Birmingham City Council

Interim Sustainability Appraisal of Core Strategy Issues and Options

Final Report

February 2009

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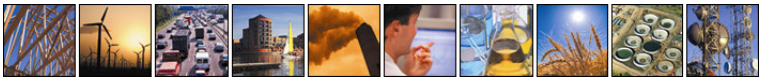

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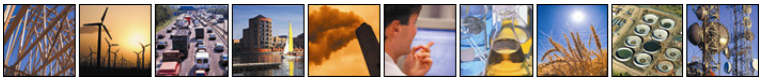

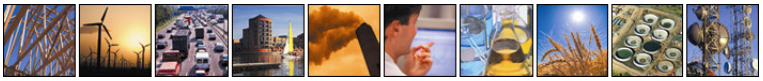

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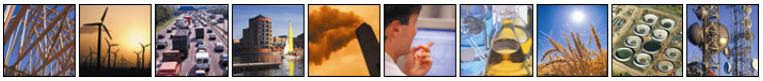

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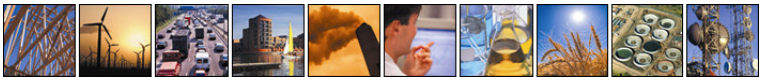

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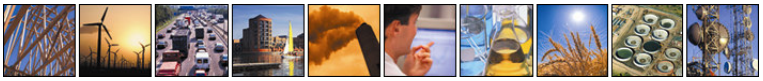

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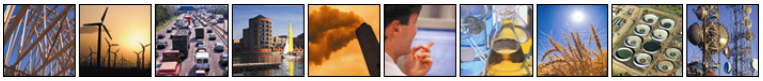

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1. Introduction

1.1 Purpose of this report

The purpose of this report is to present the findings of an interim Sustainability Appraisal (SA) of Birmingham City Council (BCC)'s Core Strategy Issues and Options report, which was subject to public consultation in September 2008[1]. This interim SA follows a Scoping Report consulted on May-June 2008[2] which highlighted the key environmental, economic and social challenges facing the city. The Scoping Report provided an 'SA framework' of objectives, targets and indicators to appraise how the Core Strategy responds to these challenges. The final SA framework, which has been amended following responses to the consultation, is presented in **Appendix A** (feedback from the consultation process is provided in **Appendix C**).

The preparation of the Core Strategy and its Sustainability Appraisal is an iterative process, and through this interim SA of the initial options the evolution of the plan can be influenced. Figure 1.1 sets out the key stages to the SA process, with this report feeding into the refinement of options and assessment of effects (Stage B). The work pursued under Stage B will inform the content of the final SA Report (Stage C) to be submitted to the Secretary of State alongside the final Core Strategy for examination. The conclusions and recommendations presented in this report reflect both Entec's views and those of key stakeholders following an SA workshop held on 22nd January 2009 (a report of the workshop is provided in **Appendix D**).

[1] The Birmingham Plan, Core Strategy, Issues and Options, Birmingham City Council, September 2008.

[2] Birmingham Core Strategy Development Plan Document, Sustainability Appraisal, Scoping Report, Entec UK Ltd, May 2008.

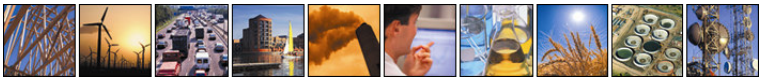

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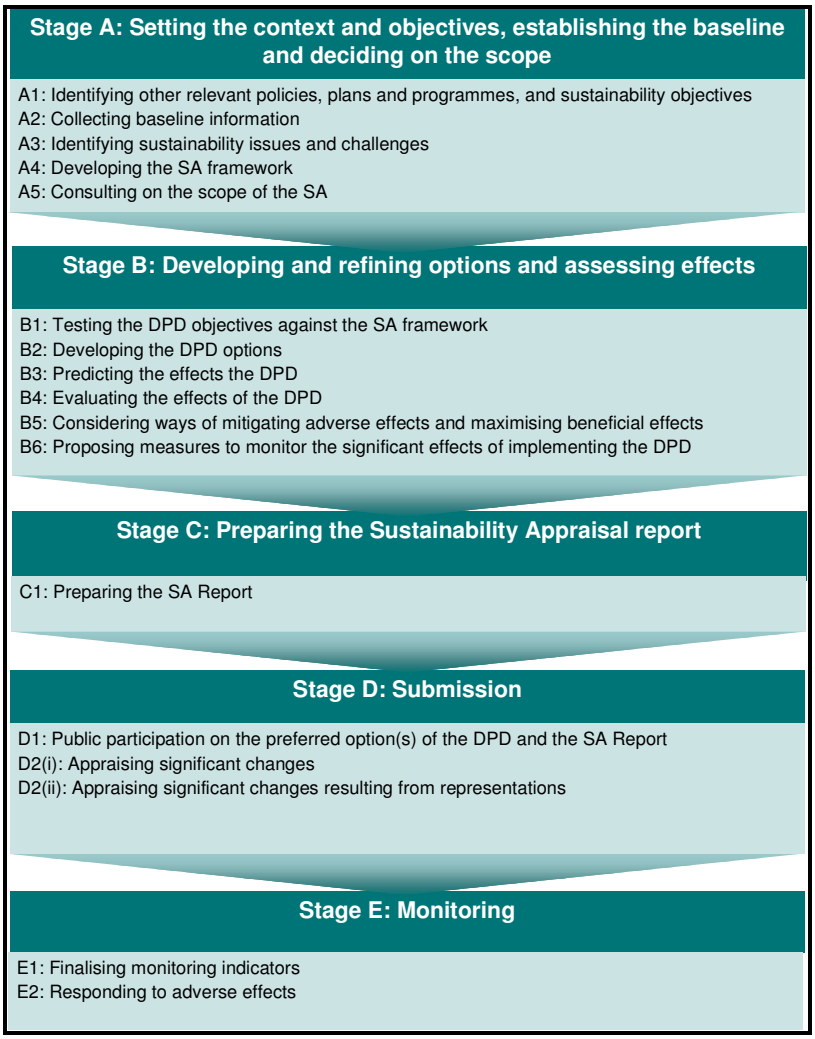
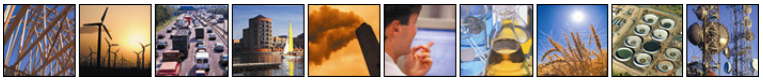
Figure 1.1 Stages to the SA process



1.2 Approach to the interim SA

1.2.1 Stage 1: Appraising the spatial vision and objectives of the Core Strategy

The first stage of the appraisal process is to examine the alignment between the 28 SA objectives (set out in the SA framework in **Appendix A**) and the spatial vision and objectives presented in the Issues and Options report. The aim is to identify whether or not the vision and objectives will contribute to meeting these SA objectives and where there are gaps that need to be addressed. The vision and objectives in the Core Strategy should be aligned with the SA objectives, since they provide the overarching context under which the spatial strategy and supporting core policies will sit.



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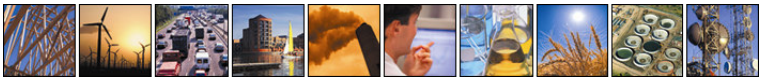
1.2.2 Stage 2: Appraising the spatial options of the Core Strategy

Under this stage the three spatial options presented in the Issues and Options report are appraised to assess how far they meet the environmental, social and economic challenges facing the City. The SA workshop has informed this process, drawing on the views and experience of key stakeholders (see **Appendix D**). Given that issues and options stage is still a relatively conceptual level (i.e. not site specific and with no detailed policies) the 28 SA Objectives have been grouped under eight SA 'Themes' in order to appraise the relative performance of each of the options (set out in **Table 1.1**).

Table 1.1 SA Themes and constituent objectives

SA Theme	SA Objectives
1. Natural resources and waste	**1. Resource Use**: Use natural resources such as water and minerals efficiently. **7. Waste Reduction and Minimisation**: Encourage and enable waste minimisation, reuse, recycling and recovery. **8. Efficient use of land**: Encourage land use and development that optimises the use of previously developed land and buildings.
2. CO_2 emissions	**2. Sustainable design, construction and maintenance**: Promote and ensure high standards of sustainable resource-efficient design, construction and maintenance of buildings, where possible exceeding the requirements of the Building Regulations. **3. Renewable Energy**: Encourage development of alternative and renewable resources. **4. Energy Efficiency**: Reduce overall energy use through energy efficiency. **5. Sustainable Transport**: Increase use of public transport, cycling and walking as a proportion of total travel and ensure development is primarily focused in the major urban areas, making efficient use of existing physical transport infrastructure. **6. Reduce the need to travel**: Ensure development reduces the need to travel. **9. Reduce climate change**: Minimise Birmingham's contribution to the causes of climate change by reducing emissions of greenhouse gases from transport, domestic, commercial and industrial sources.
3. Climate change adaptation	**10. Manage Climate Change**: Implement a managed response to the unavoidable impacts of climate change, ensuring that the design and planning process takes into account predicted changes in Birmingham's climate including flood risk.
4. Historic environment, landscape, biodiversity and geodiversity	**12. Built and Historic Environment**: Value, protect, enhance and restore Birmingham's built and historic environment and landscape. **13. Natural Landscape**: Value, protect, enhance and restore Birmingham's natural landscape. **14. Biodiversity**: Value, protect, maintain, restore and re-create local biodiversity and geodiversity.
5. Pollution	**15. Air Quality**: Minimise air pollution levels and create good quality air. **16. Water Quality**: Minimise water pollution levels and create good quality water. **17. Soil Quality**: Minimise soil pollution levels and create good quality soil. **18. Noise**: Minimise noise pollution levels.
6. Economic growth	**20. Economy and Equality**: Achieve a strong, stable and sustainable economy and prosperity for the benefit of all of Birmingham's inhabitants. **21. Learning and Skills**: Promote investment in future prosperity, including ongoing investment and engagement in learning and skills development.



