



SUSTAINABILITY APPRAISAL AND STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE NORTH EAST DERBYSHIRE CORE STRATEGY

Issues and Options SA Report

April 2009





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Issues and Options SA Report

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Abbreviations

DPD	Development Plan Document
LDF	Local Development Framework
RSS	Regional Spatial Strategy
SA	Sustainability appraisal
SEA	Strategic environmental assessment
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage Systems

1 Introduction

1.1 Purpose of this Report

This Issues and Options SA Report has been prepared for North East Derbyshire District Council as part of the Sustainability Appraisal (SA) process for the North East Derbyshire Local Development Framework (LDF) Core Strategy (referred to throughout this document as the Core Strategy). Comprising the latest stage of the SA, this document sets out an assessment and sustainability commentary of the *Core Strategy Issues and Options Report*ⁱ to feed into the ongoing development of the Core Strategy.

SA is the process of informing and influencing the development of the Core Strategy to maximise the sustainability value of the document. Reflecting this purpose, the target audience for this document is the Core Strategy development team.

1.2 Background

This report follows the release of the SA Scoping Report to the Consultation Authoritiesⁱⁱ in April 2007. Setting out the scope of and methodology for the SA and summarising the tasks and outcomes of the first stage of the SA process, the Scoping Report also presented information on the Core Strategy to enable the Consultation Authorities to form a view on the consultation period and scope/level of detail that will be appropriate for the SA Report. A summary of the consultation responses received on the Scoping Report was prepared by UE-A and was fed back to the Core Strategy development team.

The Scoping Report can be found at the following web link:

<http://www.ne-derbyshire.gov.uk/environment--planning/planning-/planning-policy/local-development-framework/sustainability-appraisal>

The *Core Strategy Issues and Options Report* is a consultation document that will be released at the end of April 2009 to facilitate discussion on the "Issues and Options" stage of the development of the Core Strategy. The aim of this consultation exercise will be to:

- ▶ Provide an opportunity for stakeholders and local communities to consider the issues and opportunities for meeting future development needs of the area;
- ▶ Gain feedback related to alternative options for development in North East Derbyshire; and
- ▶ Form the basis for more detailed Core Strategy policies.

ⁱ The finalised *Issues and Options Report* was supplied by Mary Carr to UE-A on 14th April 2009

ⁱⁱ The Consultation Authorities comprise English Heritage, Environment Agency and Natural England.

The purpose of this Issues and Options SA Report is to evaluate the Spatial Options proposed in the report and to provide a sustainability commentary on the Issues raised for the district by the document. Through providing this input, it is anticipated that this Issues and Options SA Report will inform and influence subsequent stages of the Core Strategy development process.

1.3 How to use this document

This Issues and Options SA Report should be read alongside the *Core Strategy Issues and Options Report (April 2009)* to provide sustainability context as a companion document. It should be noted that this report is not the equivalent of an SA Report or Environmental Report in line with the SEA Directive; these will be published later in the process.

Whilst not being a requisite part of the ODPM SA Guidance (2005), this document follows the intentions of PPS12. Keeping in the spirit of this consultation stage, the Issues and Options SA Report presents sustainability issues for consideration alongside the proposals set out in the *Core Strategy Issues and Options Report*.

This Issues and Options SA Report is structured as follows:

Chapter 2 and **Appendix B** set out an assessment of the four Spatial Options presented in the *Core Strategy Issues and Options Report*. This is presented through a set of High Level Assessment Matrices, Detailed Assessment Matrices and an accompanying summary which compares the sustainability performance of each of the options.

Chapter 3 evaluates the 15 "Issues" described in the *Core Strategy Issues and Options Report*. Presenting a commentary on the text included under each of the Issues, this is intended to be a general advice note which aims to guide the ongoing development of the Core Strategy.

The final chapter of the report (**Chapter 4**) sets out the next steps for the SA process.

2 Assessment of Spatial Options

2.1 Introduction

The *Core Strategy Issues and Options Report* highlights that, to meet the RSS requirement for new housing in the period to 2026, NE Derbyshire will need to find land for a total of 7,000 new dwellings.

To meet this requirement for 7,000 new houses, the *Issues and Options* document proposes a number of 'Spatial Options' for allocating this development. These strategic Spatial Options set out four alternative broad locations for new housing development, to be divided between different settlements in the district.

The four strategic options proposed to deliver the RSS allocation are as follows:

Spatial Option 1: Direct the majority of new development to the four main towns of Clay Cross, Dronfield, Eckington and Killamarsh.

Spatial Option 2: Direct the majority of development to the four main settlements and the six larger villages of Grassmoor, Holmewood, North Wingfield, Pilsley, Tupton and Wingerworth.

Spatial Option 3: Direct development to the four main towns, the six larger villages and smaller centres with sufficient services to support additional growth.

Spatial Option 4: Development focused on the A61 and A6175 corridors but still allowing some development elsewhere to meet the needs of the population.

2.2 High level assessment of the four Spatial Options

These four Spatial Options have been assessed against the SA Framework of objectives and indicators developed through the Scoping stage of the SA (**Section 1.2** and **Appendix A**). The assessment has utilised a high level and a detailed assessment process.

The assessment of the strategic options firstly engaged a 'high-level' assessment technique which uses the SA Framework, the baseline and the review of plans, programmes and policies to assess each alternative option. Findings are presented in matrix format and are accompanied by a commentary on identified effects.

The high level assessment matrix is not a conclusive tool or model. Its main function is to identify at a high level whether or not the Spatial Options would be likely to bring positive, negative or uncertain effects in relation to the SA Objectives. A benefit of this approach is that a range of options may be assessed, which can then be scrutinised in further detail if a significant number of uncertainties or potential negative effects arise.

Taking this approach, a high level assessment was carried out for each of the four Spatial Options against the SA Objectives. Assessing each Spatial Option against the SA Objectives presented in **Appendix A**, a summary of this high level assessment is presented in matrix form in Table 2.1 below

Table 2.1: High level assessment matrix for the four Spatial Options

SA Objective	1	2	3	4	5	6	7	8	9	10	11	12
Spatial Option 1	+/-	+	+/-	-	-	--	+/-	--	++	+/-	+	+
Spatial Option 2	+	+	++	+	+/-	+/-	+/-	-	++	+/-	++	+
Spatial Option 3	++	-	-	-	+/-	+	+/-	+/-	-	+/-	+	-
Spatial Option 4	+/-	+/-	+/-	++	+/-	+	+/-	+/-	-	-	+	-

Key to the high level assessment matrix	
Likely strong positive effect	++
Likely positive effect	+
Neutral/no effect	0
Likely adverse effect	-
Likely strong adverse effect	--
Uncertain effects	+/-

As highlighted by this summary of the high level assessment, there are a number of potential negative and uncertain effects related the different Spatial Options. In particular these relate to biodiversity, landscape, the historic environment, climate change mitigation and adaptation and the sustainable use of resources. All four Spatial Options have the potential to lead to negative or uncertain effects.

Whilst this high level assessment of the Spatial Options provides a broad indication of some of the issues surrounding their sustainability performance, to gain a closer understanding of the sustainability implications of progressing each option, a more detailed assessment has been carried out. This in particular enables a clearer understanding of the potential negative and uncertain effects which have been raised by the high level assessment.

2.3 Detailed assessment of the four Spatial Options

To gain a closer understanding of the sustainability implications of progressing each option, each of the strategic options were then assessed utilising a set of Detailed Assessment Matrices. These detailed assessment matrices have been employed to analyse the different

aspects of the Spatial Options against the SA Objectives in greater detail than the high level assessment process.

Detailed Assessment Matrices address the range of criteria identified in Annex II of the SEA Directiveⁱⁱⁱ when determining the likely (positive or negative) significance of effects (see Box 1 below).

Box 1: Criteria for the assessment of significant effects

Criteria for determining the likely significance of effects referred to in Article 3(5) of the SEA Directive

1. The characteristics of plans and programmes, having regard, in particular, to

- the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources;
- the degree to which the plan or programme influences other plans and programmes including those in a hierarchy;
- the relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development;
- environmental problems relevant to the plan or programme;
- the relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste-management or water protection).

2. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to

- the probability, duration, frequency and reversibility of the effects;
- the cumulative nature of the effects;
- the transboundary nature of the effects;
- the risks to human health or the environment (e.g. due to accidents);
- the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);
- the value and vulnerability of the area likely to be affected due to:
 - special natural characteristics or cultural heritage;
 - exceeded environmental quality standards or limit values;
 - intensive land-use;
- the effects on areas or landscapes which have a recognised national, Community or international protection status.

The Detailed Assessment Matrices are presented in **Appendix B**. They assess each of the four Spatial Options by considering the effects of their associated proposals on each of the SA Objectives in terms of and by setting out:

- ▶ A description of the predicted effect;
- ▶ The duration of the effect: whether the effect is long, medium or short term;
- ▶ The frequency of the effect: will it be ongoing?
- ▶ Whether the effect is temporary or permanent;
- ▶ The geographic significance: whether the effect is of localised, regional, national or international significance;

ⁱⁱⁱ This SA is being carried out in accordance with the requirements of the Directive 2001/42/EC, or the "SEA Directive."

- ▶ The magnitude of effect;
- ▶ The severity of significance;
- ▶ Whether mitigation is required/possible to reduce the effect; and
- ▶ Suggestions for mitigating the effect, or potential improvements to the proposals.

At a strategic level it is usually difficult to assess significant effects in the absence of widespread data. Instead, orders of magnitude are used based on geographic significance and impact magnitude. **Table 2.2** illustrates this order of magnitude for positive and negative effects.

Table 2.2: Significance Matrix

		Impact magnitude								
		Adverse				Neutral	Positive			
		High	Medium	Low	Negligible		Negligible	Low	Medium	High
Geographical significance	International	Severe	Severe	Major	Moderate		Moderate	Major	Severe	Severe
	National	Severe	Major	Moderate	Minor		Minor	Moderate	Major	Severe
	Regional	Major	Moderate	Minor	Negligible		Negligible	Minor	Moderate	Major
	Local	Moderate	Minor	Negligible	Negligible		Negligible	Negligible	Minor	Moderate

Limitations in terms of the level of detail and confidence of assessment are cited in the Detailed Assessment Matrices; where uncertainty exists, the worse case scenario has been assumed in accordance with the precautionary principle.^{iv}

2.4 Summary of the detailed assessment

The Detailed Assessment Matrices are presented in **Appendix B**. These describe in detail the potential likely effects of the four Spatial Options against each of the twelve SA Objectives.

The summary below sets out a summary and comparison of the sustainability performance of the four Spatial Options.

