3, a matrix is used to test the compatibility, which is followed by a commentary on the possible conflicts.
- 2.9 The Issues and Options Paper suggests three spatial options for realising the Council's vision. These have been suggested, not as alternative proposals, but as illustrations to show how the broad strategy set out in the RSS could be achieved in Swindon:
- i. Growth within existing places in Swindon
 - ii. Proposed new growth within Swindon outside existing places
 - iii. Contained growth within existing places + identified growth through the RSS
- 2.10 Options need to be sufficiently distinct to highlight the different sustainability implications of each, so that meaningful comparisons can be made. The development and appraisal of options will be an iterative process, with options being revised to take account of the appraisal findings and consultation responses. Each of these options has been tested against the sustainability objectives – outlined in Appendix A. Section 4 details the outcome of the appraisal of these options.

Sustainability Appraisal Stage C - Sustainability Appraisal Report (Preferred Options Reg. 26)

- 2.11 The formal Sustainability Appraisal Report will present information on the effects of the Core Strategy “Preferred Options”, and will indicate how the requirements of the SEA Directive, for an environmental report, have been met. This will be published at the same time as the Preferred Options report, and will include the following information:
- A compatibility test of the Core Strategy objectives to ensure they are in accordance with sustainability principles, which will help ensure consistency as well as in identifying options;
 - Prediction and evaluation of the likely significant effects of the options being considered in the Core Strategy process, including an outline of the reasons for selecting the alternatives dealt with;
 - An outline of measures to prevent, reduce or offset the significant adverse effects of implementing the Core Strategy. This will include measures to proactively avoid adverse effects, as well as recommendations for improving beneficial effects; and
 - An outline of measures for monitoring the significant effects of the Core Strategy, after adoption.

3. Core Strategy key principles

3.1 The principles of the Core Strategy set out what it is aiming to achieve in spatial planning terms and set the context for development of options. The 30 key principles are suggested as a means to maximise Swindon's potential in the context of sustainable growth.

3.2 It is important that these principles are in accordance with sustainability principles. Therefore, they have been tested for compatibility with the Sustainability Appraisal objectives. This will help in refining the key principles as well as in identifying options. Where there is conflict between principles, the Core Strategy will need to reach a decision on priorities.

3.3 Rather than assess each of the 30 key principles against each sustainability objective, the principles have been grouped under 8 sustainability themes as per the Sustainability Appraisal Framework (Appendix B), as follows:

3.4 Sustainability theme 1 – Biodiversity, fauna and flora

- *Swindon will be a green city, through the provision and protection of green infrastructure, including extensive tree planting in and around the built-up areas and urban extensions.*
- *Blue infrastructure will be enhanced through the restoration of canals and the creation of lakes and ponds where appropriate.*

3.5 Sustainability theme 2 – Land and water resources

- *40% of new housing will be built on previously developed land.*

3.6 Sustainability theme 3 – Pollution, air and climatic factors

- *All development will take into account the need to reduce and mitigate the effects of climate change, and to protect Swindon's environment for future generations.*
- *Through sustainable transport choices – increased public transport provision and innovative new modes of transport using new technology – carbon emissions will be reduced below current levels and air quality in Swindon will be improved.*
- *A flexible and integrated public transport system will serve the sub-region, providing a real alternative to the private car. Safer streets and good urban design will encourage people to walk and cycle around a compact, liveable Swindon.*
- *By 2010 carbon dioxide emissions will be reduced by 20% of 1990 levels, as part of moves to reduce emissions by 60% by 2050, to minimise the effects of climate change.*

3.7 Sustainability theme 4 – Inclusive communities

- *Regeneration and renewal will raise the quality of urban life for communities in those areas of the borough where the needs of neighbourhoods are not being met to modern standards.*
- *High quality, decent homes will be provided for all in Swindon who need it, ensuring that sustainable communities are created and supported. Quality urban living space in the town centre and well-designed housing at other locations will meet market and affordable housing needs.*
- *New housing areas will be attractive and sustainable, and will come with the right levels of investment in transport, schools, open spaces, leisure and health facilities, and other community infrastructure.*
- *30% of new housing will consist of affordable housing, including an appropriate mix of social rented and low cost home ownership schemes, to ensure that decent homes are available to meet the needs of the resident population. To this end, an average of 300 affordable homes per year will be built, and 30% of housing built on large sites will be affordable.*
- *Housing for elderly people will be provided for, which offers the opportunity for individual independence within a supportive environment, including through the provision of 'extra care housing'.*
- *The needs of disabled people will be provided for in new developments, including transport proposals, and current shortfalls in provision will be eliminated.*
- *All communities in the Borough will share the fruits of prosperity by ensuring that everyone has access to jobs, housing, and community facilities, with an improved quality of life for all.*
- *In all areas of the borough, levels of social deprivation above the national average will be eliminated by the regeneration or renewal of deprived areas, and the provision of a high standard of local authority services.*

3.8 Sustainability theme 5 – Healthy communities

- *Healthier lifestyles will be achieved by increasing leisure facilities, creating, improving and protecting green infrastructure, and providing improved and safe facilities for pedestrian and cycle movements within the Borough.*

3.9 Sustainability theme 6 – Development and growth

- *New housing in Swindon will be well designed and, by 2016, will be built to a high standard of sustainable construction and with zero carbon.*
- *Development will be phased so that the infrastructure necessary to support it is in place when it is needed. This will require early and continuous liaison with the infrastructure providers to ensure that their*

forward strategies are compatible with the development strategy of the RSS and Core Strategy. Given forecast shortfalls, this will be particularly critical in respect of the supply of water and the disposal of wastewater.

- *The physical appearance of Swindon will be significantly improved through the application of high standards of building design, community art, and public realm, that respect both its historic identity as a railway town and its new role as a 21st century city.*
- *The towns and villages outside Swindon will benefit from development that is sensitive to local needs, and levels of housing and employment that are appropriate to such areas will provide the conditions for a thriving rural environment.*
- *Provision will be made for housing growth that achieves the Borough's growth aspirations, if it is accompanied by appropriate infrastructure provision.*

3.10 Sustainability theme 7 – Conservation and heritage

- *New development will be directed away from areas where there would be a significantly negative impact on the local environment (urban or rural).*

3.11 Sustainability theme 8 – Economic development and employment

- *Swindon will be a vibrant and economically prosperous place based on its status as the UK's best business location and the functional centre of the sub-region. Future growth will make Swindon a regional centre, bringing opportunities for new inward investment. Prosperity will be shared across all communities, and rural industries will flourish.*
- *A sustainable economy will be achieved through a 'smart' approach to economic growth. Key industries will include ICT, biotechnology, environmental technologies and the creative industries.*
- *Swindon will move towards a balance of employment and quality housing, minimising the need to travel. There must be sufficient jobs of the right quality, and people with the skills to fill them.*
- *Regeneration of the central area will deliver a commercial, retail, and cultural offer for Swindon fit for the 21st century. The thriving cultural scene will include the provision of regional museums, galleries, theatres and cinemas. The creative industries will flourish and the sub-region will serve as a focal point for cultural activities, festivals and the arts.*
- *Swindon will become a centre for tourism, and Swindon's heritage, particularly its railway legacy, and the historical heritage and countryside of the sub-region, will attract both visitors and local people.*
- *University education facilities will be provided that meet the highest national standards. It will be a key economic driver, meeting the needs of the community and local businesses.*

- *A high standard of local education provision will be made for existing as well as new housing areas to ensure that the attainments of Swindon's children are within the upper quartile of national results.*
- *A highly skilled workforce will benefit from quality local education and flexible learning opportunities.*

3.12 The majority of key principles lie within just 4 sustainability themes:

- Pollution, air and climatic factors;
- Inclusive communities;
- Development and growth; and
- Economic development and employment.