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SA Theme	SA Objectives
7. Communities, healthy lifestyles and equality	**11. Sense of Place**: Encourage land use and development that creates and sustains well-designed, high quality built environments that incorporate green space, encourage biodiversity, and promote local distinctiveness and sense of place. **19. Social and Environmental Responsibility**: Encourage corporate social and environmental responsibility, with local organisations and agencies leading by example. **22. Community Involvement**: Enable communities to influence the decisions that affect their neighbourhoods and quality of life. **23. Equality**: Ensure easy and equitable access to services, facilities and opportunities, including jobs and learning. **24. Poverty**: Address poverty and disadvantage, taking into account the particular difficulties of those facing multiple disadvantage. **25. Health**: Improve health and reduce health inequalities by encouraging and enabling healthy active lifestyles and protecting health. **26. Crime**: Reduce crime, fear of crime and antisocial behaviour. **28. Culture/Sport/Recreation**: Improve opportunities to participate in diverse cultural, sporting and recreational activities.
8. Housing	**27. Housing**: Provide decent and affordable housing for all, of the right quantity, type, tenure and affordability to meet local needs.

1.2.3 Stage 3: Recommendations

The final stage of this interim SA is to present a series of recommendations for BCC to take into account in the further evolution of the plan, including the refinement of the spatial options and the development of specific policies to mitigate negative impacts. The aim of these recommendations is to ensure that key sustainability priorities are reflected in the final Core Strategy.

1.3 Report structure

This report is structured as follows:

- section 2 appraises the spatial vision and objectives;
- section 3 provides an overview of the spatial options;
- sections 4-11 appraise the options; and
- section 12 summarises the findings and sets out overall conclusions and recommendations (to be completed following the workshop in January).

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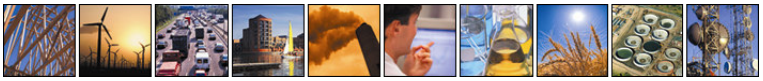

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2. SA of Spatial Vision and Objectives

2.1 The spatial vision

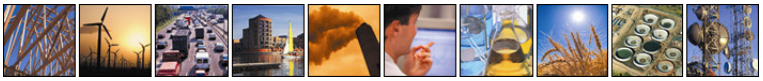
The approach taken is compatible with the Government's intention that the Core Strategy should be prepared in accordance with the Sustainable Community Strategy. The Issues and Options report makes clear that the vision set out in Birmingham's Sustainable Community Strategy (approved in July 2008) provides *"a key starting point for the Core Strategy which will explain how it will be delivered through the process of growth and physical change within the city"* (page 18).

Part of the vision for the Core Strategy presented in the Issues and Options report (page 22) states that:

> *"We will aim to meet these ambitious growth aspirations while reducing Birmingham's carbon footprint. We will embrace sustainable initiatives to address the need for more homes through the creation of Sustainable Urban Neighbourhoods, which will incorporate innovative, zero carbon housing within small new settlements. These will help provide new quality and environmentally sustainable housing in suitable locations."*

This part of the vision could be modified to more explicitly identify the need for Birmingham to be resilient to future climate change (aligning with SA objective 10) given the significant consequences that this could have on what is a major centre for population and business (explored in more detail under SA Theme 3). Ensuring climate change adaptation is one of the 'early priorities for action' identified in the Sustainable Community Strategy and one of the key 'pressures for change' highlighted in section 4 of the Issues and Options report (page 15). The Core Strategy can help to deliver some of these measures for adaptation at both a strategic level (directing growth away from areas most at risk for example), and in relation to individual neighbourhoods (ensuring that homes, buildings and infrastructure are resilient to climate change). A greater emphasis on climate change adaptation in the vision will ensure that it is expressed in the subsequent spatial objectives and options.

As well as ensuring adaptation to the impacts of climate change, the Core Strategy can also help to mitigate the severity of future climate change by providing the spatial framework for pursuing reductions in carbon dioxide (CO_2) emissions. The target for a 60 per cent reduction in emissions by 2026, as set out in the Sustainable Community Strategy, should be explicitly identified within the spatial vision, given the contribution of the Plan to meeting this target (for example by delivering a sustainable spatial strategy which reduces people's need to travel by car, includes provision for zero and low carbon energy generation and through policies promoting more energy efficient building design).



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BCC has identified climate change as a major issue facing the city and has demonstrated its commitment to responding to this challenge[3]. The Core Strategy presents a significant opportunity to deliver contributions to both climate change mitigation and adaptation responses; **Recommendation 1** (**Box 1**) therefore sets out how climate change could be given a greater emphasis within the spatial vision, to help ensure that this is expressed in the rest of the plan.

Box 1	**Recommendation 1: Amend the spatial vision to more explicitly identify the need to deliver both adaptation to, and mitigation of, future climate change**

- The Core Strategy can help to ensure that the City is adapted to the impacts of climate change through the development of the spatial strategy and supporting policies. The plan can also help to mitigate the severity of future climate change impacts through helping to reduce CO_2 emissions (linking with the target for a 60 per cent reduction by 2026 as set out in the Sustainable Community Strategy). Given the importance of the vision in setting the overall context for the objectives, spatial strategy and supporting policies the following amendments are proposed (underlined and in bold):

  "We will aim to meet these ambitious growth aspirations while reducing Birmingham's carbon footprint, ***to help achieve a 60 per cent reduction in CO_2 emissions by 2026, and ensuring that Birmingham is resilient to the inevitable impacts of climate change that are already faced…"***

2.2 The spatial objectives

The wider spatial vision encapsulates the eight spatial objectives set for the Core Strategy. It is necessary to consider how these spatial objectives relate to the 28 SA objectives in order to identify negative or uncertain relationships that will need to be addressed through subsequent phases of the Core Strategy. This is essential since these spatial objectives will provide the overall context for the spatial strategy and policies in the adopted Core Strategy. **Table 2.1** summarises the key relationships, highlighting areas for further attention where necessary, based on a compatibility matrix completed in **Appendix B**.

[3] For example, BCC has signed up to the Nottingham Declaration on Climate Change, has produced a Climate Change Strategy (currently in draft form) and is committed to a 60 per cent reduction in CO_2 emissions by 2026. Most recently, BCC has led a 'climate change festival' to raise awareness of the issue amongst the public.

[6] Taking the current average per capita consumption in Birmingham (137 litres per person per day [l/p/d]) and multiplying this by the estimated new population in the 50,000-65,000 homes (123,000-159,000 people, applying Birmingham's current household size of 2.46).

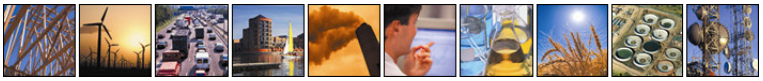

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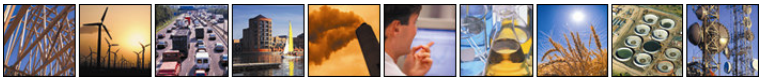
Table 2.1 Relationship between SA and Core Strategy Objectives