2.4.1 SA Objective 1: Ensure that housing stock meets the needs of all communities in the District.

The four Spatial Options are likely to have differing implications for housing development in North East Derbyshire. Spatial Option 1 is likely to secure a large measure of housing provision in the four main settlements, but is unlikely to meet housing need elsewhere in the

^{iv} Where there is scientific uncertainty, and the consequences of an action, especially concerning the use of technology, are unknown but are judged by some scientists to have a high risk of being negative from an ethical point of view, then it is better not to carry out the action rather than risk the uncertain, but possibly very negative, consequences.

district. Spatial Option 2 is likely to support housing provision in a larger number of areas, including the main settlements and six larger villages, but not in smaller settlements. Spatial Option 3 is likely to support the greatest spread of new housing provision across the district, including smaller settlements and Spatial Option 4 is likely to focus new housing provision in the A61 and A6175 corridor.

In terms of affordable housing, each of the options are likely to support similar numbers of affordable houses through targets likely to be implemented through the LDF. For example the Affordable Housing SPD (2008) suggests that affordable housing provision should be “as close as possible” to 40% for housing developments of 15 dwellings or more or 0.5 hectares in the main settlements^v, or above 0.1 hectares or above in settlements with a population of 3,000 people or less. Of the four options however, Spatial Option 3 is likely to support the highest level of affordable housing provision in rural areas through providing a greater geographical spread of housing.

2.4.2 SA Objective 2: Improve health and reduce health inequalities.

Due to the high-level focus of the Spatial Options, which concentrates on the strategic location of development, a large factor determining the options’ likely sustainability performance in relation to SA Objective 2 concerns residents’ accessibility to health services. From this perspective, the options which are likely to facilitate ease of access to health and leisure facilities are likely to perform better in relation to this objective. For example, Spatial Options 1 and 2, by locating the majority of development at the locations with the broadest range of health and leisure facilities (i.e. in the district’s larger settlements) will help support accessibility to these services; and the options which support development at the locations with less comprehensive health facilities, such as Spatial Option 3, which directs development to the smaller centres, will perform less well in this respect.

Each option’s sustainability performance in relation to health and wellbeing will therefore depend on the provision of new health facilities to accompany new development, and improvements in public transport networks. Accessibility by non-car modes is particularly likely to be an issue for Spatial Option 4, which seeks to focus development along A61 and A6175 corridors.

Another factor which will influence health and wellbeing in the district is the availability and provision of accessible and useable open space and Green Infrastructure. To address this, the preferred spatial option should seek to review Green Infrastructure needs at locations where development is proposed. Green Infrastructure’s contribution to health and wellbeing in the district has been discussed further in Chapter 3.

2.4.3 SA Objective 3: Create sustainable communities.

This SA Objective concerns issues such as community cohesion, the viability and viability of

^vIn this instance “main settlement” includes Clay Cross, Dronfield, Eckington, Grassmoor, Holmewood, Killamarsh, North Wingfield, Pilsley, Tupton and Wingerworth.

communities, access to services and other similar aspects. Under this objective, Spatial Option 1 is likely to support the viability of local services and facilities in the four main settlements by stimulating new development and increasing the proximity of new development to centres. It is however less likely to support amenities at other locations in the district, and has the potential to undermine the viability of existing services and facilities. Spatial Option 2 will support the vitality of a larger number of centres by supporting the growth of the seven larger villages as well as the four main settlements.

Although Spatial Option 3, through supporting growth in the population of smaller villages, may support the viability of these settlements as community centres, a more dispersed settlement pattern has the potential to increase the need to travel. This has the potential to reduce the cohesiveness of communities in the district. The development of a larger number of smaller sites also has the potential to reduce the scope for securing developer contributions towards new and improved services, facilities and amenities.

Spatial Option 4 has the potential to promote the viability and vitality of Clay Cross, Tupton, Wingerworth, North Wingfield and Heath and Holmewood and support the regeneration of these areas. As well as supporting local services and amenities, the option has the potential to reduce deprivation and encourage the viability of the settlements. Large scale development in these areas is however likely to lead to significant traffic, congestion and accessibility issues without considerable investment in local transport infrastructure.

Whilst the location of development is an important contributor to the creation of sustainable communities, a wide range of other factors, including the provision of new services, facilities and amenities, sustainable transport networks, the design and layout of development and the provision of Green Infrastructure are also important in relation to this SA Objective. These issues have been discussed further in Chapter 3.

2.4.4 SA Objective 4: Protect and enhance the historic environment of the District.

Due to their strategic level, none of the Spatial Options have addressed potential effects on the historic environment, from direct impacts of development on cultural heritage assets (including buildings, structures and archaeological remains), or through potential effects on assets' settings. This is potentially significant due to the large number of designated sites in the district, including a large number of conservation areas and listed buildings, and the large proportion of the district's heritage resource which remains undesignated.

It should be noted however that the options which support a greater measure of development in the north of the district have the potential to have a larger number of negative effects on the historic environment. This is particularly likely to be relevant for Spatial Option 1, which will concentrate development to a greater extent in and adjacent to Dronfield and Eckington. The north of the district has a large number of designated historic environment assets, including the following conservation areas: Coal Aston; Eckington and Renishaw Park; Dronfield & Extension; Dronfield Woodhouse; and High Street Eckington. It also includes the Moss Valley conservation area, which extends across a large area from Dronfield in the west to Eckington in the east. The area also has a large number of non-designated sites.

The Spatial Options which concentrate development in a smaller number of areas have the potential to provide a measure of protection to assets which would otherwise be affected by development. In this respect Spatial Option 3 has the potential to have effects on the historic environment at a larger number of locations through spreading development to a greater extent across the district.

The Core Strategy should seek to incorporate design and layout which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non designated sites, townscapes and landscapes. These issues have been discussed further in the recommendations presented in **Chapter 3**.

2.4.5 SA Objective 5: Protect and enhance biodiversity.

All four options have the potential to have effects on biodiversity assets in North East Derbyshire. The development of 7,000 houses in the district will have a range of potential effects on flora and fauna, including through direct landtake of habitats, disturbance and the severance of biodiversity networks.

Due to the proposed focus of new development under Spatial Option 1, there is the potential for impacts on the nationally designated sites present in the north of the district, including the SSSIs located in this area. This includes the Moss Valley SSSI, a section of which to the north of Eckington is in an unfavourable condition. Spatial Options 2 and 3 may also have effects on biodiversity assets in this area of the district.

There are a variety of non-statutory biodiversity sites present adjacent to the proposed development areas, including Local Wildlife Sites and semi-natural ancient woodland. The extent of the likely effects on these sites are uncertain however, as they depend on the location, layout and design of new development. Due to the scale of development proposed, the allocation of housing is likely to impact on both brownfield and greenfield biodiversity. The significance of any impacts will depend on the provision and design of new Green Infrastructure: the provision of well designed open space to support new development has the potential to support biodiversity networks in more built-up areas. Every effort should be made to take opportunities for habitat creation, enhancement, protection, buffering and reducing fragmentation of existing sites. These opportunities have been discussed further in **Chapter 3**.

2.4.6 SA Objective 6: Protect and manage the landscape of North East Derbyshire.

A significant landscape-related constraint in North East Derbyshire is the presence of the designated Green Belt, which covers the north and west of the district as far south as Wingerworth and Grassmoor. This provides significant constraints for the development proposed for Spatial Option 1, which focuses new housing in the north of the district (as well as Clay Cross). It is considered that Spatial Options 2 and 3 are less likely to require land take on the green belt due to the availability of sufficient land. Spatial Option 4 is the least likely of the options to require development on Green Belt land.

The four Spatial Options can be differentiated in relation to the location of potential effects on landscape quality. Spatial Option 1 is likely to have the largest effect of the options on landscape quality in the north of the district and at Clay Cross. Spatial Options 2 and 3, whilst likely to have some impacts on landscape quality at a wider range of locations, by spreading development across the settlements, may have smaller impacts on landscape quality at individual locations. Spatial Option 4 is likely to have the largest effect of the options on landscape quality in the south east of the district (due to the larger allocation of development at this location). Alongside, the options which focus development away from the smaller villages (Spatial Options 1 and 4) will help preserve landscape quality in these locations.

In general, the options are unlikely to lead to development in areas of high landscape quality in the west of the district, including the area designated as a Special Landscape Area (although Spatial Option 3 may have some very limited impacts at these locations).

2.4.7 SA Objective 7: Manage prudently the natural resources of the region including water, air quality, soil and minerals.

Whilst the scale of development required by the RSS allocation will ensure that all of the options will involve some measure of landtake on greenfield land (due to the relative shortage of brownfield land in the district), the options which propose development at a smaller number of locations (Spatial Options 1 and 4) have the largest potential for landtake on greenfield land.

Travel and transport are an increasing use of energy in the district. In this respect, Spatial Options 1 and 2, which reduce the need to travel through maximising the proximity of a wider range of services facilities and amenities to new areas of development, perform well in relation to this SA Objective. Spatial Options 3 and 4, through encouraging car use have the potential to increase energy use from transport.

Due to their high level strategic nature, the Spatial Options do not seek to promote energy efficiency or the provision of renewable energy facilities within new and redevelopment in the district. These issues have been discussed further in **Chapter 3** of this report.

2.4.8 SA Objective 8: Plan for the anticipated levels of climate change.

The potential impacts of climate change in the North East Derbyshire include the following: decreasing summer rainfall and increasing winter rainfall; more extreme heat events such as that seen in the summer of 2003; fewer snowfall events; increased wind speeds and an increase in storm events; average annual temperature increase of between 1°C and 2.5°C; drier (up to 30%); warmer summers and wetter (up to 20%) and warmer winters; and drier soils in summer and higher soil moisture levels in winter increasing the probability of flooding.

A key aspect of each Spatial Option's sustainability performance in relation to this SA Objective is the proximity of development to areas at risk of flooding. Significant flood risk exists to the north and west of Killamarsh and to the east of Eckington. A smaller area of flood risk exists in Dronfield and to the west and east of Clay Cross. Constraints also exist to the west of North Wingfield and Grassmoor and to the south of Wingerworth. All of the

Spatial Options therefore have the potential to lead to a measure of development in flood risk areas.

Other aspects related to climate change adaptation, including related to the design and layout of new and redevelopment and the provision of Green Infrastructure, have been discussed further in **Chapter 3**.

2.4.9 SA Objective 9: Minimise North East Derbyshire's contribution to climate change.

A major, and increasing contribution to greenhouse gas emissions in North East Derbyshire is from transport. Due to dispersed settlement patterns and the rural nature of much of the district, car dependency is high in North East Derbyshire, and there is a considerable level of out commuting from the district by car. Because of these factors, road transport is an increasing contributor to greenhouse gas emissions in the district. Limiting emissions from road transport is therefore a significant action for effective climate change mitigation in North East Derbyshire.

Due to transport's contribution to greenhouse gas emissions in the district, the options which have the potential to support climate change mitigation are those that reduce the need to travel. The options which focus development in the main settlements (Spatial Option 1 and Spatial Option 2) will do most to support reductions in greenhouse gas emissions by maximising accessibility from new areas of development to shops, facilities and services, and supporting accessibility to public transport networks. Spatial Option 3's support of new development in the smaller villages, settlements which tend to have a lower concentration and variety of services and facilities, will do less to support climate change mitigation by increasing the need to travel. Spatial Option 4, due to development areas' proximity to the M1, and the inadequacy of existing transport networks to serve new areas of development, is also likely to encourage car use and increase greenhouse gas emissions without significant investment in public transport infrastructure.