Many of the key principles relate to economic growth and social progress, with environmental principles appearing to be under-represented. The Core Strategy may need to consider the balance and mix of the key principles so that a more representative balance is found between social, environmental and economic objectives.

3.13 The following matrix gives a broad outline of compatibilities between the group of key principles and the sustainability objectives, using the following key:

- ✓ Potential to support the sustainability objective
- ✗ Potential to work against the sustainability objective
- ? Uncertain effects on the sustainability objective
- 0 No clear links with the sustainability objective

3.14 This exercise is not intended to show the key principles as being good or bad in terms of their sustainability effects. Instead, it highlights areas where conflict is likely to occur. Highlighting these conflicts at an early stage ensures that potential issues are considered during the development of the Core Strategy – helping to achieve a balance between social, environmental and economic objectives.

Table 2: Analysis of the Core Strategy key principles		Core Strategy principles – Theme 1	Core Strategy principles – Theme 2	Core Strategy principles – Theme 3	Core Strategy principles – Theme 4	Core Strategy principles – Theme 5	Core Strategy principles – Theme 6	Core Strategy principles – Theme 7	Core Strategy principles – Theme 8
Key: ✓ Potential to support the sustainability objective ✗ Potential to work against the sustainability objective ? Uncertain effects on the sustainability objective 0 No clear links with the sustainability objective									
Sustainability objectives									
Biodiversity, Fauna and Flora	1. Protect and enhance biodiversity.	✓	✓?	✓	?	✓	✓?	✓	✗?
Land and Water Resources	2. Use land efficiently and prioritise development on Previously Developed Land.	0	✓	✓	✗?	0	?	✓	?
	3. Promote sustainable waste management solutions.	0	0	0	?	0	✓	0	0?
	4. Use and manage water resources in a sustainable manner.	✓	0	0	✗?	0	✓	0	0?
Pollution, Air and Climatic Factors.	5. Reduce the need to travel and promote more sustainable forms of transport.	0	✓?	✓	?	✓	0	0	✗✓
	6. Maximise energy efficiency and promote renewable energy solutions.	0	0	✓	?	0	✓	0	0?
	7. Reduce environmental pollution.	0	0	✓	✗?	✓	✓	0	✗?
Inclusive communities	8. Reduce social exclusion and poverty.	0	0	✓	✓	✓	✓	0	✓
	9. Provide decent and affordable housing for everyone.	0	0	0	✓	0	✓	0	✓
Healthy communities	10. Provide a safe and healthy environment in which to live.	✓	✓	✓	✓	✓	✓	✓	✓
Development and Growth.	11. Provide a high quality built environment.	✓	0	0	✓	0	✓	✓	✓
	12. Maintain the identity and function of individual settlements.	✓	✓	0	?	0	✓?	✓	?
Conservation and Heritage.	13. Conserve and enhance the historic built environment and archaeological sites.	✓	✓	✓	✗?	0	✓	✓	?
	14. Conserve and enhance important natural landscapes.	✓	✓	✓	✗?	✓	✓	✓	?
Economic Development and Employment.	15. Promote a sustainable, diverse and vibrant sub-regional economy.	✓	✓	✓	✓	✓	✓	✓	✓
	16. Provide opportunities for a highly skilled and educated workforce.	0	0	0	✓	0	0	0	✓
	17. Enhance the image and role of Swindon's Central Area as a sub-regional centre and destination.	✓	✓	✓	✓	✓	✓	✓	✓

Commentary

- 3.15 The matrix shows the proposed key principles for the Core Strategy to be broadly in line with the sustainability objectives although, inevitably, some conflicts of interest occur. The following paragraphs outline what the potential conflicts are likely to be.

Theme 1 – Biodiversity, fauna and flora

- 3.16 No conflicts are anticipated between the key principles under this theme and the sustainability objectives. Promotion of Swindon as a green city, through provision and protection of green infrastructure will likely have significant social, environmental and economic benefits for the Borough.
- 3.17 Restoration of the canal will have particular environmental, social and economic benefits, providing important wildlife habitats, increasing the attractiveness of the urban area and helping to draw people and businesses into the centre of Swindon.

Theme 2 – Land and water resources

- 3.18 The target of 40% of new housing to be built on previously developed land follows on from the target set in the Local Plan. It is a challenging target for Swindon, although well below the 60% national target. The Scoping Report baseline assessment acknowledges that there is a general deficit of “brownfield” and urban redevelopment opportunities within the Borough, hence the lower target.
- 3.19 Impacts will become clearer when precise development proposals are known, and after monitoring of significant effects. Although development on previously developed land is likely to have many positive effects, not all previously developed sites are suitable for development, and all sustainability issues should be considered. Some sites may be important in terms of their biodiversity value; some may be valued as areas for informal recreation, whilst other sites may have significant contamination issues that make development unviable without costly remediation.
- 3.20 Development of land for housing within Swindon’s central area may have adverse transport impacts from increases in traffic volumes. Although the critical mass needed for public transport services may increase, numbers of private car journeys will likely also increase, particularly during the morning and afternoon peak times, and from additional retail users.

Theme 3 – Pollution, air and climatic factors

- 3.21 The Government believes that climate change is the greatest long-term challenge facing the world today. Local Planning Authorities can have a major influence on reducing our impacts and taking measures that will help us adapt to potential effects in the future.
- 3.22 The main focus of the four key principles under this theme is public transport and promotion of sustainable travel choices. This will be a key concern for Swindon, with an increasing population, but design and location of new development, and measures regarding existing development, is as important. Awareness of issues amongst local residents is key to reducing our effects on climate change.
- 3.23 The main concern with policies to reduce greenhouse gas emissions is the effects on the local economy. Development that incorporates higher design standards and energy efficiency measures may lead to savings in the long term, but can have significant short/medium term effects in terms of increased costs.

Theme 4 – Inclusive communities

- 3.24 There are a number of concerns with the eight key principles under this theme, relating mainly to the effects on the natural and historic environment of providing housing for all. Effects will depend on the location, design and layout of new housing developments, and the numbers of dwellings proposed. Potential impacts include:
- Development of Greenfield land may lead to a reduction in the biodiversity value of areas concerned. However, the opportunity exists to significantly increase the overall biodiversity value of an area through the incorporation of Green Infrastructure, areas set aside for nature conservation and Sustainable Drainage Systems that are designed with biodiversity in mind.
 - It is acknowledged that Swindon will need to develop urban extensions in order to meet the housing requirements of the Draft RSS. However, a policy of developing urban extensions may conflict with policies for the effective use of land. It will be important to balance the environmental effects of developing greenfield land with the need for economic growth and social inclusion.
 - Significant increases in new dwellings (and subsequent population increase) will likely lead to increases in waste amounts, demand for water and infrastructure to deal with wastewater, energy usage and environmental pollution. Impacts will depend on many factors, including the extent to which energy and water efficiency measures have been incorporated, the proximity and accessibility of waste recycling facilities and the design and layout of the development to

reduce the effects of noise and light pollution.