Core Strategy Objectives	Summary of Compatibility with SA Objectives Compatible; issues to address; significant incompatibility
1. To promote Birmingham's national and international role as a global city	This objective is generally compatible with all of the SA objectives, particularly those relating to economic growth (for example SA Objectives 20 and 21). However, promoting a higher profile entails greater visitor numbers drawn from further afield and potentially unsustainable travel behaviour.
2. To create a more sustainable city that minimises its carbon footprint and waste while allowing the city to grow	In line with Recommendation 1 we suggest that this objective could include explicit reference to the need to ensure adaptation to future climate change (see SA Objective 10) and make the links with the target in the Sustainable Community Strategy for a 60 per cent reduction in CO_2 emissions by 2026. This Objective could also benefit from reference to an efficient use of resources to ensure a stronger relationship with SA Objectives 1, 2 and 7 in particular.
3. To develop Birmingham as a city of vibrant urban villages, a safer, diverse and inclusive city with quality local environments	This objective is generally compatible with all of the SA Objectives, particularly those relating to local communities, health and well-being (for example SA Objectives 22, 23, 24, 25 and 26).
4. To meet the emerging RSS requirements for new housing as a minimum, and to secure a significant increase in the City's population, towards 1.1 million	This objective will help to meet housing related objectives in the SA (SA Objective 27 in particular) as well as economic and social objectives. Given the scale of development proposed there are potential conflicts with environmental SA objectives (relating to use of resources, CO_2 emissions, ecology and landscape for example). The extent of these impacts will depend on how the spatial objective is delivered in the subsequent spatial options and core policies (addressed in more detail in the options appraisal through sections 4-11).
5. To create a prosperous, successful economy, with benefits felt by all	This objective will help to meet economic related objectives in the SA (SA objectives 20 and 21 in particular) as well as having wider social benefits. Given the scale of development proposed there are potential conflicts with environmental SA objectives (relating to use of resources, CO_2 emissions, ecology and landscape for example). The extent of these impacts will depend on how the spatial objective is delivered in the subsequent spatial options and core policies (addressed in more detail in the options appraisal through sections 4-11).
6. To provide high quality transportation links throughout the City and with other places and encourage the increased use of public transport	This objective is generally compatible with all of the SA objectives, particularly those relating to sustainable transport, reducing the need to travel and reducing CO_2 emissions (SA Objectives 5, 6, 7 for example).
7. To make Birmingham a learning city with quality educational institutions	This objective is generally compatible with all of the SA objectives, particularly those relating to education and economic growth (SA objectives 20 and 21 for example).
8. To encourage better health and well being through the provision of new and existing sports, leisure and heritage assets linked to good quality public open space throughout the City	This objective is generally compatible with all of the SA Objectives, particularly those relating to the social and economic well-being of residents and the environments in which they live (SA Objectives 23, 24, 25 and 26 for example).

Table 2.1 demonstrates that there are no directly incompatible relationships between the Spatial Objectives and the SA Objectives. There are, however, uncertain relationships which could potentially be negative depending on how the Objectives are translated into spatial options and supporting core policies. For example, delivering both housing and economic growth (objectives 4 and 5 respectively) will impact on a range of SA Objectives relating to the environment (resource use and CO_2 emissions, for example). It will be for the spatial options and supporting core policies in the final Core Strategy to ensure that these environmental impacts are minimised.



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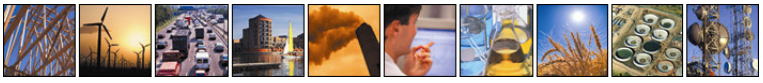
In addition, the wording of Spatial Objective 2 could be amended to better reflect the SA objectives, giving a greater emphasis to climate change adaptation, helping to achieve a 60 per cent reduction in CO_2 emissions by 2026 (linking with Recommendation 1) as well as an efficient use of natural resources. This will ensure that the spatial options and supporting core policies take these important issues into account. A recommendation for a revised wording to Spatial Objective 2 is presented in **Box 2**.

Box 2	**Recommendation 2: Revise wording to Spatial Objective 2 to reflect the need for climate change adaptation, mitigation and an efficient use of resources**

The wording of spatial objective 2 could be revised to give a greater weight to climate change and a more efficient use or resources, for example:

"To create a more sustainable city that is ~~**both**~~ ***resilient to future climate change****, minimises its carbon footprint* ***(helping to achieve a 60 per cent reduction in CO_2 emissions by 2026)*** *and waste* ***and ensures a more efficient use of natural resources,*** *while allowing the city to grow…"*



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3. Overview of Spatial Options

3.1 The spatial options

This section identifies the key components of the three spatial options as the context for the appraisal in sections 4-11. These options are based on accommodating different levels of housing growth, from 50,600 (the RSS Preferred Option) under Option 1, to 65,000 under Option 3. These options are summarised in **Table 3.1**. There are also common components to all three options however, which are likely to form the basis of core policies in the Core Strategy and include the following:

- **Employment land requirement:** over 250 ha reserved for redevelopment for employment use over the short to medium term.
- **Highways:** the limited programme of highway improvements continued, with potential for measures such as Park and Ride.
- **Birmingham International Airport:** expansion supported.
- **Waste:** waste management facilities protected and new facilities encouraged in industrial areas to meet recycling targets. Local biomass schemes or large city-wide anaerobic digestion plants encouraged to maximise the potential for using waste as a resource.
- **Energy and carbon:** initiatives which reduce carbon emissions supported, including sustainable design in new developments and the promotion of renewable energy schemes.
- **Natural and historic environment:** policies which protect such environmental features will be retained.

In order to help appraise these options Option 2 is split into two 'sub-options':

- Option 2a (+ 10 per cent growth) which is for an extra 5,000 homes within the main urban area (i.e. taking total provision in the main urban area to 55,000); and
- Option 2b (+ 20 per cent growth) which is for an extra 10,000 homes within the main urban area (i.e. taking total provision in the main urban area to 60,000).

We split Option 2 into two parts because there is potential for greater impacts providing for an extra 10,000 homes within the main urban area (on top of 50,000 under Option 1) (2b) than an extra 5,000 (2a) which need to be appraised. Although a range is also presented under Option 3 it is not felt necessary to break this down into sub-options; we essentially see this as the 'high growth greenfield' option (although we acknowledge that 10,000 homes on greenfield sites could have more of an impact than 5,000).

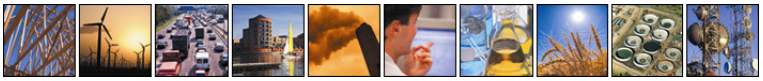

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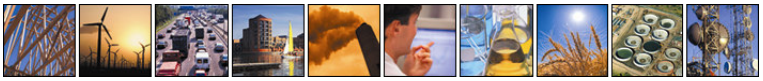
Table 3.1 Comparison of Spatial Options

Component	Option 1: Current Growth (RSS Phase 2 Revision)	Option 2: Growth +10-20%	Option 3: Growth +30%
GROWTH REQUIREMENT			
Number of additional dwellings 2006-2026	50,600 2,500 dwellings per annum (dpa)	55,000-60,000 2,750-3,000 dpa	Up to 65,000 3,250 dpa
SPATIAL STRATEGY			
Housing	**50,000 within the core of the city** City centre focus with high density developments. Steps taken to ensure more family housing A sustainable urban neighbourhood at Longbridge No changes to Green Belt required	**As per Option 1 plus 5,000-10,000 more within city** Development in the city centre but also in three key centres: Perry Barr, Selly Oak and the Meadway Significant housing redevelopment/renewal of east and south western parts of the city supported by around four further sustainable urban neighbourhoods (in addition to Longbridge) including: - around Icknield Port Loop and City Hospital (Western Growth Corridor) - Meadway Centre to Lea Hall Station, Shard End (Eastern Corridor) - Stechford (Eastern Corridor) - Birmingham Wheels (Eastern Corridor) Other opportunities for sustainable urban neighbourhoods will be explored, including in the Druids Heath area to the south of the City No changes to Green Belt anticipated	**As per Options 1 and 2 plus further 5,000-10,000 on urban extensions** In addition to strategy under Option 2, urban extensions will also be necessary, requiring selective reviews of the Green Belt: -North/north east of the City (into Lichfield District); and/or -South of the City (into Bromsgrove District)
Focus for regeneration	Three estates in Kings Norton as well as at Newtown and Aston Western Growth Corridor would remain a key regeneration programme	Same as under Option 1, but Eastern Corridor also identified	Same as under Option 2, but Green Belt development phased to ensure brownfield focus
Employment	Existing areas of Bromford and Tyseley protected Redevelopment of other existing areas supported where opportunities arise Central Technology Belt (CTB) a focus for diversifying the City's economy Regional Investment Sites (RIS) at Longbridge and Aston/Newtown/Lozells	Current policies on the protection of employment land relaxed. Rapid process of redeveloping older industrial areas may be required Core employment areas would continue to be protected and other initiatives under Option 1 pursued. In addition, opportunities taken to new employment sites within Eastern Corridor and in connection with other new neighbourhoods	Same as Option 1 and 2, but potential for reducing the need to allow existing employment sites in the city centre and elsewhere for residential development



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Component	Option 1: Current Growth (RSS Phase 2 Revision)	Option 2: Growth +10-20%	Option 3: Growth +30%
Public transport	Redevelopment of New Street Station supported. City centre metro also supported, together with improvements to heavy and light rail network (such as reopening Camp Hill line)	In addition to Option 1, the development of improved high volume public transport links through the Eastern Corridor	In addition to Options 1 and 2, to provide good public transport links to the new communities on the edge of the City

The following sections appraise these options for growth and the proposed spatial strategy to deliver these against the eight SA Themes identified in section 1.22. In appraising the options, consideration is given to: the likely geographical impact of the options; their likelihood of their occurrence, their permanence; current outcomes and how performance might change if more demanding standards are applied through policy. A judgement on the most sustainable option is offered, along with recommendations on how the Core Strategy could best respond to meeting the opportunities presented.

For each of the eight SA Themes a table is used to compare the performance of the options (**Table 3.2**) using the key presented in **Table 3.3.** These measures of analysis are standard in SA/SEA practice.