As a result of the strategic level of the Spatial Options, none of the options seek to support energy efficient and low carbon development or new renewable energy provision. These issues have been discussed further in Chapter 3.

2.4.10 SA Objective 10: Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.

Whilst air quality is generally good in the district, Spatial Option 4's support for development along the A61 and A6175 corridors may have implications for existing air quality through a stimulation of traffic growth in the area. Potential effects related to air quality may also be heightened by the area's proximity to the M1 motorway.

Other effects related to soil and water quality are uncertain at this level of detail.

2.4.11 SA Objective 11: Develop a strong culture of enterprise and innovation.

Through focussing development in the north of the district, Spatial Option 1 is likely to

strengthen economic links with the Sheffield city-region. The option may reduce the scope for improving economic vitality elsewhere in North East Derbyshire however, including in the larger villages, by limiting development at these locations. Spatial Option 2 performs better in this respect by supporting the localised economies of the larger villages, as well as the four main settlements. Spatial Option 3 has the largest scope to support the economy of more rural areas of the district, although development at a larger number of smaller sites may reduce opportunities for the clustering of similar economic activities and for achieving developer contributions towards improved infrastructure. Spatial Option 4, through focussing development in the settlements of Clay Cross, Tupton, Wingerworth, North Wingfield and Heath and Holmewood will support the economic regeneration and vitality of these areas, and support existing initiatives such the Markham Vale Employment Growth Zone.

2.4.12 SA Objective 12: Improve accessibility to jobs and services.

In general, the areas with the best public transport links in the district are the four main settlements (including Dronfield, which has the district's only train station), and to a lesser extent, the six larger villages. This includes the most developed public transport links to Chesterfield, other settlements in the district, and to the Sheffield urban area. Alongside, the larger settlements have the widest range of shops, services, facilities and amenities, improving accessibility to local services, including potentially by sustainable modes of transport such as walking and cycling. The options which focus development in the larger settlements are also likely to support the viability of new and existing public transport networks.

Due to these factors, the options which focus development in these more accessible locations (Spatial Option 1 and Spatial Option 2) perform best in relation to SA Objective 12. For the same reason, as many areas of the district suffer from poor accessibility by non car modes, Spatial Option 3, through spreading development across a wider range of less accessible locations, has less potential to support accessibility and existing and potential public transport links.

Spatial Option 4 has the potential to raise a number of issues for this SA Objective. Due to the area's proximity to the M1, new development promoted by Spatial Option 4 has the potential to stimulate car use and encourage out-commuting from the district by car without significant improvements to public transport networks in the area. This has the potential to undermine accessibility to services, facilities and amenities for non car users. If the Core Strategy were to progress Spatial Option 4 therefore, significant investment in improved infrastructure including a new rail station at Clay Cross and new and improved bus routes would be required to minimise the sustainability implications surrounding the option.

3 Evaluation of the Issues presented in the Core Strategy Issues and Options Report

3.1 Introduction

In addition to the four Spatial Options assessed in the previous chapter, the *Issues and Options Report* sets out 15 "Issues" which it suggests should be addressed through the Core Strategy.

The text included for these 15 Issues in the *Issues and Options Report* have been reviewed by the SA team, and examined for their content and relevance. The commentary below summarises this review, and where relevant suggests additional areas which it is considered should be further addressed through the Core Strategy.

3.2 Commentary on issues

3.2.1 Issue 1: Create sustainable communities, fostering local distinctiveness and protecting our heritage

In general the text highlights the areas which are required for the creation of sustainable communities. It also recognises the significance of local distinctiveness and the historic environment for 'place shaping' in the district.

As acknowledged by the text, North East Derbyshire is rich in cultural heritage assets, and that the district has a large number of designated listed buildings and conservation areas. It should be noted however that only a limited proportion of the district's overall historic environment resource is subject to statutory designations, and undesignated features represent a significant part of the district's cultural heritage. This should be acknowledged by the Core Strategy.

New development should incorporate design which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non designated sites and townscapes. Alongside, development should seek to rejuvenate and protect the listed buildings currently 'at risk' in the district, and support the integrity of historic landscapes. Design and layout should draw on Detailed Historic Landscape characterisation work which has been carried out locally, and seek to complement the heritage value of North East Derbyshire by improving and utilising cultural heritage assets' setting and function.

3.2.2 Issue 2: Tackle the effects of climate change

The text included in the *Issues and Options Report* under this Issue addresses both climate change adaptation and mitigation. The title of the Issue however is misleading, in that it only refers to 'tackling the effects of climate change', i.e. adapting to the effects of climate change.

Through this wording, it implies that the Issue does not seek to address the causes of climate change (or climate change mitigation).

It is therefore recommended that references to climate change in the Core Strategy should be clearly defined in relation to climate change mitigation and adaptation. This will clarify which aspect of climate change the Core Strategy is seeking to address, and help demonstrate to the reader that to effectively address climate change in North East Derbyshire, action will be required both to limit greenhouse gas emissions in the district, and to implement effective adaptation.

Mitigation-related measures in the district proposed by the Core Strategy should be supported by more solid recommendations related to targets for renewable energy provision, and related to regional and national efficiency and emissions standards. For example there is potential for development promoted through the Core Strategy to adopt standards for new development in relation to the Code for Sustainable Homes (in particular the energy and CO₂ emissions category). The Core Strategy should aim to support development which meets and, preferably exceeds national and regional standards before the stated dates for implementation and include its own targets for the district. The inclusion of targets in the text under this Issues is therefore welcome, although there is potential for these to be more far reaching than currently proposed. The acknowledgement of a need to reduce emissions from transport in the district is also endorsed.

The effects of climate change in North East Derbyshire are likely to include the following: decreasing summer rainfall and increasing winter rainfall; more extreme heat events such as that seen in the summer of 2003; fewer snowfall events; increased wind speeds and an increase in storm events; average annual temperature increase of between 1°C and 2.5°C; drier (up to 30%); warmer summers and wetter (up to 20%) and warmer winters; and drier soils in summer and higher soil moisture levels in winter increasing the probability of flooding. The Core Strategy will play a key role in deciding how successfully the district adapts to these effects: the extent of these effects for example will be strongly influenced by the location of new development in the district.

The Core Strategy should encourage development which utilises design and layout which supports adaptation to climate change. This can include: appropriate shading and planting, solar control, increased ventilation, improved drainage (and SUDS), green roofs, management of flood pathways, rain harvesting and storage, grey water recycling and a range of other features. Taking such an approach will help North East Derbyshire adapt to an increased occurrence of extreme temperatures, severe weather events and an increased risk of flash flooding in the district.

When deciding the location of allocations within the district, the Core Strategy should utilise the Strategic Flood Risk Assessment which is currently being developed for North East Derbyshire as a central consideration for deciding the location for development. Decision-

making on the basis of the SFRA should adopt the precautionary principle^{vi} where uncertainties arise over addressing flood risk.

Related to both climate change mitigation and adaptation, the regional energy and climate change strategies should be key considerations for the Core Strategy.

It is noted that waste and recycling has been included under the climate change Issue. Whilst waste and recycling issues may have some limited indirect relevance to the issue, it is recommended that this issue would be better addressed in a separate section to climate change. This will more effectively help address the topic. To develop the Core Strategy's intentions further in relation to sustainable waste management, the Core Strategy should support the development of waste facilities at more sustainable locations, engage the local employment, reduction, reuse or recycle of waste, and where appropriate, realise the opportunities for renewable energy generation through waste. At the same time the Core Strategy should recognise the impacts that waste management can have on noise, soil and air quality; the built environment and the setting of cultural heritage assets; flora and fauna; and effects on residents' quality of life.

3.2.3 Issue 3: The need to secure the protection of the countryside whilst allowing necessary development

This Issue recognises that protection and enhancement of the countryside is an important aspect for North East Derbyshire. Acknowledging its value for recreation and tourism, the Issue seeks to maintain and improve linkages between the countryside and built-up areas of the district. Green Infrastructure (discussed further under Issue 15) will be a key means for achieving this.

In relation to biodiversity, Issue 3 recognises the existence of internationally and nationally designated sites in the district, and other local biodiversity sites. Taking this further, the Core Strategy should also seek to increase the biodiversity value of the district by linking designated sites, including SSSIs and Local Nature Reserves with other recognised and potentially undesignated areas of biodiversity value.

The Core Strategy should also recognise that protected species are found across the district and are not confined to sites of nature conservation interest. They are, however, subject to their own legislative protection, which will affect development decisions. In this respect the Core Strategy should seek to ensure that new development takes place with due regard to the aims of PPS9 and the biodiversity duty placed on local authorities by the Natural Environment and Rural Communities Act. The Core Strategy should also aim to promote the objectives of the Lowland Derbyshire Biodiversity Action Plan.

^{vi} Where there is scientific uncertainty, and the consequences of an action, especially concerning the use of technology, are unknown but are judged by some scientists to have a high risk of being negative from an ethical point of view, then it is better not to carry out the action rather than risk the uncertain, but possibly very negative, consequences.

Natural England's Urban Greenspace standards provide a set of benchmarks for ensuring access to places of wildlife interest. These standards recommend that people living in built up areas should have:

- ▶ An accessible natural greenspace, of at least 2 hectares in size, no more than 300 metres (5 minutes walk) from home;
- ▶ Statutory Local Nature Reserves at a minimum level of one hectare per thousand population; and
- ▶ At least one accessible 20 hectare site within two kilometres of home; one accessible 100 hectare site within five kilometres of home; and one accessible 500 hectare site within ten kilometres of home.

The Core Strategy should support a move to a similar provision of accessible natural greenspace in the more built-up areas of the district.

The district's geodiversity assets should also be recognised by the Core Strategy. This can be facilitated as part of development proposals nearby or on top of interesting geodiversity assets. Where possible, the Core Strategy should endeavour to introduce effective management and conservation of the district's geodiversity resource through the forward planning process.

3.2.4 Issue 4: Ensure accessibility for all people

Transport and accessibility is closely linked to patterns of development. A concentration of services and provision of services near residential development, will reduce the need to travel. Higher density development also enables public transport links to become more commercially and practically viable. On the other hand, lower density housing and dispersed development for shopping, leisure, offices and services will increase the need to travel. The nature of less concentrated development over a larger area will reduce the viability of public transport and walking and cycling, encouraging car use and traffic growth, ultimately leading to adverse environmental effects on air quality and climate change. To help address these issues, higher density development in good proximity to the main centres of the district will reduce the need to travel. This is largely acknowledged by Issue 4.

Improved safety and perceptions of security for walkers and cyclists will also help encourage increased patronage of non-motorised transport. This will in turn help provide a "critical mass" of such users which encourages more people to walk and cycle. The Core Strategy, by supporting pedestrian and cyclist-friendly layout and design of development has the potential to support this.