- Development of urban extensions has potential impacts for neighbouring rural communities in terms of coalescence with the urban area. There are also potential conflicts with sustainability objectives regarding the historic environment and the natural landscape. Careful consideration will need to be given to all sustainability issues in order to achieve an appropriate balance.

Theme 5 – Healthy communities

- 3.25 The one key principle relating to health is not considered likely to have any adverse effects against sustainability objectives. Increasing opportunities for recreation, and increasing accessibility to facilities, will allow residents to lead healthier lifestyles, particularly when it is acknowledged that levels of obesity are rising.
- 3.26 The appraisal framework (Appendix B) includes a number of other sustainability issues relating to health and it is recommended that these issues are incorporated and acknowledged in the key principles. These include:
- The potential to reduce crime and the fear of crime through well-designed buildings and areas of public space;
 - Provision of high quality healthcare facilities and ease of accessibility to these facilities;
 - The importance of promoting recreational and leisure opportunities in the countryside, its consequent health benefits and potential benefits for the rural economy. The Great Western Community Forest has an important role to play in the promotion of such opportunities.

Theme 6 – Development and growth

- 3.27 No significant conflicts are considered likely with the sustainability objectives. Infrastructure necessary to support development will be key when considering the level of housing development that is proposed.
- 3.28 One area of potential conflict, that may need further clarification in the key principles, is the issue of coalescence with neighbouring communities. This is likely to be a major concern for residents in communities likely to be affected by the development of urban extensions on the edge of the Swindon urban area.
- 3.29 In terms of zero carbon development, the Government is proposing that all new homes are zero carbon by 2016. For a new home to be genuinely zero carbon, it will need to deliver zero carbon (net over the year) for all energy use in the home. This will require renewable or very

low carbon energy in addition to high levels of insulation, etc. Significant energy savings are likely for households in the longer term, in terms of carbon emissions and energy bills. However, the principal cost will likely occur through the increase in construction costs of meeting the higher level of energy standards. This may have the effect of increasing house prices beyond the reach of more people.

Theme 7 – Conservation and heritage

3.30 The one principle relating to this theme, as it stands, is not considered likely to have significant effects. However, there are other sustainability issues relating to Swindon's natural and historic heritage that could be incorporated within the key principles:

- New development can have adverse effects on individual buildings as well as on more significant areas e.g. Conservation Areas. Individual buildings include listed buildings as well as buildings of significant local interest;
- Development proposals need to ensure that they contribute to the conservation and enhancement of the North Wessex Downs Area of Outstanding Natural Beauty (AONB). The AONB covers a significant area in the south of the Borough and further development to the south and east of Swindon is likely to have significant impacts;
- Policies in the adopted Local Plan regarding strategic green corridors and rural buffers, and their protection, could be further clarified within the key principles.

Theme 8 – Economic development and employment

3.31 The key principles under this theme will likely have significant benefits for the local economy and for reducing deprivation and social exclusion. It will be important not only to attract inward investment, but to allow local businesses the opportunities to grow. There are acknowledged skills shortages in the Borough, and this situation will be helped through improved further education opportunities and enhanced provision of higher education facilities.

3.32 The main concerns focus on the environmental effects of boosting the local economy, including:

- Potential adverse effects on biodiversity and wildlife habitats through the provision of employment land and increases in tourism numbers on the wider countryside;
- The need to meet housing requirements must not detract from regeneration of Swindon's central area – possibly the most

significant issue if Swindon is to expand its economy and attract businesses, tourists and shoppers;

- The drive to reduce amounts of waste being sent to landfill, reduce energy use and reduce water demand is likely to be compromised with an expanding economy. Increased efforts will need to be made through efficiency measures, accessible waste handling facilities and education campaigns if we are to improve on current performance;
- One significant impact that will require thorough research is the effect of an enlarged economy on the transport system and in modes of travel. Current baseline assessment highlights the fact that many skilled workers are commuting in to Swindon each day from outside the Borough. A balance between employment and housing will only help minimise the need to travel if workers with the relevant skills can be encouraged to live in the Borough or nearer to the Borough. It is anticipated that traffic levels will increase locally, despite investment in public transport and more accessible walking and cycling routes, and the road network will come under increasing pressure.

Conclusions

- 3.33 The matrix shows that the proposed key principles for the Core Strategy are broadly in line with the sustainability objectives although, inevitably, some conflicts of interest occur.
- 3.34 The main conflicts are likely to involve the following:
- **Climate change** - with the level of dwellings required in the Borough, and a projected population of 250,000 by 2026 (under review), it will be a significant challenge to reduce our carbon dioxide emissions in line with Government targets. Effective spatial planning is one of the many elements required in a successful response to climate change. The Core Strategy, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions, that are resilient to the future effects of climate change.
 - **Greenfield development** - effects of Greenfield development on biodiversity, wildlife habitats and rural communities;
 - **Water demand** - a potential overall increase in demand for water and the infrastructure needed to deal with waste water as a result of an increasing population;
 - **Waste** - potential overall increases in amounts of waste going to landfill, despite projected increases in recycling rates;

- **Transport** - potential increases in traffic volumes on local roads, leading to traffic congestion, adverse effects on air quality and its consequent knock-on effects for local residents and the economy;

4. Appraisal of alternative spatial options

- 4.1 The Council will develop options, working with the community and relevant stakeholders, to achieve the objectives of the Core Strategy. Some of these options may come from suggestions made by the community or stakeholders, such as sites promoted by landowners.
- 4.2 The development and appraisal of options will be an iterative process, with the options being revised to take account of appraisal findings and consultation responses. This will then inform the selection, refinement and publication of “Preferred Options” for consultation at Local Development Regulation 26 stage. It is recommended that broad strategic options are considered, as opposed to detailed policy wording variants, that are sufficiently distinct to highlight the different sustainability implications of each.
- 4.3 The Sustainability Appraisal Report - produced at Stage C to accompany the Preferred Options Paper - will map the development of the options and the supporting policies, by reference to their significant effects or their mitigation of any adverse effects. Evaluation of the significance of effects will consider the probability, duration, frequency and reversibility of the effects, including secondary, cumulative and synergistic effects.
- 4.4 The Core Strategy Issues and Options Paper examines the options for delivering the housing and employment requirements of the RSS, as well as options for the various location types in the area - the urban area including the central area and areas for regeneration; the possible urban extensions, and the rural area. The options for each area comprise both physical land uses and the needs of the local communities.
- 4.5 Three possible options are set out – not as alternative proposals, but as illustrations to show how the broad strategy set out in the RSS could be achieved. They relate to a balance between:
- a regeneration led strategy;
 - a strategy led by large strategic development sites;
 - a strategy incorporating development at the urban fringe; and
 - a strategy led by development within the existing urban area.
- 4.6 The options are as follows:

Option 1: Growth within existing places in Swindon

Maximise development within the built up area, by maximising the potential of previously developed and undeveloped land and taking opportunities to increase densities where land is redeveloped. This could potentially include more comprehensive redevelopment of existing areas, through Neighbourhood Renewal Strategies, if opportunities arise.