Table 3.2 Summary Options Appraisal: Template

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term*	M/L Term**	S/M Term	M/L Term
Option 1: Baseline							
Option 2a: + 10%							
Option 2b: + 20%							
Option 3: + 30%							
Justification							

*S/M: Short to medium term (0-10 years)
**M/L: Medium to longer term (10 years +)

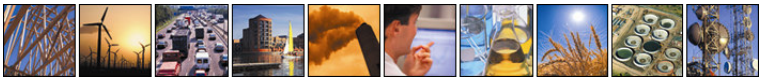

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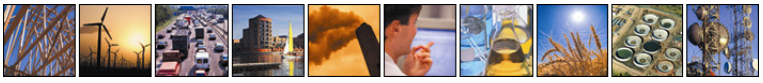
Table 3.3 Key Supporting Summary Options Appraisal

Score	Description	Symbol
Major Positive Impact	The Spatial Option contributes significantly to the achievement of the SA Objective	++
Minor Positive Impact	The Spatial Option contributes to the achievements of the SA Objective but not significantly	+
Neutral	The Spatial Option does not have any effect on the achievement of the SA Objective	N
Minor Negative Impact	The Spatial Option detracts from the achievement of the SA Objective but not significantly	-
Major Negative Impact	The Spatial Option detracts significantly from the achievement of the SA Objective	- -
No Relationship	There is no clear relationship between the Spatial Option and the achievement of the SA Objective or the relationship is negligible	~
Uncertain	There is an uncertain relationship between the Spatial Option and the SA Objective, since it depends on the way the Spatial Option is managed and taken forward in its supporting policies	?



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4. SA Theme 1: Natural Resources and Waste

4.1 What are likely to be the key impacts?

The key impacts here concern the relationships between the level of growth proposed in the Core Strategy and the significant demand for natural resources (minerals, water and land) and the production of waste.

4.1.1 Minerals

There will be a significant demand for minerals to derive building materials for the construction of the 50,000-65,000 homes plus supporting employment development (such as new offices and factories) and infrastructure (roads for example). The impacts associated with the demand for minerals will include:

- Environmental impacts from mining and quarrying operations: to source the minerals there could be impacts associated with noise, air quality and ecology for example (although operational minerals sites will have controls to mitigate their impacts). These impacts are likely to be felt outside of Birmingham itself (where there are no active mineral workings) into neighbouring areas in the wider region (such as Staffordshire for example, which has a number of active mineral sites).

- Increased CO_2 emissions: associated with the transport of these materials and relating to the embodied energy involved in the creation of these materials, with CO_2 emissions a key contributor to global climate change (see SA Theme 2 for more detail). The transport of these materials may also have impacts locally associated with works traffic to and from sites (particularly on local air quality - see SA Theme 8 for more detail).

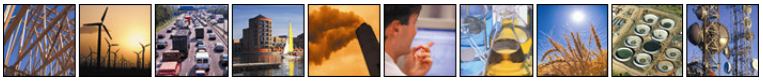
4.1.2 Water

There will be a significant demand for water to supply homes, businesses and other users. Looking specifically at homes, for example, the 50,000-65,000 homes proposed in the Core Strategy could create an additional demand for water ranging from 17-21 Megalitres (Ml) per day based on current average consumption rates[6]. According to Severn Trent, there is sufficient *existing* and *planned* supply *"to support the significant growth projections for this zone"* [the Birmingham Water Resource Zone][7] in relation to RSS targets.

4.1.3 Land

In addition to the demand for natural resources such as minerals and water, there will also be a demand for land to accommodate the significant levels of development proposed. Land is also a valuable resource, particularly

[7] Para 19.3.4, Water Resources Management Plan 2009 (draft), Severn Trent, May 2008.



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greenfield land which may have an agricultural, ecological, archaeological and recreational value when compared to vacant, underused or derelict brownfield sites within the existing urban area (although it is noted that brownfield sites may have ecological value too). The focus of SA Objective 8 is to ensure an efficient use of land through maximising the potential from brownfield sites rather than using greenfield ones but given the levels of growth proposed, particularly under higher growth options, there may be insufficient supply of brownfield sites to deliver this.

The Strategic Housing Land Availability Assessment and Employment Land Capacity Study[8] is useful to understand the availability of land for new development and whether or not greenfield sites could be required. This study that there are sufficient sites within the existing urban area to deliver the RSS Preferred Option of 50,600 dwellings 2006-2026 (with an identified supply of around 50,000[9]) but that greenfield sites may therefore be required to deliver growth beyond this. A recently published study into housing provision in the West Midlands identified greenfield options on the edge of Birmingham which could deliver a further 20,000 homes[10]:

- 5,000 homes south of Birmingham (into neighbouring Bromsgrove);
- 5,000 homes east of Birmingham; and
- 10,000 homes south-east of Birmingham (into neighbouring Solihull).

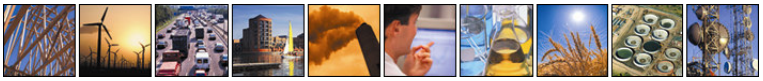
With respect to employment land there is considered to be a shortfall in land for B1 in the short term and B8 in the longer term. To respond to this shortfall may also require suitably located greenfield sites but this will need to link closely with new housing provision as this is likely to be the key driver for growth.

An alternative to bringing forward greenfield sites to meeting higher growth targets could be to further intensify the existing urban area through higher densities and relaxation of policies protecting open spaces and the historic environment (i.e. the mature suburbs) however this could conflict with a number of other SA objectives with respect to local air quality through increased traffic congestion (SA Theme 5), Birmingham's ability to respond to climate change (see SA Theme 3) and to protect features of the historic and natural environment within the main urban area (SA Theme 4).

[8] Entec UK Ltd, September 2007.

[9] 17,000 dwellings through extant planning consents and a further 32,000 deemed potentially developable in the future.

[10] Nathaniel Lichfield and Partners, Development of Options for the West Midlands RSS in Response to the NHPAU Report, October 2008.



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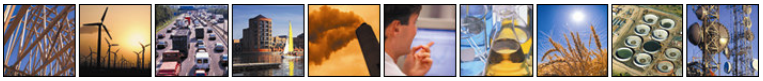
4.1.4 Waste

The level of development proposed will also increase waste. There are two types of waste considered here:

- waste arising from the construction of new development (and therefore linked with an efficient use of natural resources); and
- waste arising from the new homes, businesses and other uses once occupied.

There are environmental impacts relating to the disposal of non-recyclable waste, where this needs to go to landfill. It is important to note that with respect to waste in the construction sector the Government has a target for zero waste to landfill by 2020 and at the local level BCC aims to reach a domestic recycling and composting rate of 34 per cent by 2011/12 and 40 per cent by 2026 (from the level of 17 per cent as at 2005/06). Consideration also needs to be given to the existing and planned capacity of waste disposal infrastructure to provide services to new development.



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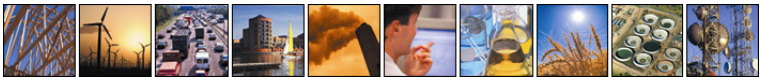
4.2 Which is the most sustainable option?

Table 4.1 Theme 1: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Most sustainable option							
Option 1: Baseline	Regional/ national	Likely	Permanent	?	?	N	N
Option 2a: + 10%	Regional/ national	Likely	Permanent	?/-	-/--	N	N
Option 2b: + 20%	Regional/ national	Likely	Permanent	-	--	N	N
Option 3: + 30%	Regional/ national	Likely	Permanent	-/--	--	N	N
Justification	*The demand for natural resources (minerals in particular) is likely to be at a regional/national level given the urban nature of Birmingham and limited resources within the City itself. The impacts associated with this demand are likely and the depletion of resources (and greenfield land under Option 3) considered permanent.*			*Under Option 1 there is currently an uncertain relationship since it depends on the standards to which new developments are built (see Recommendation 6). Option 1 could have less of an impact than Options 2 and 3 simply because it proposes lower levels of growth and thus demand for natural resources and potential generation of waste will be proportionately lower.*		*Through requiring higher standards of development (Recommendation 1) it could be possible to move towards a 'neutral' outcome. Achieving this neutral outcome could be easier under Option 1 since it proposes lower growth than Options 2 and 3.*	

Reasoning

Option 1 could be considered the most sustainable of the three options with respect to natural resources and waste because it proposes lower levels of growth and therefore the demand for resources (minerals, water and land) and production of waste will be comparatively lower when related to Options 2 and 3. However, Option 1 will still have a significant impact on natural resources and waste and so one of the key priorities identified at the SA workshop was to ensure that policies for mitigating negative impacts were put in place. Stakeholders saw this as more important than necessarily preferring one option over another. Specific opportunities for mitigation highlighted by stakeholders included a policy requirement to build to higher levels of the Code for Sustainable Homes, which require more efficient methods of construction and, once occupied, will use water more efficiently. The importance of a phasing policy to ensure that, where greenfield land is required, it is only released once the brownfield resource has been exhausted was also highlighted. Suggestions for the components of detailed policies to ensure a more efficient use of natural resources are set out under **Recommendation 3** (Box 3). Through



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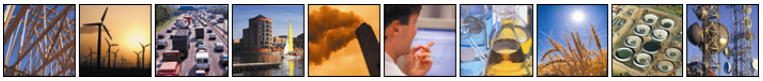
implementing these measures it may be possible to move towards the 'neutral' outcomes identified in **Table 3.2** whichever option is proposed, although it could be easier under Option 1, requiring a bigger step under Option 3.