The provision of high quality local amenities and services within close proximity of residential areas, served by safe and secure walking and cycling routes, combined with good public transport links to provide access to amenities not available locally, are prerequisites for reductions in car use in the district and increased use of more sustainable modes of transport.

3.2.5 Issue 5: Provide road infrastructure to support growth

Whilst it is recognised that road improvements may be required at some locations in the district to address congestion and associated issues, the Core Strategy should make it clear that an improvement in public transport and walking/cycling networks should be prioritised over road improvements where possible. Alongside it should ensure that the location and layout of development (as discussed under Issue 4) minimises the need for road improvements. This will help support the use of sustainable modes of transport in the district.

3.2.6 Issue 6: Reduce the use of the car

Issue 6 addresses many of the aspects raised under Issue 4 above. No additions are therefore recommended in relation to this Issue.

3.2.7 Issue 7: Meeting the housing requirements for the District, Issue 8: Delivering a mix of housing to meet identified needs and Issue 9: Addressing the need for affordable housing

Issues 7, 8 and 9 seek to address a range of housing issues, including affordable housing, housing densities, development on brownfield sites and mixed housing development. To accompany these aspects, the Core Strategy should also more explicitly recognise the benefits of housing (both affordable and standard) which is high quality, energy efficient and environmentally sustainable. This will bring a range of benefits, including helping to address fuel poverty, and supporting the health and wellbeing of residents. This will help bring a range of longer term benefits to the quality and longevity of the district's housing stock.

3.2.8 Issue 10: Protect and develop the District's four centres as retail/service centres

In general, the text included within Issue 10 will support the vitality and viability of the main centres of the district and help reduce out commuting from the district for work and to access services.

The Issue however highlights "*the redevelopment of Clay Cross with a supermarket and a car park*" as a "major opportunity". It also suggests that there is an opportunity to provide another supermarket in the north of the district. The Core Strategy, if supporting new supermarket provision in North East Derbyshire, should also recognise potential effects of such provision on car growth and the undermining of existing centres. The priority of the Core Strategy should be in the first instance to support centres' existing retail and service offer and to improve accessibility to centres. This will support the vitality of existing settlements and encourage community cohesion.

3.2.9 Issue 11: Offer a range of employment opportunities to establish a sound economic base

Whilst this issue supports the growth of employment opportunities in the district, there is also further potential for the Core Strategy to reiterate that new employment sites should be located in areas accessible by sustainable modes of transport. The Core Strategy should also seek to ensure that existing and expanded sites are supported by improvements in public

transport provision and walking and cycling networks. This will encourage the use of alternative modes of transport to the car and improve access to opportunities for local people.

3.2.10 Issue 12: Allow for the creation of a correctly skilled workforce for the future growth of the local economy

Issue 12 supports the growth of school places to accompany new housing development. To take this further, this should be augmented by a commitment to increase opportunities for further and adult education in North East Derbyshire to help facilitate an improvement in existing skills levels. This should also be supported by policies which seek to reduce out-migration of people with higher skills and qualifications from the district.

3.2.11 Issue 13: Anti-social behaviour/fear of crime

Issue 13 addresses the major issues surrounding crime and the fear of crime, including appropriate design and layout, the development of safer routes, and higher visibility. A further discussion of the role of Green Infrastructure for limiting crime and improving perceptions of security in the district is provided below under Issue 15.

3.2.12 Issue 14: Improve health and well being

Issue 14 addresses the major issues related to this topic. No comments therefore.

3.2.13 Issue 15: Provide recreation facilities

There is potential for Issue 15 to go further in recognising the role of an improved and expanded Green Infrastructure network in the district for supporting leisure, recreation and sporting opportunities. A key requirement for the Core Strategy will be to ensure that Green Infrastructure is fully incorporated into the Core Strategy. Green Infrastructure is a network of multi-functional open spaces, including formal parks, gardens, woodlands, green corridors, waterways, trees and open countryside. Improvements to the quality of open space has the potential to support health and wellbeing and enhance confidence among people using open space. It also helps reduce the fear of crime, improve the satisfaction of residents with their neighbourhoods as a place to live, and have positive effects for the townscape and built environment of the area. The Core Strategy should support the provision of new open space, and help facilitate improved access to these areas by encouraging development patterns which support non-car use including public transport and walking and cycling.

The Core Strategy should also support appropriate layout and location of development which improves the usability of the Green Infrastructure network by supporting improvements to visibility, and overcoming barriers relating to security and perception of crime. This will increase the desirability of public open space in the district.

4 Next Steps

Following consultation on the *Core Strategy Issues and Options Report*, the pre-submission document for the Core Strategy will be developed. The sustainability appraisal will continue to inform and influence this process by feeding into the development of the proposed pre-submission document. This will include a detailed assessment of the policies and proposals included in early versions of the pre-submission document, utilising the SA Framework of objectives and indicators developed during the Scoping stage of the SA.

Following this process, the finalised consultation version of the pre-submission document will be assessed and a full SA Report, addressing the requirements of the SEA Directive will be prepared.

Any comments or responses on this Issues and Options SA Report should be sent to Nick Chisholm-Batten at nick.chisholm-batten@ue-a.co.uk or by telephone on 01626 722145.

Appendix A: Updated Core Strategy SA Framework

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North East Derbyshire Core Strategy SA Framework

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
1	Housing (Material assets and Population)	Ensure that housing stock meets the needs of all communities in the District.	Q1a	Will it ensure all groups have access to decent housing?	The annual net additional dwelling requirement	Derby and Derbyshire Joint Structure Plan strategic housing requirement is 215 per year 1991-2011. Draft RSS strategic housing requirement is 330 per year 2011-2026
			Q1b	Will it ensure that all new housing developments are well located for good accessibility to local services and facilities?	Number of major housing applications refused on design grounds.	
			Q1c	Will it reduce homelessness?	Number of homeless applicants	
			Q1d	Will it improve the affordability of housing?	House price/earnings ratio	
			Q1e	Will it widen housing choice and enable mixed and balanced sustainable communities to flourish?	% of dwellings of different house sizes/types & tenures	
			Q1f	Will it ensure that all new development contributes to local distinctiveness and improve the local environment?	Number of major housing applications refused on design grounds.	
			Q1g	Will it meet the building specification guidance in the Code for Sustainable Homes? (DCLG)	Number of housing development achieving a four star or above sustainability rating as stipulated by the Code for Sustainable Homes	
			Q1h	Will it reduce the amount of vacant land?	Percentage of new and converted dwellings on previously developed land	60% (North East Derbyshire AMR)- 76% completions on brownfield land between April 2006 and March 2007
2	Health (Human Health and Population)	Improve health and reduce health inequalities.	Q2a	Will it improve access for all to health facilities?	Travel time by public transport to nearest health centre	
			Q2b	Will it provide sufficient areas of open space for all?	Accessible Natural Greenspace	100% of population with Accessible Natural Greenspace of at least 2ha within 300m (or 5 minutes) of their home (Natural England)

SA Topic (SEA in brackets)		SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
			Q2c	Will it encourage healthy and active lifestyles?	Standardised mortality rates	By 2010, reduce mortality from cancer by at least 20% in people under 75 (DH)
					Life expectancy at birth	By 2010, increase average life expectancy at birth in England to 78.6 years for men and 82.5 years for women (DH)
			Q2d	Will it encourage sporting activities?	% of adults (16+) participating in at least 30 minutes of moderate intensity sport and active recreation (including recreational walking) on three or more days of the week	Local Recreation Standard: 1.95 ha/1000 population green space, 2.66ha/1000 population outdoor sport facilities, 0.09 ha/1000 population children's play space, 0.006 ha/1000 population outdoor youth facilities. Source: Draft Recreation and Open Space SPD, NEDDC, May 2007
					Playing field provision	2.83 hectares per 1,000 population for playing field provision (National Playing Fields Association Standard)
			Q2e	Will it reduce obesity?	Percentage of adult population classified as obese	By 2010, stabilise incidences of obesity in children (DH)
3	Equality and Social Inclusion (Population)	Create sustainable communities.	Q3a	Will it help achieve life-long learning?	No. of people with NVC 2 qualifications	
			Q3b	Will it enable communities to influence the decisions that affect their neighbourhoods and quality of life?	Percentage of adults surveyed who feel they can influence decisions affecting their own local area	
			Q3c	Will it ensure people are not disadvantaged with regard to ethnicity, gender, age, disability, faith, sexuality, background or location?		
			Q3d	Will it improve the satisfaction of people with their neighbourhoods as places to live?	Percentage of residents surveyed who feel satisfied with their neighbourhoods	
			Q3e	Will it help to reduce crime?	Crime rate per 1,000 population	

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
			Q3f	Will it reduce out-migration?	Population size Age structure of population	
4	Heritage (Cultural Heritage)	Protect and enhance the historic environment of the District.	Q4a	Will it preserve buildings of architectural or historic interest and, where necessary, encourage their conservation and renewal?	Number of Grade I and Grade II* buildings at risk	None (English Heritage)
			Q4b	Will it preserve or enhance archaeological sites/remains?	Proportion of scheduled monuments at risk from damage, decay or loss	None (English Heritage)
			Q4c	Will it improve and broaden access to, understanding, and enjoyment of the historic environment?	Annual number of visitors to historic attractions	
			Q4d	Will it support heritage-led regeneration and capitalise on the social and economic contribution of the historic environment to the regeneration of the District?	Proportion of detailed characterisation studies informing major development proposals	All (English Heritage)
			Q4e	Will it preserve or enhance the setting of cultural heritage assets?	Proportion of conservation areas covered by a management plan	
			Q4f	Will it safeguard and enhance the character of the landscape / townscape and local distinctiveness and identity?	Traffic growth Reuse of buildings of heritage value	
			Q4g	Will it reduce the amount of derelict, degraded and under-used land?	Proportion of land that is derelict	
			Q4h	Will it increase the economic benefit derived from the historic environment	Proportion of detailed characterisation studies informing major development Annual number of visitors to historic attractions	
5	Biodiversity (Biodiversity, Flora and Fauna)	Protect and enhance biodiversity.	Q5a	Will it lead to habitat creation matching BAP priorities?	Area of Nature Conservation designation per 1,000 population (ha).	At least 1ha of Local Nature Reserve per 1,000 population (Natural England)

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
					Area of new habitat creation reflecting Derbyshire BAP priorities	Increase the area of LBAP habitats in the District (Natural England)
			Q5b	Will it maintain and enhance sites designated for their nature biodiversity interest?	Number, area and condition of national, regional and locally designated sites in appropriate management	Increase the area designated as Local Nature Reserves in the District (Natural England)
			Q5c	Will it maintain and enhance sites designated for their biodiversity interest and increase their area?	Number, area and condition of national, regional and locally designated sites in appropriate management	
			Q5d	Will it increase the area of sites designated for their geodiversity interest?	Area designated for geological interest	
			Q5e	Will it maintain and enhance sites designated for their geodiversity interest?	Condition of geological SSSIs	
					Condition of Regionally Important Geological Sites	
			Q5f	Will it link up areas of fragmented habitat?	Extent (and condition) of priority habitats	
			Q5g	Will it increase awareness of biodiversity and geodiversity assets?	Number of school trips to North East Derbyshire's Local Nature Reserves	