Option 2: Proposed new growth within Swindon outside existing places

Encourage the early development of greenfield extensions already identified in the draft RSS and adopted Local Plan (in addition to the ongoing development of sites in the urban areas) so that the increase in building rates could more easily be maintained later on in the Plan period (to 2026), thereby increasing the likelihood of RSS targets being achieved. These are the Northern Development Area, Wichelsowe, the Eastern Development Area and (subject to the provision of a university) Commonhead. The success of this strategy would to a great extent depend on the early stimulation of economic growth and early improvements to the cultural and retail offer of the town. These improvements are, however, more likely to be achieved throughout the plan period as a whole, and particularly during the middle of the period.

A requirement of Option 2 is the likely need to identify one or more additional sustainable urban extensions in order to meet the early development requirements. Any urban extension would have to be on greenfield land adjacent to the built-up area, in one of the areas examined in previous projects for identifying areas for future development, most recently the Swindon Principal Area Study and work that informed the Draft RSS. More recently, the West of Swindon Study has been carried out jointly with North Wiltshire District Council in order to find the best site(s) to accommodate 1000 dwellings. This work could be extended to include all undeveloped and unallocated areas to the north, east and south of Swindon, including land north of Lady Lane, Kingsdown, and south of the motorway. The study could also include areas in North Wiltshire District adjacent to the built-up area including areas not covered by the West of Swindon Study. This would involve joint working with North Wiltshire District Council. It could also revisit allocated sites that do not yet have planning permission.

Option 3: Contain growth within existing allocations + through proposals in the RSS

Future development located in the urban area, Northern Development Areas, Wichelstowe, Eastern Development Area, west of Swindon and other allocated urban extensions only. This would involve increasing the capacity of one or more of these sites to make up for the loss of the unidentified small strategic extensions. One option might be to increase the allocation for the EDA (as in Draft RSS) whilst keeping the overall target at 32,000 dwellings. If the draft RSS overall housing figure for Swindon of 34,000 dwellings is approved (or increased), reappraisal of these sites will be needed in any event, but the greatest capacity for enlargement is at the EDA and by means of regeneration. The EDA may then be required to accommodate at least 12,000 dwellings, and possibly 14,000-15,000. It is the tenet of this option that concentration at the EDA is preferable to allocating further greenfield sites. This "all eggs in one basket" approach risks not meeting RSS requirements as it is argued (particularly by the development industry) that output is more likely to be increased by developing on several fronts at once. The counter-argument is that multi-site development inhibits growth at the major extension, and that it could also inhibit regeneration.

- 4.7 The three options have been tested against the Sustainability Appraisal Framework in Appendix A. At this informal stage of the Sustainability Appraisal, a detailed assessment of the significance of the effects of the options has not been made – this will follow in the more detailed report at the Preferred Options stage.
- 4.8 Assessments made within the appraisal matrix are qualitative and indicate expected trends. Where possible, reference has been made to the baseline assessment and any qualitative data within.

Commentary

Spatial option 1

4.9 The key issues from option 1 are likely to centre on the following:

- Focusing development within the built up area of Swindon may reduce pressure to develop Greenfield land in the rural/urban fringe, with resulting benefits for the rural landscape, wildlife habitats and nearby rural communities. The natural function of floodplains would be protected and the issue of coalescence of individual settlements would be less significant.
- Development of previously developed land within the existing urban area, and at higher densities, makes effective and efficient use of land, and is generally considered a more sustainable option. Development needs to be in suitable locations, which offer a good range of community facilities and with good access to jobs, key services and infrastructure. Local services may be more profitable and viable with an increased 'critical mass' of consumers.
- It is acknowledged that the Borough has a relatively limited amount of previously developed land available for redevelopment, owing to Swindon's relatively recent economic growth. This presents a major challenge in meeting housing targets, without considering other areas of land for development outside of the urban area.
- Concentrating the required number of dwellings at higher densities in the urban area may lead to an increase in problems of noise and anti-social behaviour. Design and layout of new developments would have to be very carefully considered if residents' quality of life is to be maintained and improved.
- There are likely to be significant benefits for existing residential areas through increased urban regeneration, with a general improvement in the urban environment from increased investment. This could lead to a reduction in levels of deprivation and increases in social inclusion in areas that are particularly affected. Possible adverse impacts include the effects of 'town cramming', accessibility issues for some sections of the community and the effect on Swindon's historic environment.
- If housing targets are to be met through option 1, dwelling sizes are likely to be significantly smaller. This is therefore unlikely to support the provision of the range of house types that the Borough needs to support a successful economy. There would also be more limited opportunities to provide affordable housing as this could make developments unprofitable, and therefore unviable. With a limited range of house types and sizes provided in the long term, problems

of housing inequality and poverty are likely to be exacerbated.

- Maximising development within the urban area could lead to a more rapid regeneration of Swindon's central area, with far reaching benefits for the local economy, including improvements to the retail and cultural offer. However, this option alone is unlikely to be able to provide the level of employment land necessary, or the mix of dwellings that will attract skilled workers to live in the Borough.

Spatial option 2

4.10 The key issues from option 2 are likely to centre on the following:

- Additional Greenfield development, in the form of urban extensions, could have significant impacts for biodiversity, habitat fragmentation and rural landscapes. However, with overall densities likely to be less than in option 1, the incorporation of additional Green Infrastructure into new developments may lead to an overall increase in biodiversity in these areas.
- Encouraging the early development of Greenfield extensions and identifying additional extensions will increase the likelihood of achieving RSS housing targets. However, such development must complement the regeneration of Swindon's central area and other parts of the urban area. Planning should seek actively to bring vacant and underused previously developed land back into beneficial use. It is unclear what effect the identification of additional urban extensions will have on existing urban renewal and regeneration initiatives.
- Focusing development on the existing urban area is thought to reduce the need to travel, as people are nearer to existing facilities and public transport services. Option 2, however, is likely to result in increased traffic volumes, resulting in additional pressure on local roads. This can be partially relieved through mixed-use development and planning of public transport services in conjunction with a recognised master plan framework.
- Any significant increase in the urban area will lead to impacts of noise, light and air quality issues. Location of development and strict requirements for high quality design and sustainable construction will be important in mitigating any potential effects.
- To maintain levels of development required under this option, essential infrastructure must be delivered simultaneously, preferably through an approved, comprehensive master plan, to achieve a balanced and integrated form of development.
- Specific priority needs to be given to the regeneration and renewal of the urban area, particularly the central area and neighbourhood

renewal areas. This is crucial for future economic success and reducing deprivation and social exclusion. A policy that focuses primarily on meeting housing targets through Greenfield development must complement regeneration of the urban area, and not draw the focus away from the town centre.