Box 3	**Recommendation 3: provide core policies which require an efficient use of resources (minerals, water and land), minimise waste and maximise recycling**

The Core Strategy will need to include policies which link with existing policy tools for delivering sustainable development, including the Code for Sustainable Homes, and include:

- Requiring higher standards of construction to use resources more efficiently and minimise waste (linking with the Government's targets for 'zero net waste to landfill' by 2020) and maximising the use of materials with a low environmental impact (with reference to the Green Guide to Specification). The Code for Sustainable Homes includes a range of mandatory and further options to reduce waste in the construction process and subsequent occupancy.
- Requiring developments to be built to higher levels of the Code for Sustainable Homes with respect to the use of water to achieve significant savings in water demand and reduce pressures on supply. If built to Level 1 of the Code for Sustainable Homes (no more than 120 l/p/d) consumption could be reduced by around 15 per cent in relation to development built to current performance (around 137 l/p/d) or by around 60 per cent if built to Level 6 (a standard of no more than 80 l/p/d). The potential to secure reductions in water use from non-domestic users could also be addressed.

In addition, the provision of a phasing policy to ensure that the development of vacant/underused or derelict brownfield land has priority over the release of greenfield land is considered important.



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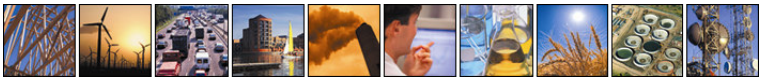

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5. SA Theme 2: Carbon Dioxide Emissions

5.1 What are likely to be the key impacts?

BCC is committed to securing reductions in CO_2 emissions, with the Sustainable Community Strategy setting a target for a 60 per cent reduction in emissions by 2026. The main source of emissions is likely to come from the built environment and transport, both of which are sources that the Core Strategy can influence.

5.1.1 CO_2 emissions from the built environment

New development under the three spatial options will create an additional demand for energy to provide electricity, heating and cooling for the new homes, businesses, shops, schools and other buildings. Where this energy demand is met through power stations dependant on fossil fuels (coal fired power stations for example), rather than zero or low carbon systems[11], this new development will lead to increases in CO_2 emissions, which cumulatively will contribute to global emissions and future climate change. It is important to note at this stage that just one per cent of the energy currently consumed in Birmingham is from zero and low carbon sources (see section 3.2.4 of SA Scoping Report).

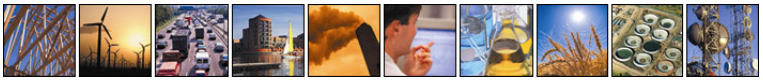
5.1.2 CO_2 emissions from transport and infrastructure

Birmingham-wide transport provision: highways and public transport

The levels of growth proposed will increase the overall number of 'trips' within the City, for new residents to travel from their homes to work, access services, shops, leisure and recreation. Associated with economic growth in particular will be the associated growth in the transport of goods and labour. Where trips are reliant on petrol (or diesel[12]) powered vehicles this could lead to significant increases in CO_2 emissions and therefore contribute to global emissions and future climate change. In addition to contributing to global CO_2 emissions, transport growth will also have impacts at the local and regional level, for example in relation to air quality and congestion, which are explored in more detail under SA Themes 5 and 6.

[11] Zero carbon systems include wind turbines, solar thermal and solar photovoltaic. Low carbon systems include air or ground source heat pumps or combined heat and power (CHP) for example.

[12] Noting that diesel powered vehicles are typically more efficient and produce fewer CO_2 emissions than petrol.



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Birmingham International Airport (BIA)

Although outside of BCC's administrative boundary, BIA (which lies in Solihull Borough) and Birmingham are inextricably linked; the airport is central to aspirations for Birmingham to be seen as a 'global city' and to support economic growth with respect to international trade and tourism. BCC therefore outlines its support for the expansion of BIA in the Issues and Options Report and its growth is one of the common Themes to all of the options (section 3.2). A planning application for significant expansion of BIA was submitted to Solihull Metropolitan Borough Council in January 2008 with the decision still pending[13]. This application is for an extended runway, new air traffic control tower and improvements to the airport's supporting infrastructure. Essentially, the aim of these proposals is to provide BIA with the capacity to enable long-haul flights, seen as important to the regional economy in terms of promoting international trade, in-bound tourism and the Birmingham's aspiring role as a global city.

Air travel is seen as a significant contributor to CO_2 emissions and future climate change. It is therefore an important factor when considering sustainability impacts given the potential contribution of an expanded airport to CO_2 emissions and global climate change (as a result of more capacity and more flights). The Environmental Statement states that CO_2 emissions are likely to increase by 37 per cent to 2030 as a result of the current expansion proposals.

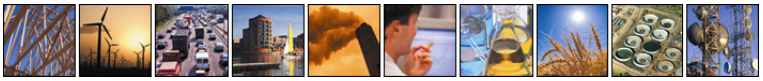
This is not a straightforward issue for this SA and Core Strategy to address however because:

- the airport is outside of Birmingham's authority boundary and within Solihull Metropolitan Borough limiting the scope for this Core Strategy to have a *direct* influence on expansion (unless the expansion was into Birmingham);
- decisions on airport expansion are made at the level of national rather than local government, with the expansion of BIA supported by government in The Future of Air Transport White Paper[14] therefore limiting the potential to influence decisions at a local level. This is supported by the conclusions of the Planning Inspector at the recent inquiry into the expansion of Stansted airport[15]; and

[13] http://www.solihull.gov.uk/planningservices/15089.htm (page visited 12.02.09).

[14] Department for Transport, December 2003.

[15] The proposals were subject to strong local opposition (including the local planning authority - Uttlesford District Council), particularly on the grounds of climate change, however the Inspector concluded that: *"…the principle of making full or best use of the existing runway at Stansted Airport is in accordance with Government aviation policy in the Future of Air Transport White Paper (ATWP). This takes account of climate change issues, but the appropriateness and effectiveness of Government policies and climate change and their compatibility are matters for debate elsewhere rather than through this appeal"* (paragraph 14.331, Inspector's Report, Stansted G1 Inquiry: APP/C1570/A/06/2032278, emphasis added)



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- an expanded airport could have a range of benefits for Birmingham, particularly in economic terms, which would need to be weighed against environmental concerns.

5.2 Which is the most sustainable option?

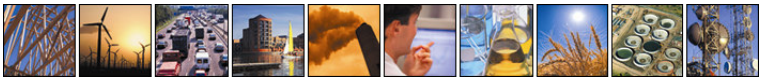
Table 5.1 Theme 2: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Global	Likely	Permanent	-	-	- / N	- / N
Option 2a: + 10%	Global	Likely	Permanent	-	- / --	- / N	- / N
Option 2b: + 20%	Global	Likely	Permanent	- / --	--	- / N	- / N
Option 3: + 30%	Global	Likely	Permanent	--	--	- / N	- / N
Justification	*The impacts are likely to be a permanent increase in CO_2 emissions at a global level whatever level of development is proposed.*			*Under Option 1 there is currently an uncertain relationship since it depends on the standards to which new developments are built (see Recommendations 4, 5 & 6). Option 1 is likely to have the least impact relative to the options however because it proposes lower levels of growth and therefore energy demand and traffic generation are likely to be lower.*		*Through requiring higher standards of development (Recommendations 4, 5 & 6) it could be possible to move **towards** a 'neutral' outcome. However, achieving a truly neutral outcome would require a fundamental shift in wider social and economic policy and people's behaviour; given the level of development proposed there is likely to be some increase in emissions which is why a potentially negative impact is noted here.*	

Reasoning

Option 1 could be considered the most sustainable option in relation to CO_2 emissions, since compared with the other options it will have lower levels of development and thus potential to contribute to emissions arising from both the built environment and transport. However, whichever option is proposed however there will need to be significant mitigation put in place to reduce CO_2 emissions, with a range of measures identified at the SA workshop including:

- policies requiring new buildings to be built to more energy efficient standards of design with fewer related emissions, for example higher levels of the Code for Sustainable Homes for residential



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development (with Level 6 having zero net emissions for example). The importance of retro-fitting existing buildings with efficiency measures was also identified, although the Core Strategy's potential to facilitate this is limited;

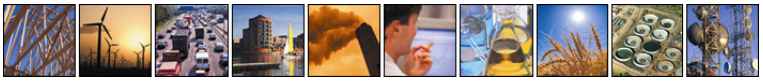
- enabling the city-wide development of renewable and low carbon energy infrastructure, including district heating;
- providing mixed-use developments, co-locating homes and job, to reduce people's need to travel and emissions associated with private car use; and
- enhancing public transport infrastructure to offer more sustainable alternatives to the car.

Incorporating these types of measures in Core Strategy policies, set out in more detail under **Recommendations 4, 5, 6** and **7** (Boxes 4, 5, 6 and 7 respectively), could help move towards the neutral outcomes identified in **Table 5.1**. However stakeholders noted that the Core Strategy can only provide the *framework* for reducing CO_2 emissions; there is a wider context which requires a fundamental shift in economic and social policy which influences the behaviour of people and businesses to truly deliver these reductions.