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
					Number of accessibility improvements to LNRs and local sites (including geodiversity sites)	
					Number of interpretation improvements (including information boards etc) in LNRs and local sites	
			Q5h	Will it lead to a loss of ancient woodland?	Planning permissions granted for any development that would result in the loss or deterioration of ancient woodland	Zero (Natural England)
6	Landscape (Landscape)	Protect and manage the landscape of North East Derbyshire.	Q6a	Will it improve tranquillity?	Proportion of land area described as "tranquil" by CPRE's tranquillity map	
			Q6b	Will it protect and improve the distinctive local character of the District (such as stone walls, protection of existing trees, woodlands and appropriate landscape planting)?	Number of conservation areas with a Conservation Area Character Appraisal less than 5 years old	10/29 by 2006 (34.5%) (North East Derbyshire AMR)
					Length of stone walls	
					Area of ancient woodland	
					Number of new woodland planting schemes	
			Q6c	Will it provide adequate green space and environmental capital (green infrastructure)?	Accessible Natural Greenspace	100% of population with Accessible Natural Greenspace of at least 2ha within 300m (or 5 minutes of their home (Natural England)
			Q6d	Will it support changes and diversification of land use?	Land use in rural areas	
7	Use of resources (Material assets, Soil, Water)	Manage prudently the natural resources of the region including water, air quality, soil and minerals.	Q7a	Will it reduce water consumption?	Average domestic water consumption (l/head/day)	

SA Topic (SEA in brackets)		SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
			Q7b	Will it exacerbate water abstraction levels?	Abstractions by purpose	
			Q7c	Will it include energy efficiency measures?	Number of premises meeting Code 5 or 6 standard in the Code for Sustainable Homes	
			Q7d	Will it encourage energy production from sustainable sources?	Number of distributed and on-site energy schemes in new housing developments incorporating affordable housing	
			Q7e	Will it maintain and enhance soil quality?	Area of contaminated land (ha)	
8	Climate Change Adaptation (Climatic effects)	Plan for the anticipated levels of climate change.	Q8a	Will it facilitate landscape change for climate change adaptation (e.g. by protecting key landscape and biodiversity features and improving links between them to reduce fragmentation)?	Amount of new greenspace created per capita	
			Q8b	Will new development increase the risk of flooding?	Amount of new development (ha) situated within a 1:200 flood risk area (Flood Zone 3)	Zero (Environment Agency)
					Number of planning applications approved where Environment Agency have sustained an objection on flood risk grounds.	Zero (Environment Agency)
			Q8c	Will it reduce the risk of damage to property from storm events?	% of developments meeting the minimum standards for the "Surface Water Run-Off" and "Surface Water Management" categories in the Code for Sustainable Homes	
					No. of planning permissions incorporating SUDS	
			Q8d	Will it encourage the development of buildings prepared for the impacts of climate change?	Thermal efficiency of new development; % planning permissions for projects designed with passive solar design, building orientation, natural ventilation	

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...		Indicators	Targets
9	Climate Change Mitigation (Climatic effects)	Minimise North East Derbyshire's contribution to climate change.	Q9a	Will it lead to reduced greenhouse gas emissions?	Proportion of electricity produced from renewable resources	By 2010, 5% of electricity to be from renewable sources (Regional Energy Strategy)
			Q9b	Will it have a low or neutral carbon footprint?	Household energy use: domestic CO ₂ emissions	
					Proportion of new homes achieving a four star or above sustainability rating for the "Energy/CO ₂ " category as stipulated by the Code for Sustainable Homes	All new homes to be carbon neutral by 2016 (DCLG target)
10	Environmental Quality (Air, Soil, Water and Human Health; material assets)	Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.	Q10a	Will it provide an increased variety and capacity of recycling facilities?	Waste arisings by (a) sector and (b) method of disposal	By 2010, recycle or compost at least 30% of household waste (Waste Strategy 2000)
			Q10b	Will it reduce waste from construction?		
			Q10c	Will it lead to improved water quality?	% of watercourses classified as good or very good biological and chemical quality	All inland and coastal water bodies to reach at least "good status" by 2015 (Water Framework Directive)
			Q10d	Will it maintain and enhance soil quality?	Area of contaminated land (ha)	
			Q10e	Will it reduce the overall amount of diffuse pollution to air, water and soil?	% change in pollution incidents	
			Q10f	Will it reduce land contamination?	% of projects (by number and value) involving remediation of any kind	
			Q10g	Will spatial developments outside of the area have an adverse effect on the environment of North East Derbyshire?		
11	Economic development (Population)	Develop a strong culture of enterprise and innovation.	Q11a	Will it ensure that new employment sites are located in accessible locations?	Amount of floorspace developed for employment by type in employment or regeneration areas.	
			Q11b	Will it promote environmental technology initiatives?	Number of start-up businesses in the environmental sector	

	SA Topic (SEA in brackets)	SA Objective	Decision making criteria: Will the option/proposal...	Indicators	Targets	
12	Transportation and accessibility (Material assets)	Improve accessibility to jobs and services.	Q12a	Will it ensure people are not disadvantaged with regard to ethnicity, gender, age, disability, faith, sexuality, background or location?		
			Q12b	Will it improve local accessibility of employment, services and amenities?	Amount of new residential development within 30 minutes public transport time of: a GP; a hospital; a primary school; a secondary school; employment; and major retail centre(s).	
			Q12c	Will it increase provision of local services and facilities and reduce centralisation?	Percentage of residents surveyed finding it easy to access key local services.	
			Q12d	Will it reduce car use?	Percentage of people aged 16-74 who usually travel to work by driving a car or van	
			Q12e	Will it encourage use of public transport?	Percentage of people aged 16-74 who usually travel to work by bus or train	By 2010 ensure 12% growth in bus and light rail use in England (DfT)
			Q12f	Will it reduce the need to travel?	Average distance (km) travelled to fixed place of work	
			Q12g	Will it encourage walking and cycling?	Percentage of people aged 16-74 who usually travel to work by bicycle or on foot	

Appendix B: Detailed Assessment Matrices

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DETAILED ASSESSMENT MATRIX

Spatial Option 1: Direct the majority of new development to the four main towns of Clay Cross, Dronfield, Eckington and Killamarsh

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
1	Ensure that housing stock meets the needs of all communities in the District.	<p>The focus of new development in the four main settlements, as proposed by Spatial Option 1, would support the development of new housing in areas more accessible to services and public transport connections.</p> <p>The option would however do less to meet housing needs and demand in the larger villages of the district and in the smaller settlements.</p>	-	-	-	Ongoing	Permanent	Local	Medium	High	Minor	Negative	Yes	The option is likely to support affordable housing provision within the four main towns, but not elsewhere in the district. Provision of affordable housing under this option would be likely to take place on large mixed sites.
2	Improve health and reduce health inequalities.	<p>Focusing new development within the four main towns of the District will support access to health, leisure and recreational facilities.</p> <p>The option, through concentrating development, may also support healthier modes of transport by increasing the proximity of a greater range of services and amenities to new development.</p>	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	No	<p>These settlements have the largest range of services, facilities and amenities in the district, as well as the most developed public transport links to Chesterfield and elsewhere. This option also has the largest opportunity for supporting the enhancement of existing public transport links, including to Chesterfield, the Sheffield urban area and between each of the four main settlements. This will support access to health, leisure and recreational facilities.</p> <p>The wards in NE Derbyshire which fall within the 25% most deprived wards in England in relation to health inequalities include Grassmoor, Holmewood and Health, and Clay Cross South.</p>
3	Create sustainable communities.	<p>Option 1, through focussing new development within the four main towns of the District will support access to a range of community, services, facilities and amenities.</p> <p>Restricting development elsewhere in the District will however reduce the viability of new and improved services in other settlements in the district. In particular it is likely that the larger villages in the district (including Wingerworth, Tupton, Grassmoor, Holmewood, Pilsley and North Wingfield) would be less likely to be able to support a range of services.</p>	-/+	-/+	-/+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive and negative	Yes	<p>The four main settlements have the widest range of services, facilities and amenities. They also have the most developed public transport links to Chesterfield, other settlements in the District, and to the Sheffield urban area.</p> <p>Concentrating development in these areas also offers a larger scope for improving existing public transport links.</p> <p>Where possible existing services in the larger villages should be supported to ensure continued and improved accessibility to facilities in these areas. Similarly public transport networks should be supported to help maintain accessibility.</p>
4	Protect and enhance the historic environment of the District.	<p>Option 1 is likely to support a large measure of development in Dronfield and Eckington. This has the potential to have effects on the rich historic environment resource of the area. This is however dependent on the nature of development, its location, and the design and layout of development.</p> <p>Focus of development on the four main settlements will support the protection of the historic environment in more sensitive villages in the district.</p>	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	<p>The north of the district has a large number of designated historic environment assets, including the following conservation areas: Coal Aston; Eckington and Renshaw Park; Dronfield & Extension; Dronfield Woodhouse; and High Street Eckington. It also includes the Moss Valley conservation area, which extends across a large area from Dronfield in the west to Eckington in the east.</p> <p>The impact on the character and appearance of the townscape and landscape, and setting of cultural heritage assets is dependent on the nature of development and design and location. The preferred option for the Core Strategy should support high quality design for all scales of development which complements and enhances the built environment and townscape and landscape in a manner which contributes to local distinctiveness and a sense of place. New development should incorporate design which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non designated sites and townscapes and landscapes.</p> <p>Development should also help rejuvenate and protect the listed buildings currently 'at risk' in the district.</p>
5	Protect and enhance biodiversity.	<p>Uncertain effects related to biodiversity. The Moss Valley Woods SSSI and the Moss Valley SSSI are present in the area between Dronfield and Eckington. A section of the Moss Valley SSSI close to the north of Eckington is in an unfavourable declining condition. There are also a number of non-statutory biodiversity sites present in this area including semi-natural ancient woodland and Local Wildlife Sites (see non-statutory environmental considerations map).</p>	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	Through appropriate policies, the Core Strategy should aim to promote the objectives of the Lowland Derbyshire Biodiversity Action Plan. New development should take place with due regard to the aims of PPS9 and the biodiversity duty placed on local authorities by the Natural Environment and Rural Communities Act.
6	Protect and manage the landscape of North East Derbyshire.	<p>Whilst Option 1 would seek to maximise the use of available sites within the built up areas of the four main settlements in the district, due to the district's housing requirement, the option is likely to lead to a large measure of landtake on the greenbelt. This has the potential to lead to impacts on landscape quality.</p>	-/+	-/+	-/+	Ongoing	Permanent	Local	Medium	Low	Minor	Positive and negative	Yes	Effects on landscape quality are likely to take place in the north of the District, including in the distinctive Moss Valley area. However, due to the constraints around Dronfield, Eckington and Killamarsh presented by the designation of greenbelt, the option is particularly likely to have effects on landscape quality in the areas surrounding Clay Cross.
7	Manage prudently the natural resources of the region including water, air quality, soil and minerals.	<p>Uncertain effects at this level of detail. Whilst the Spatial Option will seek to maximise the use of available sites within the built up areas of the four main settlements, the option is likely to lead to a large measure of landtake on greenfield land.</p> <p>It is uncertain to what extent energy and resource efficiency will be incorporated into new and redevelopment.</p>	-/+	-/+	-/+	Ongoing	Permanent	Local	Medium	Low	Minor	Positive and negative	Yes	New development in the district should support the provision of on-site renewable energy provision in conjunction with the aims of PPS22 (Renewable Energy) and its companion guide. There is also potential for the incorporation of microgeneration in new development. Opportunities for homes meeting Level 4, 5 or 6 of the Code for Sustainable Homes should also be realised where possible.