- This option is more likely to produce the variety of dwelling types and sizes that the Borough needs, with a larger number of affordable homes. Developments are likely to be more profitable for developers and therefore more viable. This variety and mix will help attract the skilled workers that the Borough's businesses need.
- Additional urban extensions will create further issues of coalescence with neighbouring communities. It is important that the character and distinctiveness of individual settlements is maintained and enhanced. However, if this option can successfully meet housing requirements, there may be less pressure to build in other smaller settlements in the Borough, helping them maintain their character and distinctiveness.

Spatial option 3

4.11 The key issues from option 3 are likely to centre on the following:

- Development through Option 3 may reduce pressure to develop further Greenfield sites. No additional small urban extensions would be allocated under this option, which would reduce adverse effects on wildlife habitats and landscapes in the urban fringe. There will likely be less issues of coalescence with nearby settlements.
- There is a risk that RSS targets will not be met through this option alone, placing increased pressure on existing urban extensions to deliver more housing. Housing densities will need to increase significantly under this option in order to meet housing targets, and this will have an effect on the ability to develop sustainable communities.
- Increasing housing densities meets Government policy of making efficient use of land, and represents prudent use of natural resources. However, building at the densities expected to meet RSS targets, particularly at the EDA, may mean that less open space will be incorporated into new developments with resulting 'town cramming' that affects the quality of the urban living environment.
- Projections of future climate change indicate that more frequent periods of long-duration rainfall could be expected. Maximising development at the EDA may put increased pressure on the natural function of floodplains. Flood risk must be taken into account at all

stages in the planning process to avoid inappropriate development in areas at risk of flooding. In order to avoid development on the floodplain at the EDA, and meet housing targets, it may be necessary to increase the area of that strategic extension.

- It is more likely that infrastructure will be able to be delivered in advance of development, than is likely through Option 2. It is important that essential infrastructure is incorporated at an early stage for the achievement of sustainable communities. Provision of strategic water resources to match the demand of houses and jobs and provision of sufficient waste-water discharge and treatment facilities are two of the most critical issues.
- Higher density housing at the EDA will increase the critical mass likely to use public transport, resulting in more frequent, accessible public transport provision that will also increase viability for the provider. This would take cars off local roads, with a range of benefits for the economy and local air quality.

5. Conclusions

- 5.1 This document has provided an overview of the key sustainability issues regarding the spatial options in the Issues and Options Paper for Swindon Borough. Over the forthcoming months, work will continue on the Sustainability Appraisal to inform preparation of the Preferred Options. The responses and alternative options put forward during this informal consultation will inform this process.
- 5.2 At this early stage of development of the Core Strategy, with broad-ranging spatial options that offer no specific detail, it is difficult to assess the significance of each option. This will come at a later stage of the Sustainability Appraisal.
- 5.3 The matrix in Appendix A offers an indication of the timescale of predicted effects, and whether they are likely to be positive or negative. Each option will likely have a range of effects, both positive and negative. In the next stage of the Sustainability Appraisal, when the significance of the effects of the preferred options is evaluated, a range of measures for mitigating adverse effects and maximising beneficial effects will be put forward.
- 5.4 Achievement of the Core Strategy vision is likely to depend on elements of all of the options suggested, as well as other alternatives that may come out of the initial consultation. The success of the Core Strategy, and subsequent achievement of sustainable development, will depend on how much emphasis is given to each alternative and how a balance can be found between conflicting sustainability issues.
- 5.5 It is important to remember that, in order for sustainable development to be achieved, planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:
- making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;
 - contributing to sustainable economic development;
 - protecting and enhancing the natural and historic environment, the quality and character of the countryside and existing communities;
 - ensuring high quality development through good and inclusive design, and the efficient use of resources; and
 - ensuring that development supports existing communities and contributes to the creation of safe, liveable and mixed communities with good access to jobs and services for all members of the community.

Appendix A Spatial Option 1 – ‘Growth within existing places in Swindon’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
1. Maintain and enhance biodiversity and avoid irreversible losses	Focussing development within the built up area will reduce pressures on biodiversity and wildlife habitats in the rural-urban fringe. However, with the higher densities expected in the urban area, opportunities to incorporate biodiversity and green infrastructure into new developments will be more limited. This could result in an urban environment with less biodiversity than at present, and possible loss of existing green corridors.	+ ?	+ ?	+ ?
2. Use land and existing buildings efficiently and prioritise development on previously developed land	Option 1 will maximise development within the built up area, maximising the potential of previously developed land and increasing densities. Significant benefits against this sustainability objective. Remediation of contaminated land will be more likely and regeneration of Swindon’s central area would be more rapid. Protection of the best and most versatile agricultural land and floodplain would be more likely through this option.	++	++	++
3. Promote sustainable waste management solutions	Little effect on overall waste amounts likely. Focussing development in the existing urban area may make waste recycling facilities more accessible to a greater number of people.	0	0	+
4. Use and manage water resources in a sustainable manner	There is likely to be little effect on overall water consumption. Pressure on areas of natural floodplain outside the urban area will be reduced. Increased densities within the urban area will place increased pressure on existing water infrastructure, which may need replacement or enhancement.	0	+	+
5. Reduce the need to travel and promote more sustainable forms of transport	Increased densities in the existing urban area will provide a critical mass for public transport services and increase their viability. There may also be increased use of walking and cycle routes, which may make them safer. However, traffic volumes may well increase in areas that already suffer traffic congestion, with existing highway infrastructure unable to cope with volumes. It is essential that a balance of homes and jobs is found to prevent out-commuting from these areas.	+/- ?	+/- ?	+/- ?
6. Reduce impacts on climate change through energy efficiency measures and promotion of renewable energy solutions	All spatial options need to specify that new development should help reduce impacts on climate change and include measures to adapt to future consequences. The main impact of Option 1 is that, in order to achieve higher densities, dwellings are likely to be smaller and therefore more energy efficient.	+	+	++
7. Reduce environmental pollution	Maximising development in the existing built up area is likely to have adverse effects on local communities, from the short-term construction work to longer term light and noise pollution. Potential increases in traffic and reductions in air quality will add to these effects. Effects will depend on the design and location of such development, construction techniques used and measures to avoid increased levels of environmental pollution.	- ?	-- ?	-- ?