Box 4	**Recommendation 4: consider how CO_2 emissions can be reduced by reducing the need to travel and achieving a modal shift**
▪	The spatial strategy presents a significant opportunity to both reduce the need to travel and achieve a modal shift by ensuring a suitable balance of homes, jobs, services and shops within a close proximity, linked by a network of footpaths, cycle links and public transport. Fundamental to this will be the provision of mixed-use developments which co-locate jobs, homes, shops and services. Linking this SA with a review of the transport impacts associated with the various options is considered essential since at this stage it is difficult to make any detailed conclusions on the costs and benefits of one option over another, other than that Option 1 is likely to have the least impact on CO_2 emissions associated with transport overall given that it proposes lower levels of growth.

Box 5	**Recommendation 5: make provision for zero and low carbon energy systems and infrastructure at a 'strategic' scale**
▪	The spatial strategy could include larger sites or areas which have potential to accommodate zero and low carbon energy systems and infrastructure to help meet the city-wide target of 15 per cent energy from these sources by 2020 (or greater), informed by a review of the City's potential to accommodate such infrastructure (see **Recommendation 7**).. Consideration could be given to the location of these systems in relation to the direction of growth. Development of systems at a strategic scale could be more economically viable than a site specific approach (see Recommendation 6) and meet not only the needs of new communities but also existing ones. For example biomass CHP could be used with district heating to support existing and new neighbourhoods. A district heating network could be linked to the existing Tyseley energy from waste plant (EfW) for example to provide heat in addition to the 25-30 Megawatts of electricity that it currently produces.

Box 6	**Recommendation 6: increasing energy efficiency within the built environment and providing for on-site renewables**



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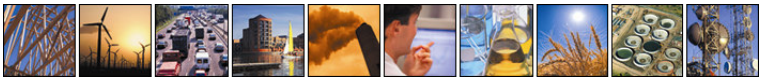
- The Core Strategy could include a core policy promoting energy efficiency in the built environment (linking with core policies for use of natural resources and waste under Recommendation 3). This would need to link with existing policy tools such as the Code for Sustainable Homes (for residential development) and BREEAM for non-residential. For example, a home built to Level 4 of the Code for Sustainable Homes will have 44 per cent fewer CO_2 emissions than a home built to current standards (Part L of the Building Regulations 2006). This core policy could also include targets for on-site renewables associated with new developments or allocations, notwithstanding our suggestion that this should also be considered at a city-wide scale (Recommendation 5).

Box 7 Recommendation 7: understanding Birmingham's potential to deliver zero and low carbon energy infrastructure at the strategic level

- A review of the opportunities to deliver renewable and low carbon energy infrastructure could be undertaken. This is something that a number of local authorities are now starting to undertake, following the publication of the PPS1 supplement on climate change published in December 2007 (which requires authorities to provide a framework to promote and encourage renewable and low-carbon energy generation).
- This could be supported by an audit of the key users and potential generators of electricity and heat across the City could be undertaken to help inform targeted action as part of Recommendations 4 – 6. This energy audit could map (spatially and thematically) the principal targets of attention, leading to a better understanding of their scale, interaction and potential contribution. This would contribute to Themes 3 (climate change) and 5 (pollution).



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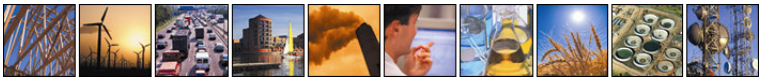

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6. SA Theme 3: Climate Change Adaptation

6.1 What are likely to be the key impacts?

Current evidence, based on a review of the potential impacts of climate change at the regional level[17] and the draft Birmingham Climate Change Strategy, suggests that the City will need to be prepared for a range of potential impacts including increases in flooding, summer droughts and a greater probability of extreme weather events (heat waves and extreme floods for example). By 2050 climate change could be characterised as follows:

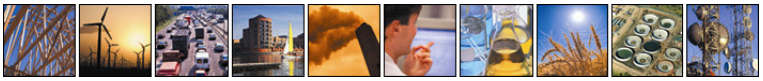
- An increase in annual temperature, with most of this accounted for with warmer summers (where average summer temperatures could increase by 3°C) and further exacerbated by the urban heat island effect. The potential for temperatures to exceed 40°C in the summer is also increasingly likely.
- An increase in rainfall and the potential for storms in the winter months. In the summer, rainfall is likely to decrease but will be of a greater intensity when it does rain.
- An increase in other extreme events, such as the tornado experienced by the City's southern suburbs in the summer of 2007.

Table 6.1 summarises these potential climate change impacts across a number of areas in more detail.

Table 6.1 Potential Impacts of Climate Change

Topic	Potential Impacts
Transport	▪ Increase in flooding on roads, rail and runways and potential for damage to foundations and landslips in railway cuttings and road embankments ▪ Melting and buckling of surfaces associated with hotter temperatures
Buildings	▪ Warmer drier summers increase building subsidence ▪ Greater demand for cooling of buildings and worker discomfort ▪ Milder winters increase damp/mould in houses encouraging respiratory illness
Planning and land use	▪ Increase in flooding makes land unusable or of limited use ▪ Increase in flooding in urban developments without adequate drainage ▪ Demand for more green and open spaces for outdoor activities

[17] The Potential Impacts of Climate Change in the West Midlands, Entec UK Ltd for Sustainability West Midlands, January 2004



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Topic	Potential Impacts
Energy use	▪ Reduce demand for heating in milder winters ▪ Energy infrastructure impacted by flooding ▪ Increased demand for cooling in the summer (air conditioning, refrigeration etc)
Waste	▪ Warmer climate increasing decomposition of waste, levels of waste treatment and landfill gas - odour generation and pests ▪ Flooding and storms impacting on waste facilities
Water	▪ Increase in flooding, flash flooding, drains overloaded, pollution of floodwater and water borne disease ▪ Decrease in availability of water in summer months linked to increase in demand due to higher temperatures - potential droughts

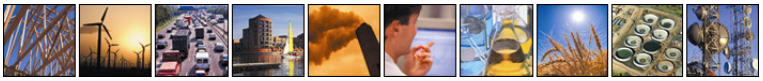
Source: draft Birmingham Climate Change Strategy

The Core Strategy will have a significant role to play on the extent to which Birmingham is able to adapt to climate change. The Core Strategy can direct development away from 'at risk' areas and ensure that specific adaptation measures are put in place, for example:

- Directing development away from areas at risk of flooding;
- Considering the location of key infrastructure and vulnerability to climate change (for example key transport routes and energy infrastructure).
- Incorporation of sustainable urban drainage at a strategic scale to reduce the impacts of surface water run-off and flooding, which could also link with green infrastructure;
- Protecting and enhancing green infrastructure. Existing and new green spaces and green routes at a strategic city-wide scale will have benefits in terms of shading and would ideally link with measures for sustainable urban drainage (above), and give opportunities for recreation and enhancing biodiversity; and
- Providing lower density developments which incorporate passive design techniques and include higher levels of green space, vegetation and shading. This could include directing development away from areas which are already high density to ensure that the urban heat island effect is not further exacerbated.

The bullets above are simply ideas on how the Core Strategy could ensure Birmingham's adaptation to climate change, but should also be read together with the measures proposed in the Climate Change Strategy. In addition, it is suggested that there are two key pieces of evidence which should be used to help understand the potential impacts of climate change in preparing the Core Strategy:

- The Strategic Flood Risk Assessment (SFRA); and



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- UK Climate Impacts Programme Scenarios 2008 (UKCIP08)[18].

6.2 Which is the most sustainable option?

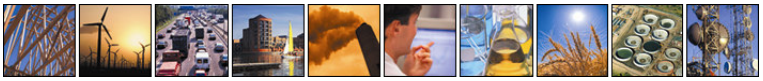
Table 6.2 Theme 3: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Local	Likely	Permanent	?	?	N	N
Option 2a: + 10%	Local	Likely	Permanent	?/-	?/- -	N	N
Option 2b: + 20%	Local	Likely	Permanent	-	- -	?	?
Option 3: + 30%	Local	Likely	Permanent	?/-	?/- -	N	N
Justification	*Climate change is widely accepted as happening and the impacts will be felt at a local level within Birmingham.*			*There is currently an uncertain relationship since it depends on how adaptation is taken into account in the development of the spatial strategy. Option 1 could allow for adaptation to be taken into account at a greater level because it proposes lower levels of development, although a continued focus on the main urban area could exacerbate the urban heat island effect. Measures such as new open and green space and strategic green infrastructure will be easier to incorporate, particularly when compared with Option 2b.*		*Under Options 1, 2a and 3 it may be possible to move towards a neutral impact, considering Recommendations 8 & 9. It will be harder to do so under Option 2b however given that 60,000 homes within the urban area could restrict the amount of 'space' to provide for adaptation measures (such as green and open spaces and strategic green infrastructure).*	

Reasoning

Option 1 could present the best opportunity to provide for climate change adaptation given that it proposes lower levels of development and thus more 'space' for adaptation measures, including new green infrastructure, to be incorporated. However, at the SA workshop, Options 2 and 3 were also considered positive in terms of

[18] http://www.ukcip.org.uk/index.php?option=com_content&task=view&id=163 (page last visited on 19.11.08)



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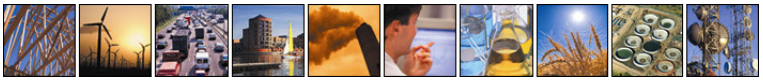
incorporating adaptation because development would not be so focussed on the city centre and could help avoid the exacerbation of the urban heat island effect. There is therefore a degree of uncertainty at this stage in terms of what the best option is given that it is too early to tell how current planning policies perform in delivering climate change adaptation.