SA Objectives

DETAILED ASSESSMENT MATRIX

Spatial Option 1: Direct the majority of new development to the four main towns of Clay Cross, Dronfield, Eckington and Killamarsh

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
8	Plan for the anticipated levels of climate change.	The option has not directly acknowledged the potential impacts of climate change on the district. A number of the areas where development is proposed under this option are subject to flooding. Flood risk would therefore be likely to prove a constraint through this option.	--	--	--	Ongoing	Permanent	Local	High	Low	Moderate	Negative	Yes	The Preferred Options should seek to improve the adaptability of the district to climate change. The predicted impacts of climate change include an increased frequency of extreme weather events, decreased summer rainfall, increased risk of flash flooding and increases in extreme heat. Significant flood risk exists to the north and west of Killamarsh and to the east of Eckington. A smaller area of flood risk exists in Dronfield and to the west and east of Clay Cross (see flood zone map). All development which takes place through the option should have due regard to the principles set out in PPS 25 (Development and Flood Risk). This should include: directing development away from flood risk areas in the first instance, managing flood pathways; safeguarding land that is required for current and future flood risk management; encouraging the incorporation of SUDS; incorporation of Green Infrastructure to reduce runoff and help regulate temperatures; working with the Environment Agency throughout the implementation of new development; and utilising the strategic flood risk assessment and a sequential approach to development in floodplains.
9	Minimise North East Derbyshire's contribution to climate change.	Through focussing development in the four main settlements of the district, the option will help limit greenhouse gas emissions from transport.	+	++	++	Ongoing	Permanent	International	Low	Medium	Major	Positive	No	These settlements have the largest range of services, facilities and amenities, as well as the most developed public transport links to Chesterfield and elsewhere. This option also has the largest opportunity for supporting the enhancement of existing public transport links, including to Chesterfield, the Sheffield urban area and between each of the four main settlements. New development at these locations will both help reduce the need to travel and promote non car use.
10	Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.	Uncertain effects at this level of detail.									Neutral			The areas around Eckington and Killamarsh have the poorest air quality in the district. Whilst the focus on the four main settlements of the district through this option would lead to increased development in these areas, and an associated increase in traffic flows, locating development in the main settlements may overall reduce the need to travel and support public transport networks (as discussed above). Potential effects on water and soil quality through this options are also uncertain.
11	Develop a strong culture of enterprise and innovation.	Focus of development in Dronfield, Eckington and Killamarsh will support access to markets in the Sheffield City Region and help foster economic links with the city.	+	++	++	Ongoing	Permanent	Local	High	Medium	Moderate	Positive	Yes	It is uncertain as to what extent innovation and development would be supported in the remaining settlements in the district however.
12	Improve accessibility to jobs and services.	Option 1, through focussing new development within the four main towns of the district, will support access to a range of jobs and services. Restricting development elsewhere in the district however will reduce the viability of new services in these areas. In particular it is likely that the larger villages in the District (including Wingerworth, Tupton, Grassmoor, Holmewood, Pilsley and North Wingfield) would be less likely to be able to support a range of services.	-/+	-/+	-/+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive and negative	Yes	The four main settlements have the widest range of services, facilities and amenities. They also have the most developed public transport links to Chesterfield, other settlements in the district, and to the Sheffield urban area. Concentrating development in these areas also offers a larger scope for improving existing public transport links. Where possible existing services in the larger villages should be supported to ensure continued and improved accessibility to these facilities. Similarly access to these services should be supported through appropriate community transport networks.
Overall Effect	Through focussing development within the four main settlements of the district, Spatial Option 1 will support accessibility from new development, reduce the need to travel, encourage the use of sustainable modes of transport and support existing and new services, facilities and amenities in the main settlements. The option will however do little to support existing or new services in other settlements in the district, or meet housing demand outside of the four main settlements. There are also a large number of environmental constraints in the north of the district surrounding Dronfield, Eckington and Killamarsh, including flood risk, a rich historic environment and a large number of biodiversity assets. These constraints will particularly affect the development proposed under this option.													
Proposed Mitigation	Spatial Option 1 should seek to avoid areas with the largest environmental sensitivity, and introduce appropriate mitigation measure to minimise potential effects on landscape quality, the historic environment and biodiversity assets. Flood risk in the north of the district should be fully recognised and an expansion and enhancement of Green Infrastructure should accompany new development in the four main settlements.													

Key	
Major negative effect	--
Negative effect	-
Positive effect	+
Major positive effect	++
Neutral environmental effect	

The 'Duration' column is noted as:		Adverse		Beneficial	
The 'Magnitude of significance is illustrated as:	Severe			Superior	
	Major			Major	
	Moderate			Moderate	
	Minor			Minor	
	Negligible			Negligible	

DETAILED ASSESSMENT MATRIX

Spatial Option 2: Direct the majority of development to the four main settlements and the six larger villages of Grassmoor, Holmewood, North Wingfield, Pilsey, Tupton and Wingerworth

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation of other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
1	Ensure that housing stock meets the needs of all communities in the District.	Spatial Option 2 would support housing provision in the four main settlements (Clay Cross, Dronfield, Eckington and Killamarsh) and the six larger villages of Grassmoor, Holmewood, North Wingfield, Pilsey, Tupton and Wingerworth.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	No	This will support new housing provision, including affordable housing in a wider range of locations than Option 1.
2	Improve health and reduce health inequalities.	Spatial Option 2 would support access to existing services in the four main settlements and six larger villages of the district.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	No	The four main towns of the district and the six larger villages have healthcare facilities located within or in close proximity to each settlement. The wards in NE Derbyshire which fall within the 25% most deprived wards in England in relation to health inequalities include Grassmoor, Holmewood and Heath, and Clay Cross South, all of which would benefit from this option.
3	Create sustainable communities.	Focussing development in the six larger villages (in addition to the four main settlements) will support the range of local services, facilities and amenities available at these locations.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	No	Local services are often under pressure from centralisation and rationalisation. An increase in residential development at these locations will support these community facilities.
4	Protect and enhance the historic environment of the District.	Spatial Option 2 is likely to focus more development in the six larger villages. This is likely to reduce potential impacts on the historic environment that would otherwise take place elsewhere. Focus of development on the four main settlements and six larger settlements will support the protection of the historic environment (including individual assets and their settings) in more sensitive areas of the district.	+	+	+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive	Yes	The six larger villages have less historic environment interest than other areas of the district. For example North Wingfield is the only one of the six settlements with a conservation area. The impact on the character and appearance of the townscape and landscape, and setting of cultural heritage assets is dependent on the nature of development and design and location. The preferred option for the Core Strategy should support high quality design for all scales of development which complements and enhances the built environment and townscape and landscape in a manner which contributes to local distinctiveness and a sense of place. New development should incorporate design which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non-designated sites and townscapes and landscapes. Development should also help rejuvenate and protect the listed buildings currently 'at risk' in the district.
5	Protect and enhance biodiversity.	Uncertain effects related to biodiversity. Whilst the option will limit development in locations near the Moss Valley Woods SSSI and the Moss Valley SSSI, there are a number of non-statutory biodiversity sites present adjacent to the proposed development areas, including semi-natural ancient woodland and Local Wildlife Sites (see non-statutory environmental considerations map).	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	Through appropriate policies, the Core Strategy should aim to promote the objectives of the Lowland Derbyshire Biodiversity Action Plan. New development should take place with due regard to the aims of PPS22 and the biodiversity duty placed on local authorities by the Natural Environment and Rural Communities Act.
6	Protect and manage the landscape of North East Derbyshire.	Spatial Option 2 will reduce the amount of development that will take place in the north of the district. This will reduce pressures on landscape quality in this area. This is also likely to reduce pressures on the greenbelt in North East Derbyshire.	-	-	-	Ongoing	Permanent	Local	Low	Medium	Negligible	Negative	Yes	The option is likely to lead to impacts on landscape quality in the areas surrounding the main settlements and the six larger villages however.
7	Manage prudently the natural resources of the region including water, air quality, soil and minerals.	Uncertain effects at this level of detail. Whilst Spatial Option 2 will seek to maximise the use of available sites within the built up areas of the four main settlements and six larger villages, the option is likely to lead to a measure of landtake on greenfield land. It is uncertain as to what extent energy and resource efficiency will be incorporated into new and redevelopment.	-/+	-/+	-/+	Ongoing	Permanent	Local	Low	Low	Negligible	Uncertain	Yes	New development in the district should support the provision of on-site renewable energy provision in conjunction with the aims of PPS22 (Renewable Energy) and its companion guide. There is also potential for the incorporation of microgeneration in new development. Opportunities for homes meeting Level 4, 5 or 6 of the Code for Sustainable Homes should also be realised where possible.
8	Plan for the anticipated levels of climate change.	The option has not directly acknowledged the potential impacts of climate change on the district. A number of the areas where development is proposed under this option are subject to flooding. Flood risk would therefore be likely to prove a constraint through this option.	--	--	--	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The Preferred Options should seek to improve the adaptability of the district to climate change. The predicted impacts of climate change include an increased frequency of extreme weather events, decreased summer rainfall, increased risk of flash flooding and increases in extreme heat. Significant flood risk exists to the north and west of Killamarsh and to the east of Eckington. A smaller area of flood risk exists in Dronfield and to the west and east of Clay Cross (see flood zone map). Constraints also exist to the west of North Wingfield and Grassmoor and the south of Wingerworth. All development which takes place through the option should have due regard to the principles set out in PPS 25 (Development and Flood Risk). This should include: directing development away from flood risk areas in the first instance, managing flood pathways; safeguarding land that is required for current and future flood risk management; encouraging the incorporation of SUDS; incorporation of Green Infrastructure to reduce runoff and help regulate temperatures; working with the Environment Agency throughout the implementation of new development, and utilising the strategic flood risk assessment and a sequential approach to development in floodplains.
9	Minimise North East Derbyshire's contribution to climate change.	Through focussing development in the four main settlements of the district and the larger villages, the option has the potential to help limit greenhouse gas emissions from transport.	+	+	+	Ongoing	Permanent	International	Low	Medium	Minor	Positive	No	The four main settlements have the largest range of services and facilities, as well as the most developed public transport links to Chesterfield and elsewhere. The six larger villages also have a smaller range of amenities. New development at these locations will therefore help reduce the need to travel and promote non car use.