Appendix A Spatial Option 1 – ‘Growth within existing places in Swindon’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
8. Reduce social exclusion and poverty	There are likely to be significant benefits from Option 1. The quality of local service and community facilities is likely to improve, with increased investment in public transport and increased accessibility. Regeneration of residential areas that are currently suffering deprivation will help increase social inclusion and reduce poverty. There is a risk, however, of town cramming, leading to poor living environments and risk of crime. Smaller dwellings, particularly flats, may be physically inaccessible and undesirable for more vulnerable members of society. Effects are difficult to judge without details of specific developments.	+/- ?	+/- ?	+/- ?
9. Provide decent and affordable housing for everyone	Option 1 will likely result in smaller dwellings which are more affordable, in order to increase densities. However, there would be more limited opportunities to meet affordable housing targets as this could make developments unprofitable and therefore unviable. Baseline assessment highlighted Swindon’s need to increase levels of affordable housing – this option is unlikely to support the provision of a range of house types and sizes to meet the needs of all sections of the community.	+/-	+/--	+/--
10. Provide a safe and healthy environment in which to live	The densities that would be required in order to meet RSS housing targets could reduce opportunities to include adequate levels of open space and Green Infrastructure within new developments, reducing opportunities for recreation and healthy living. Careful consideration of design will be needed to avoid creating places where crime is a problem.	- ?	- ?	-- ?
11. Provide a high quality built environment	It is debateable whether this option would result in improvements to the public realm and general amenity of residential areas. Emphasis is being given to high design standards, particularly in the central area, and this may result in improvements to the overall urban environment.	?	?	?
12. Maintain the identity and function of individual settlements	This option will reduce pressure to develop greenfield land on the edge of Swindon, helping to prevent coalescence with nearby rural communities. Character and distinctiveness should be maintained, however, this option does not address the need for new housing in some rural communities for local people, and to maintain essential facilities.	++ ?	++ ?	++ ?
13. Conserve and enhance the historic built environment and archaeological assets	Maximising development in the urban area may have adverse effects on aspects of the historic environment, particularly on visual amenity. Especially relevant for redevelopment of previously developed land in close proximity to the Great Western Railway Conservation Areas.	- ?	- ?	-- ?
14. Conserve and enhance rural and urban landscapes	This option will have positive effects on protecting and enhancing the landscape in the open countryside and rural-urban fringe. However, areas of open space within the urban area will come under increasing pressure to be developed. These urban landscapes are often highly important to local people for informal recreation.	++/- ?	++/- ?	++/- ?

Appendix A Spatial Option 1 – ‘Growth within existing places in Swindon’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
15. Promote a sustainable, diverse and vibrant sub-regional economy	This option is unlikely to be able to provide the level of housing or employment land that the Borough requires, in order to sustain economic growth and attract inward investment and skilled workers. One positive effect of this option may be that regeneration of the central area and older residential areas occurs more rapidly, creating an urban environment that will actually attract people and businesses to the Borough.	- ?	-- ?	-- ?
16. Provide opportunities for a highly skilled and educated workforce	It is uncertain what effect this option will have on educational facilities and overall attainment. The type of dwellings that would be built to achieve such densities would be unlikely to attract skilled workers, and their families, to live in the Borough. If urban regeneration helps increase the current lack of cultural and leisure facilities in Swindon, more skilled workers may be attracted to work in Swindon, but levels of in-commuting would be unlikely to improve.	?	?	?
17. Enhance the image and role of Swindon’s central area as a sub-regional centre and destination	This option is likely to increase the number of people living and working in the central area, and this in turn may lead to improvements in the retail and cultural offer. However, if this area is overdeveloped, cramming too many dwellings and offices onto a limited area of previously developed land and undeveloped land, overall attractiveness may be compromised.	+	+/-	+/--

Appendix A Spatial Option 2 – ‘Proposed new growth within Swindon outside existing places’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
1. Maintain and enhance biodiversity and avoid irreversible losses	Option 2 will lead to increased development of Greenfield land, with additional urban extensions needed. This will have implications for biodiversity and habitat fragmentation. This option will reduce the need for higher housing densities (as option 1) and this could lead to further opportunities for Green Infrastructure provision. Both positive and negative impacts of such a policy.	- ?	+/- ?	+ ?
2. Use land and existing buildings efficiently and prioritise development on previously developed land	This option focuses on the development of greenfield land and does not necessarily prioritise use of previously developed land or existing buildings. Significant consequences likely for loss of agricultural land and natural floodplain. Government policy promotes effective and efficient use of land. This option, on its own, may compromise the objectives of the New Swindon Company and regeneration of the central area and Neighbourhood Renewal. Draft RSS states that specific priority should be given to regeneration and renewal of the urban area.	-	--	--
3. Promote sustainable waste management solutions	This option will give opportunities to incorporate accessible on-site waste facilities from the outset. However, there is less scope for re-use of reclaimed construction materials.	+/- ?	+/- ?	+/- ?
4. Use and manage water resources in a sustainable manner	Issues regarding protection of the natural function of floodplains and possible increases in surface water run-off due to Greenfield development. Climate change is likely to lead to an increase in significant rainfall events. However, essential water infrastructure and Sustainable Drainage Systems can be incorporated from the outset, without relying on existing pipes, sewers and drainage systems. Increased water demand in the longer-term.	+/- ?	+/- ?	+/- ?
5. Reduce the need to travel and promote more sustainable forms of transport	It is likely that this option will lead to an increase in car journeys, putting more pressure on the local highway network, although mixed-use developments will locate retail and employment opportunities close to where people live and public transport routes can be planned at the same time as the development. Current trends suggest that traffic volumes will increase.	- ?	-- ?	-- ?
6. Reduce impacts on climate change through energy efficiency measures and promotion of renewable energy solutions	Energy efficiency measures, sustainable construction techniques and renewable energy technology should be incorporated into all new development. This option will likely involve development of larger dwellings that may be less energy efficient than smaller dwellings envisaged through option 1.	-	--	--
7. Reduce environmental pollution	This option will likely increase levels of light pollution, with a larger urban area. Consequences for tranquillity in surrounding countryside. High quality design and sustainable construction can mitigate many of the potential problems. Impacts on air quality are likely to be less of an issue than with option 1 where densities will be higher in the urban area.	+/- ?	+/- ?	+/- ?

Appendix A Spatial Option 2 – ‘Proposed new growth within Swindon outside existing places’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
8. Reduce social exclusion and poverty	With this option, there is less focus on regeneration within the existing urban area and therefore opportunities to reduce deprivation and social exclusion may be less. There may also be added pressure, through competition, on facilities in rural communities and urban area, with development of district centres in the new urban extensions.	-	- ?	-- ?
9. Provide decent and affordable housing for everyone	This option is more likely to produce the variety of dwelling types and sizes that the Borough is projected to need, with a larger number of affordable homes. This type of Greenfield development, built at lower densities, is also likely to attract more skilled workers to the Borough with important implications for the local economy.	+	+	++
10. Provide a safe and healthy environment in which to live	New developments, with high quality designed buildings, public realm and open space can make for an attractive urban environment where people want to live and work, and where crime and the fear of crime is at a minimum. High quality open space and recreational facilities can help encourage healthier lifestyles. However, this option may not provide the regeneration of some existing residential areas where anti-social behaviour and fear of crime is an issue for residents.	+/- ?	+/- ?	+/- ?
11. Provide a high quality built environment	Significant benefits anticipated, particularly if high design standards are required in all new developments. To maintain levels of development required under this option, essential infrastructure must be delivered simultaneously, preferably through an approved, comprehensive master plan, to achieve a balanced and integrated form of development.	+	+	++
12. Maintain the identity and function of individual settlements	This option will create issues of coalescence with neighbouring settlements in proximity to the urban extensions. However, if the RSS housing requirements can be fulfilled through this option, there will be less pressure to develop significant numbers of dwellings in smaller settlements. This may help them maintain their character and distinctiveness.	- ?	-- ?	-- ?
13. Conserve and enhance the historic built environment and archaeological assets	Detailed archaeological investigations of proposed greenfield sites will need to take place. Swindon Borough contains many features of acknowledged archaeological importance and it is possible that additional features of interest in the area remain undiscovered. Similar protection (and enhancement) will need to be given to historical features on these areas.	?	?	?
14. Conserve and enhance rural and urban landscapes	There are likely to be considerable landscape issues with this option. Development needs to take account of its natural surroundings and the landscape character. The key issue is how to reconcile the needs of sustainable development, meeting the social and economic needs of the Borough, whilst ensuring that the intrinsic qualities of the landscape are respected and preserved.	- ?	-- ?	-- ?
15. Promote a sustainable, diverse and vibrant sub-regional economy	This policy may help attract skilled workers to the Borough and provide an adequate supply of employment land for businesses. However, regeneration of the central area will be crucial for economic growth and to improve Swindon’s reputation.	+/- ?	+/- ?	+/- ?