There was, however, a consensus at the SA workshop that climate change is an issue that needs to be responded to with some urgency, and the important role that the Core Strategy can play, particularly at a policy level to ensure that neighbourhoods and streets are resilient (through providing trees and other vegetation, shading and sustainable urban drainage systems for example).

Recommendations 8 and **9** (**Boxes 8** and **9**) therefore reflect the need to develop an increased understanding of the impacts facing Birmingham to inform the development of the overall spatial strategy and also to provide detailed policies which require adaptation measures to be incorporated within new developments.

Box 8	**Recommendation 8: Consider the impacts of climate change at a 'strategic' level to enable appropriate responses in Core Strategy**
▪	This is considered *essential* to the future development of the spatial strategy given the potential to mitigate the risks associated with future climate change. Consideration needs to be given to the areas which are likely to be at risk informed by the SFRA and UKCIP08 scenarios, once published. A comprehensive audit of potential climate change impacts on all policy areas should be undertaken in order to ensure that there is a proper understanding of the diversity, interaction and potential severity of these impacts.

Box 9	**Recommendation 9: Provide a core policy which ensures that new developments are resilient to climate change impacts**
▪	Whichever spatial option is pursued it will be important to include a core policy which ensures that new allocations and developments are adaptive to climate change. There are a number of 'climate change checklists' that could be used (highlighted at the SA workshop) when drawing up this policy and ensuring that developments respond, including Adapting to Climate Change, A Checklist for Development, Guidance on Designing Developments in a Changing Climate (London Climate Change Partnership, 2005). The Town and Country Planning Association (TCPA) also published guidance on adapting to climate change at the community level in 2007 - *Climate Change Adaptation by Design.*



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7. SA Theme 4: Historic Environment, Landscape, Biodiversity and Geodiversity

7.1 What are likely to be the key impacts?

7.1.1 Historic environment

The key impacts here are likely to relate to the impacts of new development and infrastructure on Birmingham's historic environment, including scheduled ancient monuments, listed buildings, conservation areas, registered parks and gardens and canal network (see section 3.2.13 of Scoping Report for a detailed breakdown of key features in more detail). Development could have both positive and negative impacts:

- Positive impacts could include enhancing the setting and appearance of features within the historic environment through sensitive and complementary design and layouts. The potential to bring historic buildings back into use or to regenerate sites or areas may also be possible as part of wider development proposals.

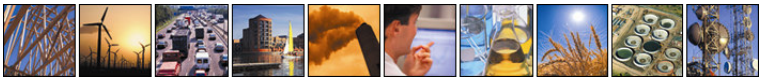
- Negative impacts could include outcomes to the detriment of the setting and appearance of features within the historic environment where proposals do not necessarily respect their local context. Given the levels of growth proposed there may also be impacts on archaeological resources and pressures to redevelop rather than regenerate/reuse historic buildings.

7.1.2 Landscape

New development will have an impact on the City's landscapes both within the existing urban area (parks, gardens and other greenspace) and outside of urban area where greenfield development is required. Within the main urban area the impacts could relate to development pressures on landscape features including parks, gardens and water courses. Outside the City, the major opportunities for greenfield development lie to the north/north east of the town (Sutton Coldfield) and to the south/south-west (beyond Longbridge) so the impacts of greenfield development (if required) on the surrounding landscape would more likely be felt here (although further analysis of landscape capacity and sensitivity is required).

7.1.3 Biodiversity

The City accommodates a range of designated sites of nature conservation importance (see section 3.2.15 of Scoping Report) and will have other non-designated areas with an important contribution to biodiversity. This will include both previously developed land and buildings and greenfield sites. New development will have a detrimental impact on ecology and biodiversity where this involves the loss of habitats or leads to activities which will adversely impact on these features.



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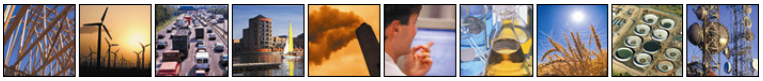
The Core Strategy could also enable positive impacts however, particularly through City-wide and local provision of new green infrastructure, green spaces and green routes, potentially linking with measures for climate change adaptation and flood attenuation suggested under SA Theme 3 (the provision of wetlands for example).

7.1.4 Geodiversity

Geodiversity concerns the variety of rocks, minerals and landforms and the processes which have informed these features over time. There could be impacts outside of the City in relation to the demand for minerals to build new homes, businesses and infrastructure (explored under SA Theme 1) but no other direct impacts are identified here.



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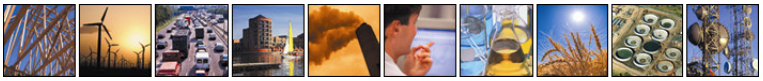
7.2 Which is the most sustainable option?

Table 7.1 Theme 5: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Local	Likely	Permanent	?	?	N/+	N/+
Option 2a: + 10%	Local	Likely	Permanent	?/-	?/- -	N/+	N/+
Option 2b: + 20%	Local	Likely	Permanent	- -	- -	N/+	N/+
Option 3: + 30%	Local	Likely	Permanent	?/-	?/- -	N/+	N/+
Justification	*Development is likely to have a localised impact on these features whatever level of development is proposed. In most cases the impacts are likely to be permanent, potentially relating to a loss of ecological, landscape of historic features.*			*The extent to which these SA objectives are addressed will depend on the spatial strategy and core policies protecting such features in the final core strategy (Recommendations 10, 11 & 12). However, Option 2b is likely to have the most impact with respect to features within the town given the levels of growth proposed, notwithstanding that Option 3 could have an impact on the natural landscape associated with greenfield development.*		*The impacts on these features can be mitigated to move towards a potentially neutral/positive impact whichever option is proposed (see Recommendations 10, 11 and 12).*	

Reasoning

Option 1 could be the most sustainable option with respect to features of the natural and historic environment, simply because it proposes lower levels of growth than the other options and thus the pressures on such features will be lower. However, there could still be negative outcomes associated with Option 1 if measures are not put in place to mitigate the impacts of development. At the SA workshop there was no real consensus about which option would be best to maintain and enhance these features. One of the key concerns raised was a failure in spatial planning policies to reflect the wealth of evidence that is available on both the natural and built environment. Developing the spatial strategy around a green infrastructure strategy, which considers the multi-functional nature of green infrastructure (in terms of biodiversity, recreation, heritage protection and connectivity), was seen as a key opportunity to ensure that the Core Strategy respects and enhances these features.



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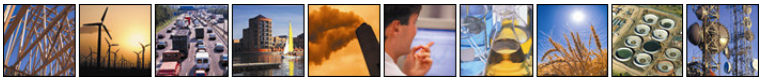
Decisions made on the spatial strategy and setting of core policies could mitigate these impacts, whichever option is pursued, to move towards the 'neutral'/potentially positive outcomes identified in **Table 7.1**, considering **Recommendations 10** and **11**.

Box 10	**Recommendation 10: Providing core policies for the protection and enhancement of the historic environment, landscape, biodiversity and geodiversity**
▪ The Core Strategy could include core policies which allow for the protection and enhancement of these features. Links with green infrastructure (see Recommendation 12).	

Box 11	**Recommendation 11: Consider landscape capacity *within* and *on the edge* of the City to accommodate new development**
▪ An understanding of the capacity of the landscape both within the City and on the edge of the City would be helpful in order to inform decisions regarding the direction for growth. This could help to determine the areas which have the most capacity to accommodate development with the least impact or to identify areas where there are concerns over landscape capacity and where mitigation measures would need to be put in place prior to development coming forward.	

Box 12	**Recommendation 12: Consider how biodiversity could be enhanced at a strategic level**
▪ The Core Strategy presents a significant opportunity to enhance Birmingham's biodiversity through the provision of new green infrastructure at a City-wide scale. There are important links to be made with other measures proposed in this interim SA, including the provision of new and enhanced green spaces to help adapt to climate change, provide for strategic flood attenuation and to provide the City's residents with opportunities for leisure and recreation. As identified through the SA Workshop, the provision of new green infrastructure could also be one of the ways to deliver the wider protection of built and natural resources, although an overview of existing provision, highlighting gaps and deficiencies, would be a useful piece of evidence to support this.	