SA Objectives

DETAILED ASSESSMENT MATRIX

Spatial Option 2: Direct the majority of development to the four main settlements and the six larger villages of Grassmoor, Holmewood, North Wingfield, Pilsley, Tupton and Wingerworth

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
10	Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.	Uncertain effects at this level of detail.									Neutral			The areas around Eckington, Killamarsh and Holmewood have the poorest air quality in the district. Whilst the focus on the four main settlement of the district and six larger villages through this option would lead to increased development in these areas (with an associated increase in traffic flows) locating development in the main settlements and the six larger villages has the potential to reduce the need to travel and support public transport networks. Potential effects on water and soil quality through this options are also uncertain.
11	Develop a strong culture of enterprise and innovation.	Development in the north of the district, including in Dronfield, Eckington and Killamarsh will support access to markets in the Sheffield City Region and help foster economic links with the city.	+	+	+	Ongoing	Permanent	Local	High	Medium	Moderate	Positive	Yes	The option will also support economic growth in the six larger villages, including in the settlements in the east of the district, which currently suffer high levels of deprivation (including Holmewood, North Wingfield, Grassmoor and Pilsley).
12	Improve accessibility to jobs and services.	Locating new development in the main settlements and the larger villages will support existing transport links and improve the economic viability of such services. Spatial Option 2, through supporting new development in the larger villages in the east of the district, will help reduce deprivation at these locations.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	Yes	This will help improve accessibility to local services, facilities and opportunities. Villages in the east of district which would benefit under this option include Holmewood, North Wingfield, Grassmoor and Pilsley, where high levels of deprivation occur.
Overall Effect	Through focussing development within the four main settlements of the district, and the six larger villages, Spatial Option 2 will support accessibility from new development, reduce the need to travel, encourage the use of sustainable modes of transport and support existing and new services, facilities and amenities in the main settlements. The option will however do little to support existing or new services in other settlements in the district, or meet housing demand outside of the larger settlements. There is also potential for localised impacts on landscape quality, biodiversity assets, the historic environment and flood risk, depending on the location, design and layout of development.													
Proposed Mitigation	Spatial Option 2 should seek to avoid areas with the largest environmental sensitivity, and introduce appropriate mitigation measure to minimise potential effects on landscape quality, the historic environment and biodiversity assets. Flood risk should be fully recognised and an expansion and enhancement of Green Infrastructure should accompany new development in the four main settlements and six larger villages.													

Key	
Major negative effect	--
Negative effect	-
Positive effect	+
Major positive effect	++
Neutral environmental effect	
The 'Duration' column is noted as:	
Magnitude of significance is illustrated as:	
Adverse	Severe
Major	Moderate
Minor	Negligible
Superior	Beneficial
Major	Moderate
Minor	Negligible

DETAILED ASSESSMENT MATRIX

Spatial Option 3: Direct development to the four main towns, the six larger villages and smaller centres with sufficient services to support additional growth

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
1	Ensure that housing stock meets the needs of all communities in the District.	Spatial Option 3 would support an increased provision of housing at a wider range of locations, including in smaller villages.	++	++	++	Ongoing	Permanent	Local	High	Medium	Moderate	Positive	No	Affordable housing would be provided at a broader range of locations under Spatial Option 3 in comparison to the other options.
2	Improve health and reduce health inequalities.	The provision of housing in smaller centres will increase the difficulty of providing a broader range of health, leisure and recreational facilities for all.	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The smaller villages have a more limited range of health and leisure facilities when compared to the other settlements in the district. Whilst new development at these locations will support existing and new services it is less likely that a sufficient range and variety of health services can be provided under this option. The wards in NE Derbyshire which fall within the 25% most deprived wards in England in relation to health inequalities include Grassmoor, Holmewood and Heath, and Clay Cross South. These are likely to benefit from the proposals through an increase in provision of health, leisure and recreation facilities likely to accompany the option. The option may also divert improvements to health service provision away from these areas.
3	Create sustainable communities.	A growth in the population of smaller villages as stimulated by this option may support the viability of these settlements as community centres. A more dispersed settlement pattern however has the potential to increase the need to travel, reducing the cohesiveness of communities in the district.	-/+	-/+	-/+	Ongoing	Permanent	Local	Medium	Low	Minor	Positive and negative	Yes	The development of a larger number of smaller sites also has the potential to reduce the scope for securing developer contributions towards new and improved services, facilities and amenities.
4	Protect and enhance the historic environment of the District.	Spatial Option 3 has the potential to have impacts on the historic environment (including individual assets and their settings) in more sensitive villages of the district.	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The smaller villages of the districts have a range of features and areas of historic environment interest. The impact on the character and appearance of the townscape and landscape, and setting of cultural heritage assets is dependent on the nature of development and design and location. The preferred option for the Core Strategy should support high quality design for all scales of development which complements and enhances the built environment and townscape and landscape in a manner which contributes to local distinctiveness and a sense of place. New development should incorporate design which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non designated sites and townscapes and landscapes. Development should also help rejuvenate and protect the listed buildings currently 'at risk' in the district.
5	Protect and enhance biodiversity.	Uncertain effects related to biodiversity. Whilst the option will limit development in locations near the Moss Valley Woods SSSI and the Moss Valley SSSI, there are a number of non-statutory biodiversity sites present adjacent to the proposed development areas, including semi-natural ancient woodland and Local Wildlife Sites (see non-statutory environmental considerations map).	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	Through appropriate policies, the Core Strategy should aim to promote the objectives of the Lowland Derbyshire Biodiversity Action Plan. New development should take place with due regard to the aims of PPS8 and the biodiversity duty placed on local authorities by the Natural Environment and Rural Communities Act.
6	Protect and manage the landscape of North East Derbyshire.	Spatial Option 3 will reduce the proportion of development that will take place in the north of the district. This will reduce pressures on landscape quality in this area. Due to development taking place at a wider range of locations, and an associated increased number of sites available, the option is likely to limit landtake on the greenbelt.	+	+	+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive	Yes	There is potential for impacts on landscape at a broader range of locations across the district however, although effects are likely to be less concentrated.
7	Manage prudently the natural resources of the region including water, air quality, soil and minerals.	Through initiating development at a broader range of locations, the option is likely to lead to less landtake on greenfield land. It is uncertain to what extent energy and resource efficiency will be incorporated into new and redevelopment.	-/+	-/+	-/+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive and negative	Yes	New development in the district should support the provision of on-site renewable energy provision in conjunction with the aims of PPS22 (Renewable Energy) and its companion guide. There is also potential for the incorporation of microgeneration in new development. Opportunities for homes meeting Level 4, 5 or 6 of the Code for Sustainable Homes should also be realised where possible. A more dispersed nature of development as promoted through this Spatial has the potential to encourage car use. This will increase energy use.
8	Plan for the anticipated levels of climate change.	The option has not directly acknowledged the potential impacts of climate change on the district. A number of the areas where development is proposed under this option are subject to flooding. Flood risk would therefore be likely to prove a constraint through this option.	--	--	--	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The Preferred Options should seek to improve the adaptability of the district to climate change. The predicted impacts of climate change include an increased frequency of extreme weather events, decreased summer rainfall, increased risk of flash flooding and increases in extreme heat. Significant flood risk exists to the north and west of Killmarsh and to the east of Eckington. A smaller area of flood risk exists in Dronfield and to the west and east of Clay Cross (see flood zone map). Constraints also exist to the west of North Wingfield and Grassmoor and the south of Wingernorth. All development which takes place through the option should have due regard to the principles set out in PPS 25 (Development and Flood Risk). This should include: directing development away from flood risk areas in the first instance; managing flood pathways; safeguarding land that is required for current and future flood risk management; encouraging the incorporation of SUDS; incorporation of Green Infrastructure to reduce runoff and help regulate temperatures; working with the Environment Agency throughout the implementation of new development; and utilising the strategic flood risk assessment and a sequential approach to development in floodplans.

SA Objectives

DETAILED ASSESSMENT MATRIX

Spatial Option 3: Direct development to the four main towns, the six larger villages and smaller centres with sufficient services to support additional growth

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
9	Minimise North East Derbyshire's contribution to climate change.	Through encouraging a more dispersed pattern of settlement, the option has the potential to increase greenhouse gas emissions from transport.	-	-	-	Ongoing	Permanent	International	Low	Medium	Major	Negative	Yes	A dispersed settlement pattern will increase the need to travel and encourage private car use. This will limit the scope for reducing greenhouse gas emissions from transport. This is particularly significant due to recent trends of increases in car ownership and traffic flows.
10	Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.	The option has the potential to reduce air quality through a rise in emissions resulting from increased traffic flows in the district.	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The areas around Eckington, Killamarsh, Holmewood and Duckmanton have the poorest air quality in the district. A more dispersed settlement pattern will increase the need to travel and stimulate car use. Potential effects on water and soil quality through this options are also uncertain.
11	Develop a strong culture of enterprise and innovation.	Additional development in the more deprived villages in the district has the potential to support the economy of these settlements.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	Yes	Villages in the district with high levels of deprivation and which would benefit under this option include Holmewood, North Wingfield, Grassmoor, Pilsey, Higham and Shirland.
12	Improve accessibility to jobs and services.	A more dispersed nature of development as facilitated by this option will increase the need to travel: development in the smaller villages, where public transport networks are less comprehensive will encourage the use of the private car. This will undermine existing and potential public transport networks and discourage the use of more sustainable modes of transport (including walking and cycling).	--	--	--	Ongoing	Permanent	Local	High	Low	Moderate	Negative	Yes	The development of a larger number of smaller sites also may make it more difficult to secure developer contributions towards local services and amenities. This will reduce accessibility to such facilities.
Overall Effect	Through increasing the proportion of new development that will take place in the smaller settlements in the district, Spatial Option 3 has the potential to support rural housing provision and increase the viability of these settlements. By supporting a more dispersed nature of development however, effective service provision will be more difficult under this option. This is likely to lead to increased car dependency and result in reduced accessibility for those without access to private transport. As for the other options, there is potential for localised impacts on landscape quality, biodiversity assets, the historic environment and flood risk, depending on the location, design and layout of development.													
Proposed Mitigation	New development should be located in areas with good public transport links and proximity to a range of services, facilities and amenities. Improvements in public transport networks should also be supported by the Core Strategy. The Spatial Option should seek to avoid areas with the largest environmental sensitivity, and introduce appropriate mitigation measure to minimise potential effects on landscape quality, the historic environment and biodiversity assets. Flood risk should be fully recognised and an expansion and enhancement of Green Infrastructure should accompany new development.													