Appendix A Spatial Option 2 – ‘Proposed new growth within Swindon outside existing places’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
16. Provide opportunities for a highly skilled and educated workforce	Skills shortages in the Borough have been acknowledged. This is likely to be resolved through a combination of urban regeneration, an improved jobs/homes balance, a better mix of dwellings and improved quality of educational facilities, including substantial investment in higher education provision. Population increase must be accompanied with quality educational establishments.	?	?	?
17. Enhance the image and role of Swindon’s central area as a sub-regional centre and destination	The ‘ <i>Regeneration Framework</i> ’, prepared by The New Swindon Company, should provide the principal structure and focus – supplemented by other urban programmes. It is important that all urban extensions complement the regeneration of the central area, and other parts of the urban area. They should not draw the focus away from the town centre.	+/- ?	+/- ?	+/- ?

Appendix A Spatial Option 3 – ‘Contained growth within existing places and identified growth through the RSS’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
1. Maintain and enhance biodiversity and avoid irreversible losses	Similar issues to option 2 with effects of biodiversity from Greenfield development. Concentration at the EDA instead of allocating further Greenfield sites will reduce opportunities for significant Green Infrastructure.	+/- ?	+/- ?	+/- ?
2. Use land and existing buildings efficiently and prioritise development on previously developed land	Option 3 still promotes development of urban extensions but without any additional extensions, at a higher density and with more emphasis on urban regeneration. More likelihood of efficient and effective use of land with reductions in loss of productive agricultural land.	+/-	+/-	+/-
3. Promote sustainable waste management solutions	An increase in amounts of waste is likely with all 3 options due to level of predicted population increase. It is debateable which option would lead to improvements in recycling/reuse and/or waste reductions.	+/- ?	+/- ?	+/- ?
4. Use and manage water resources in a sustainable manner	Issues regarding protection of floodplains and possible increases in surface water run-off due to Greenfield development. Climate change is likely to lead to an increase in significant rainfall events. However, essential water infrastructure and Sustainable Drainage Systems can be incorporated from the outset, without relying on existing pipes, sewers and drainage systems. Increased water demand in the longer-term.	+/- ?	+/- ?	+/- ?
5. Reduce the need to travel and promote more sustainable forms of transport	This option may be slightly more sustainable than option 2 with more emphasis on urban regeneration. Concentration of EDA would allow further patronage of public transport services, particularly nearer the end of the plan period.	- ?	- ?	-/+ ?
6. Reduce impacts on climate change through energy efficiency measures and promotion of renewable energy solutions	New development in any location is likely to increase energy demand/usage. High design standards that incorporate energy efficiency measures will help in the longer term. A policy that favours urban regeneration at higher densities is likely to be most sustainable, and transport emissions may be less. Increased concentration of the EDA may make renewable schemes more viable.	+/-	+/-	+/-
7. Reduce environmental pollution	There will be issues of environmental pollution from developing urban extensions and from urban regeneration. Increased concentration of the EDA may exacerbate problems of noise and light within the development and in the adjoining rural area.	0	-	--
8. Reduce social exclusion and poverty	Option 3 places more emphasis on urban regeneration, which will help reduce poverty and social exclusion.	+/- ?	+/- ?	+/- ?

Appendix A Spatial Option 3 – ‘Contained growth within existing places and identified growth through the RSS’				
Key to effects: ++ Significant positive + Marginal positive 0 Little or neutral effect - Marginal negative -- Significant negative				
? Effects uncertain				
Time periods: Short term = 0-5 Yrs. Medium term = 5-10 Yrs. Long term = 10-20+ Yrs.				
Sustainability Appraisal objective	Likely significant social, environmental and economic effects	Time period over which effects are likely to occur		
		Short term	Medium term	Long term
9. Provide decent and affordable housing for everyone	Emphasis on both urban regeneration and urban extensions will likely produce an adequate range of variety and size to meet need. Levels of affordable housing may be lower than Option 2. Concentration of the EDA may result in significantly less large family homes being available for higher-income earners that the Borough needs to attract.	+ ?	+ ?	++ ?
10. Provide a safe and healthy environment in which to live	Emphasis on both urban regeneration and urban extensions could have significant positive impacts for crime and healthy living - reducing the fear of crime and anti-social behaviour in some residential areas through urban renewal initiatives, whilst allowing a network of multifunctional infrastructure to be built into the extensions.	+	+	++
11. Provide a high quality built environment	Emphasis on high quality design will lead to significant improvements in the urban area, creating attractive, pleasant living environments. High densities at the EDA, however, may create problems of ‘town cramming’, especially if 14,000-15,000 dwellings are required.	+/-	+/-	+/-
12. Maintain the identity and function of individual settlements	Option 3 will remove the need to allocate further strategic extensions, thereby reducing issues of coalescence. However, an increase in density at the EDA may have adverse effects for neighbouring rural settlements. Significance of effects will be better known at later stage.	+ ?	+ ?	++ ?
13. Conserve and enhance the historic built environment and archaeological assets	Need to ensure appropriate archaeological assessment prior to development of Greenfield land. Further smaller strategic extensions will not be allocated under this option and this will reduce the extent of investigations needed.	-	-	-
14. Conserve and enhance rural and urban landscapes	See 14 Option 2. Development of urban extensions likely to have adverse effects in respect of this sustainability objective. Significance of effects will depend on location, design, density, open space allocation etc. This option may be slightly more sustainable for this objective, due to the loss of smaller extensions, but higher densities at the EDA may mean that less open space, Green Infrastructure etc can be built-in. This may impact upon the North Wessex Downs AONB to the north.	- ?	- ?	- ?
15. Promote a sustainable, diverse and vibrant sub-regional economy	This option is likely to have benefits for the local economy, through provision of a range of housing types and employment land, together with regeneration of the urban area. Employment land availability may be greater under option 2 due to allocation of more Greenfield land.	+/-	+/-	+/-
16. Provide opportunities for a highly skilled and educated workforce	All new development will need to include provision of high quality educational establishments. Option 2 is likely to be more successful in attracting skilled workers to the Borough. House sizes are likely to be reduced through option 3.	+/-	+/-	+/-
17. Enhance the image and role of Swindon’s central area as a sub-regional centre and destination	Option 3 promotes the EDA as the major extension. It is unclear whether this will compliment central area regeneration or detract attention.	?	?	?

Appendix B: Sustainability Appraisal Framework

Sustainability Appraisal theme	Sustainability Appraisal objective	Detailed decision-making criteria. Will the policy...
Biodiversity, Fauna and Flora	1. Maintain and enhance biodiversity and avoid irreversible losses	<ul style="list-style-type: none"> ▪ Protect and enhance habitats and species? ▪ Protect and enhance international, national and locally designated wildlife sites? ▪ Avoid habitat fragmentation? ▪ Ensure all new developments protect and enhance local biodiversity? ▪ Contribute to the achievement of targets within the LBAP? ▪ Prevent the loss of ancient woodland? ▪ Result in the need for Appropriate Assessment? ▪ Incorporate a network of multifunctional Green Infrastructure within new developments, where appropriate? ▪ Result in a net gain for the natural environment with each new development?
Land and Water resources	2. Use land and existing buildings efficiently and prioritise development on previously developed land	<ul style="list-style-type: none"> ▪ Maximise densities in sustainable locations? ▪ Protect the best and most versatile agricultural land? ▪ Maintain and enhance soil quality? ▪ Maximise reuse of Previously Developed Land? ▪ Encourage remediation of contaminated land? ▪ Maximise efficient use of land within Swindon's Central Area? ▪ Avoid the loss of natural floodplain?
	3. Promote sustainable waste management solutions	<ul style="list-style-type: none"> ▪ Reduce the amount of waste produced? ▪ Maximise recovery, re-use and recycling of waste? ▪ Promote 'on-site' sustainable waste management facilities within new developments? ▪ Deal with waste in a sustainable manner?
	4. Use and manage water resources in a sustainable manner	<ul style="list-style-type: none"> ▪ Encourage sustainable management of water resources? ▪ Maximise efficient use of water resources? ▪ Reduce the risk of flooding to people and property (new and existing development)? ▪ Protect and enhance the natural function of floodplains? ▪ Minimise the environmental effects of water abstraction, both inside and outside the Borough? ▪ Promote the use of sustainable drainage systems, in appropriate circumstances? ▪ Ensure that essential water infrastructure is co-ordinated with any new development?
Pollution, Air and Climatic Factors	5. Reduce the need to travel and promote more sustainable forms of transport	<ul style="list-style-type: none"> ▪ Promote mixed-use developments that reduce reliance on the private car? ▪ Provide for suitable alternatives to the private car ie public transport, walking, cycling? ▪ Promote car-share schemes and/or working from home? ▪ Promote the development of Park & Ride Schemes? ▪ Improve the jobs/homes balance? ▪ Reduce traffic volumes?

	<p>6. Reduce impacts on climate change through energy efficiency measures and promotion of renewable energy solutions</p>	<ul style="list-style-type: none"> ▪ Reduce emissions of Greenhouse gases and ozone depleting substances? ▪ Consider the likely impacts of future development on climate change? ▪ Lead to an increased proportion of energy needs being met by renewable sources? ▪ Promote energy efficiency in buildings and new development? ▪ Promote energy from waste schemes? ▪ Reduce contributions to climate change through sustainable building practices?
	<p>7. Reduce environmental pollution</p>	<ul style="list-style-type: none"> ▪ Maintain and improve local air quality? ▪ Minimise and, where possible, improve on unacceptable levels of noise, light pollution, odour and vibration? ▪ Maintain and improve the quality of all water bodies in the Borough? ▪ Minimise all forms of contamination to soils? ▪ Maintain and enhance soil quality?
Inclusive Communities	<p>8. Reduce social exclusion and poverty</p>	<ul style="list-style-type: none"> ▪ Improve the availability and accessibility of key local facilities, including healthcare, education, retail and leisure? ▪ Encourage active involvement of local people in community activities? ▪ Maximise opportunities for all members of society? ▪ Maximise opportunities within the most deprived areas? ▪ Increase the ability of 'Hard-to-Reach' groups? ▪ Reduce fuel poverty? ▪ Maintain and enhance rural facilities?
	<p>9. Provide decent and affordable housing for everyone</p>	<ul style="list-style-type: none"> ▪ Provide an adequate supply of affordable housing? ▪ Support the provision of a range of house types and sizes to meet the needs of all sectors of the community? ▪ Reduce homelessness? ▪ Provide a decent home for all by 2010?
Healthy communities	<p>10. Provide a safe and healthy environment in which to live</p>	<ul style="list-style-type: none"> ▪ Reduce crime and the fear of crime? ▪ Promote design of buildings and public spaces to reduce the potential for crime? ▪ Encourage healthy lifestyles and reduce health inequalities? ▪ Provide for high quality healthcare facilities? ▪ Incorporate a network of multifunctional Green Infrastructure within new developments? ▪ Promote recreational and leisure opportunities in the countryside?
Development and Growth	<p>11. Provide a high quality built environment</p>	<ul style="list-style-type: none"> ▪ Ensure high standards of design and construction in all new developments? ▪ Improve people's satisfaction with their neighbourhoods as places to live? ▪ Ensure new development is co-ordinated with essential infrastructure to support future sustainable growth? ▪ Improve the public realm? ▪ Improve the amenity of residential areas?
	<p>12. Maintain the identity and function of individual settlements</p>	<ul style="list-style-type: none"> ▪ Prevent coalescence of individual settlements? ▪ Maintain and enhance the character and distinctiveness of settlements?

Conservation and Heritage	13. Conserve and enhance the historic built environment and archaeological assets	<ul style="list-style-type: none"> ▪ Conserve and enhance features and areas of historical and cultural value, including Listed Buildings, Conservation Areas and Historic Parks and Gardens? ▪ Conserve and enhance archaeological sites and features? ▪ Ensure appropriate archaeological assessment prior to development of Greenfield land? ▪ Promote sensitive re-use of listed buildings and buildings of significant local interest where appropriate?
	14. Conserve and enhance rural and urban landscapes	<ul style="list-style-type: none"> ▪ Protect and enhance the landscape character and scenic quality of the countryside? ▪ Protect and enhance natural landscapes within the urban area, including recreational open space and strategic green corridors? ▪ Incorporate a network of multifunctional Green Infrastructure within new developments, where appropriate? ▪ Contribute to the conservation and enhancement of the North Wessex Downs AONB? ▪ Contribute to the objectives of the Great Western Community Forest?
Economic Development and Employment	15. Promote a sustainable, diverse and vibrant sub-regional economy	<ul style="list-style-type: none"> ▪ Provide employment opportunities for all? ▪ Improve business development and enhance competitiveness? ▪ Assist businesses in finding appropriate land and premises? ▪ Support the rural economy and farm diversification? ▪ Recognise the importance of the environment to the Borough's economy? ▪ Promote sustainable tourism opportunities?
	16. Provide opportunities for a highly skilled and educated workforce	<ul style="list-style-type: none"> ▪ Provide high quality educational facilities? ▪ Improve the skills and qualifications of young people? ▪ Promote life-long learning that is accessible to all? ▪ Provide an increased supply of skilled workers to the local economy?
	17. Enhance the image and role of Swindon's Central Area as a sub-regional centre and destination.	<ul style="list-style-type: none"> ▪ Promote Swindon's Central Area as a business location? ▪ Make land and property available for a range of different business needs within the Central Area? ▪ Allow the realisation of the New Swindon Company's objectives? ▪ Improve the quality of the public realm in Swindon's Central Area? ▪ Promote Swindon as a destination of choice for shopping?