Key				Adverse		Beneficial	
The 'Duration' column is noted as:	Major negative effect	--	Magnitude of significance is illustrated as:	Severe		Superior	
	Negative effect	-		Major		Moderate	
	Positive effect	+		Minor		Minor	
	Major positive effect	++		Negligible		Negligible	
	Neutral environmental effect						

DETAILED ASSESSMENT MATRIX

Spatial Option 4: Development focussed on the A61 and A6175 corridors but still allowing some development elsewhere to meet the needs of the population

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
1	Ensure that housing stock meets the needs of all communities in the District.	Spatial Option 4 is likely to improve the quality of housing offer in the A61 and A6175 corridors, including affordable housing. This has the potential to benefit provision in Clay Cross, Tupton, Wingerworth and Heath and Holmewood.	-/+	-/+	-/+	Ongoing	Permanent	Local	Medium	Low	Negligible	Positive and negative	Yes	Meeting demand for housing in other areas of the district would be less likely under this option however.
2	Improve health and reduce health inequalities.	Spatial Option 4 is likely to support an increase in the number of health services in the development areas proposed by the option. The option however has the potential to stimulate increased car use without significant improvements in public transport offer and improvements in opportunities for walking and cycling. This will have implications for noise and air quality with associated health implications. It will also reduce the scope for supporting healthier modes of transport.	+	+	+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive	Yes	The wards in NE Derbyshire which fall within the 25% most deprived wards in England in relation to health inequalities include Grassmoor, Holmewood and Heath, and Clay Cross South. These are likely to benefit from the proposals through an increase in the provision of health, leisure and recreation facilities likely to accompany the option. The health indicators where the district performs significantly worse than the average for England include related to obesity, occurrence of diabetes and the "feeling in poor health" category. The option should therefore also be supported by an improvement in quality of, and increase in the area of open space through an expansion and enhancement of Green Infrastructure in the development corridors (and elsewhere in the district). This will be particularly relevant as the Spatial Option 4 has the potential to support a large measure of car use.
3	Create sustainable communities.	The option would support the regeneration of Clay Cross, Tupton, Wingerworth and Heath and Holmewood. Due to the proximity of the area to the M1, and the lack of rail links in the area (the nearest stations to the proposed development area are in Chesterfield, Shirebrook and Alfreton) the option has the potential to encourage car use, in particular out commuting by car. This has the potential to reduce community cohesion.	-/+	-/+	-/+	Ongoing	Permanent	Local	Medium	Low	Minor	Positive and negative	Yes	Whilst the option has the potential to reduce deprivation in the south east of the district, there is potential for the limited growth proposed elsewhere in the district to undermine the provision of services and facilities.
4	Protect and enhance the historic environment of the District.	Whilst the A61 and A6175 corridors in general have a lower concentration of historic environment assets and interest than other areas of the district, a number of features are likely to be affected by the proposals for the option. For example the integrity of the conservation area at Heath and the Scheduled Monument close to the proposed strategic site at Grassmoor have the potential to be undermined if inappropriate design and layout of development takes place.	+	+	+	Ongoing	Permanent	Local	Low	Low	Negligible	Positive	Yes	The impact on the character and appearance of the townscape and landscape, and setting of cultural heritage assets is dependent on the nature of development and design and location. The preferred option for the Core Strategy should support high quality design for all scales of development which complements and enhances the built environment and townscape and landscape in a manner which contributes to local distinctiveness and a sense of place. New development should incorporate design which complements and enhances individual heritage assets and their settings, reducing its impact on designated and non designated sites and townscapes and landscapes. Development should also help rejuvenate and protect the listed buildings currently 'at risk' in the district.
5	Protect and enhance biodiversity.	Uncertain effects related to biodiversity. Whilst the option will limit development in locations near the Moss Valley Woods SSSI and the Moss Valley SSSI, there are a number of non-statutory biodiversity sites present adjacent to the proposed development areas, including semi-natural ancient woodland and Local Wildlife Sites (see non-statutory environmental considerations map).	-	-	-	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	Through appropriate policies, the Core Strategy should aim to promote the objectives of the Lowland Derbyshire Biodiversity Action Plan. New development should take place with due regard to the aims of PPS08 and the biodiversity duty placed on local authorities by the Natural Environment and Rural Communities Act.
6	Protect and manage the landscape of North East Derbyshire.	Spatial Option 4 will reduce the amount of development that will take place in the north and west of the district. This will reduce pressures on the high quality landscape of these areas. Due to development largely taking place in the A61 and A617 corridors, the option is likely to limit landtake on the greenbelt.	+	+	+	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	Yes	Landscape quality however is likely to be affected adjacent to the development corridors.
7	Manage prudently the natural resources of the region including water, air quality, soil and minerals.	The option is likely to lead to significant landtake on greenfield land in the A61 and A6175 corridors. By encouraging car use, the option has the potential to increase energy use from transport. It is uncertain to what extent energy and resource efficiency will be incorporated into new and redevelopment.	-	-	-	Ongoing	Permanent	Local	Medium	Medium	Minor	Negative	Yes	New development in the district should support the provision of on-site renewable energy provision in conjunction with the aims of PPS22 (Renewable Energy) and its companion guide. There is also potential for the incorporation of microgeneration in new development. Opportunities for homes meeting Level 4, 5 or 6 of the Code for Sustainable Homes should also be realised where possible.
8	Plan for the anticipated levels of climate change.	The option has not directly acknowledged the potential impacts of climate change on the district. The predicted impacts of climate change include an increased frequency of extreme weather events, decreased summer rainfall, increased risk of flash flooding and increases in extreme heat. A number of the areas where development is proposed under this option are potentially subject to flooding. Flood risk would therefore be likely to prove a constraint through this option.	--	--	--	Ongoing	Permanent	Local	Medium	Low	Minor	Negative	Yes	The Preferred Options should seek to improve the adaptability of the district to climate change. Whilst limiting development in the north of the district will reduce the potential for development in areas of significant flood risk to the north and west of Killmarsh and to the east of Eckington, flood risk exists to the east and west of Clay Cross. Constraints also exist to the west of North Wingfield and Grassmoor, the east of Tupton and the south of Wingerworth. Spatial Option 4 has the potential to place pressures on these flood risk areas (see flood zone map). All development which takes place through the option should have due regard to the principles set out in PPS 25 (Development and Flood Risk). This should include: directing development away from flood risk areas in the first instance, managing flood pathways, safeguarding land that is required for current and future flood risk management, encouraging the incorporation of SUDS, incorporation of Green Infrastructure to reduce runoff and help regulate temperatures, working with the Environment Agency throughout the implementation of new development, and utilising the strategic flood risk assessment and a sequential approach to development in floodplains.

SA Objectives

DETAILED ASSESSMENT MATRIX

Spatial Option 4: Development focussed on the A61 and A6175 corridors but still allowing some development elsewhere to meet the needs of the population

No.	Description of SA Objective	Description of predicted effect	Duration			Frequency	Temporary or permanent	Geographic significance	Magnitude	Level of certainty	Severity of significance	Positive or adverse	Mitigation or other action required?	Supporting comments / Proposed mitigation
			Short term	Medium term	Long term									
9	Minimise North East Derbyshire's contribution to climate change.	Spatial Option 4 will lead to increase greenhouse gas emissions from transport. The area's proximity to the M1 will stimulate car use and encourage out commuting from the district.	-	-	-	Ongoing	Permanent	International	Low	Medium	Major	Negative	Yes	This is significant as greenhouse gases from transport are an increasing proportion of the district's total greenhouse emissions. The proposals for Spatial Option 4 should be accompanied by a new station at Clay Cross, as tentatively proposed by the option. Development should also be accompanied by improvements to the quality and frequency of bus services between the settlements, to Chesterfield and local rail stations (including at Chesterfield, Alfreton and Shirebrook).
10	Maintain and where necessary, improve environmental quality with regard to water, air soil and pollution.	Spatial Option 4 has the potential to reduce air and noise quality in the east of the district through encouraging car use and increasing traffic flows in the district. This is particularly likely to take place in areas adjacent to routes leading to the M1.	-	-	--	Ongoing	Permanent	Sub-regional	High	Medium	Major	Negative	Yes	A large proportion of the area is subject to poor air quality, in particular in areas adjacent to the M1 and the A617. The proposals for Spatial Option 4 should be accompanied by a new station at Clay Cross, as tentatively proposed by the option. Development should also be accompanied by improvements to the quality and frequency of bus services between the settlements, to Chesterfield and to local rail stations (including at Chesterfield, Alfreton and Shirebrook). Potential effects on water and soil quality through this options are also uncertain.
11	Develop a strong culture of enterprise and innovation.	Concentrating development along the A61 corridor and the A6175 has the potential to support the regeneration of more deprived areas in the district.	+	+	++	Ongoing	Permanent	Local	Medium	Medium	Minor	Positive	Yes	The area proposed for development under this option suffers high levels of deprivation. The settlements which have the potential to benefit in economic terms under this option include Clay Cross, Holnwood, North Wingfield, Grassmoor, Pilsey, Higham and Shirland.
12	Improve accessibility to jobs and services.	Due to the area's proximity to the M1, new development promoted by Spatial Option 4 has the potential to stimulate car use and encourage out commuting from the district by car without significant improvements to public transport networks in the area. This has the potential to undermine accessibility to services, facilities and amenities for non car users.	-	--	--	Ongoing	Permanent	Local	Medium	Medium	Minor	Negative	Yes	The proposals for Spatial Option 4 should be accompanied by a new station at Clay Cross, as tentatively proposed by the option. The nearest existing rail stations to the area are Chesterfield (where a wide range of national and local services go from), Alfreton (on the Nottingham Leeds line) and Shirebrook (on the Worksop-Nottingham line). Development should be accompanied by improvements to the quality and frequency of bus services between the settlements, to Chesterfield and to local rail stations.
Overall Effect	Spatial Option 4 has the potential to support regeneration in the south east of the district along the A61 and A6175 corridors. By focussing development in these corridors the option may help limit impacts on more sensitive biodiversity features, historic environment assets and landscapes elsewhere in the district. Without significant public transport improvements to accompany the option, Spatial Option 4 is likely to lead to a significant increase in car use in the south east of the district. This will have implications for air and noise quality, greenhouse gas emissions from transport, health and wellbeing and community cohesion.													
Proposed Mitigation	Spatial Option 4 should be supported by the development of a new rail station at Clay Cross. Development should also be accompanied by significant enhancements to the quality and frequency of bus services between the settlements in the corridors, to and from Chesterfield and local rail stations. Walking and cycling networks and an expansion of Green Infrastructure should also accompany new development in the area.													

Key		Adverse		Beneficial	
The 'Duration' column is noted as:	Major negative effect	--	Severe	Superior	Beneficial
	Negative effect	-	Major	Major	
	Positive effect	+	Moderate	Moderate	
	Major positive effect	++	Minor	Minor	
	Neutral environmental effect		Negligible	Negligible	

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