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8. SA Theme 5: Pollution

8.1 What are likely to be the key impacts?

8.1.1 Air pollution

The whole of Birmingham was designated an Air Quality Management Area (AQMA) in 2003 to help improve air quality in the City. The main pollutant is nitrogen dioxide (NO_2), arising from both transport and industry (see section 3.2.16 of Scoping Report). The key impacts on air quality relating to the Core Strategy are likely to relate to:

- transport and infrastructure: the key impacts of the Core Strategy on air quality are therefore likely to relate to both an increase in traffic associated with growth in providing new housing and jobs (see SA Theme 2) both within Birmingham and across the rest of the region given the extent of Birmingham's travel to work area (north beyond Tamworth and south towards Redditch). Where transport infrastructure is insufficient to deal with increased levels of traffic, congestion could exacerbate air quality at a local level. Although outside of BCC's administrative boundary growth associated with an expanded BIA could also have an impact[19]; and

- new B2 industry that creates emissions from its operation.

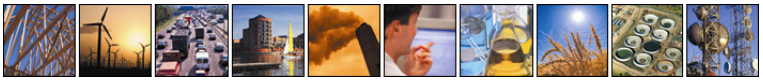
8.1.2 Water pollution

The proportion of Birmingham's waterways which are of a good biological or chemical quality is significantly below national and regional averages (see section 3.2.17 of Scoping Report). At this stage we do not identify any specific impacts between the Core Strategy and its impacts on water pollution. This is more likely to be an issue that will need to be addressed for specific development proposals.

8.1.3 Soil pollution

Outside of the urban area to the north and north east of the city as well as to the south west are areas of Grade 3 (moderate to good quality) agricultural land which could clearly be impacted on where greenfield development is proposed. Looking at the wider quality of land, there is likely to be a legacy of contaminated land, particularly on

[19] The ES supporting the current planning application notes that the primary pollutants associated with the expansion proposals will be NO_2 and particulates (PM_{10}). It is concluded that there will be some local increases within the airport boundaries and near to very busy roads but not further afield and so is not seen as a major issue with no mitigation measures proposed. The ES sets out that occasional odour emissions are expected are expected and that BIA has committed to the preparation of an 'odour study' to see how these impacts can be addressed.



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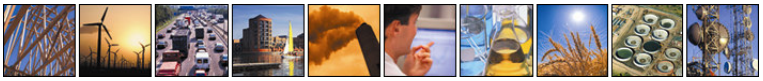
previously developed sites within the main urban area. The remediation of these sites to bring them back into use to deliver the growth required could clearly have a positive impact here (however this contamination could also be a constraint, in viability terms, to particular sites or areas coming forward for development).

8.1.4 Noise pollution

The key impacts here are likely to relate to the specific of particular development proposals rather than direct impacts associated with the levels of growth proposed, notwithstanding that an expanded BIA could have a potential impact in terms of increased air traffic over the city.



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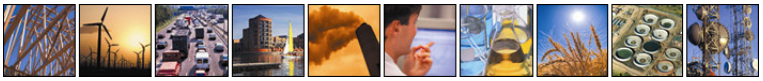
8.2 Which is the most sustainable option?

Table 8.1 Theme 8: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Local	Likely	Temporary/ Permanent	?	?	N	N
Option 2a: + 10%	Local	Likely	Temporary/ Permanent	-	--	N	N
Option 2b: + 20%	Local	Likely	Temporary/ Permanent	--	--	N	N
Option 3: + 30%	Local	Likely	Temporary/ Permanent	?/-	?/--	N	N
Justification	*Air, water, soil and noise pollution are likely to occur to some degree whatever level of development is proposed. The impacts could be temporary or permanent depending on the mitigation measures proposed.*			*There is an uncertain to potentially negative relationship (particularly in the longer term) given the levels of development proposed and potential for impacts, particularly as a result of increased traffic (air and noise pollution). Option 1 is likely to have the least impact compared with 2 & 3 however since it proposes lower levels of growth, although Option 2b could have the most impact on air quality and noise with the City given that it proposes higher levels of growth within the main urban area (associated with increased traffic).*		*It could be possible to move towards a neutral outcome under all options (see Recommendation 13)*	

Reasoning

Option 1 is considered the most sustainable option in terms of pollution when compared with Options 2 and 3, simply because it proposes lower levels of growth and the potential for pollution, particularly in terms of air quality relating to increased traffic, is lower. Whichever option is pursued, the Core Strategy will need to include policies which require development proposals to demonstrate their impact on air quality, noise, water and soils (**Recommendation 13, Box 13**). The most significant issue for the Core Strategy to address at the strategic level however is the impacts of increased traffic on local and regional air quality; greater consideration needs to be given to how the options perform in transport terms to inform this, as set out under **Recommendation 4** (**Box 4**) under SA Theme 2.



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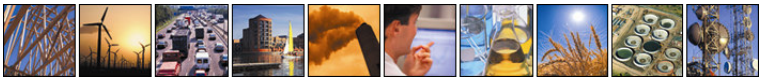
Box 13	Recommendation 13: Provide a Core Strategy policy/policies requiring development proposals to demonstrate their impacts on air quality, noise, water quality and soils
▪ This will help to inform decisions regarding the acceptability of proposals and what mitigation measures may need to be put in place.	



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9. SA Theme 6: Economic Growth

9.1 What are likely to be the key impacts?

The main impact that the Core Strategy will have on economic growth relates to whether or not it provides a sufficient and flexible supply of employment land and premises, attractive to developers and investors wishing to expand or establish themselves in Birmingham. As demonstrated under SA Theme 1 there is potentially a shortfall in the supply of B1 and B8 employment land that will need to be addressed through the Core Strategy.

Economic growth and housing growth (SA Theme 8) are inextricably linked in sustainability terms since the new housing will be required to accommodate existing and new labour supply. The City's (TTWA) extends as far north as Tamworth and south towards Redditch[20], but ensuring a suitable balance and match between employment and housing supply (affordable and of a range of types and sizes) within the City is important in terms of 'self-containment' and reducing people's need to travel larger distances between home and work.

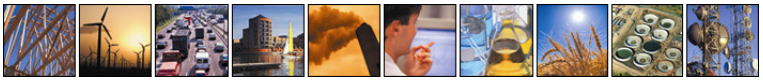
Consideration will need to be given to whether the 250 hectares of employment land identified in the Issues and Option Report will be sufficient, particularly in relation to higher levels of proposed growth.

The availability of transport links is also an important factor, increasingly determining the attractiveness of land for employment development.

Pressure for housing development has led to the depletion of the stock of employment land in the City. Consideration therefore needs to be given to the balance of housing and employment land, taking into account factors such as:

- the changing employment structure of the City;
- changing demands from business in respect of the type, amount and location of land required; and
- the availability of a skilled workforce to meet the needs of existing and future businesses.

[20] Office for National Statistics, Travel to Work Areas, 2001.



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9.2 Which is the most sustainable option?

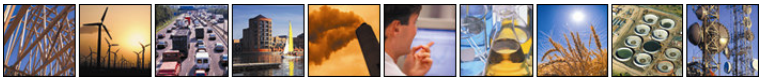
Table 9.1 SA Theme 6: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Regional	Likely	Permanent	-	- -	++	++
Option 2a: + 10%	Regional	Likely	Permanent	?/-	?/- -	++	++
Option 2b: + 20%	Regional	Likely	Permanent	+	+	++	++
Option 3: + 30%	Regional	Likely	Permanent	+/++	+/++	++	++
Justification	*Birmingham's economic growth will have impacts at the regional level given its role as the largest settlement within the West Midlands.*			*Option 3, as the highest growth option, may have the most positive contribution to the economic growth of Birmingham and the wider region.*		*Under all options, even the lowest growth option under Option 1, it may be possible to move towards a more positive outcome.*	

Reasoning

Option 3 is the highest growth option and therefore likely to have the most positive impact in supporting economic growth and Birmingham's key role in the regional economy. This view was generally supported at the SA workshop, although there were significant concerns raised in relation to the impacts of the current recession and the uncertainty that this presents with respect to future economic growth sectors and how the City can plan for this.

Although the amount of employment land is broadly consistent under all options, consideration will need to be given to whether this will be sufficient to meet these higher targets for housing growth to ensure a suitable balance and thus self-containment, a key point raised by stakeholders (see **Recommendation 14**). That the Core Strategy supports economic growth is essential however, given Birmingham's significance both regionally and nationally as an employment centre. Economic growth is also essential to the health and well-being of Birmingham's residents, helping to deliver regeneration, address poverty and unemployment. How the Core Strategy can help to maximise the potential for growth once we move out of the recession is also an important consideration.



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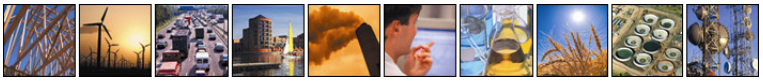
Box 14	Recommendation 14: Develop a Core Strategy policy which seeks to protect sufficient employment land to provide a diversity of supply in locations which meet the needs of local communities
▪	This will help to ensure that there is a proper balance between employment and housing development. The provision of a range of employment opportunities in reasonable proximity to people's homes will contribute to achieving SA Themes 2 (CO_2 emissions), 5 (pollution) and 7 (communities, healthy lifestyles and equality).



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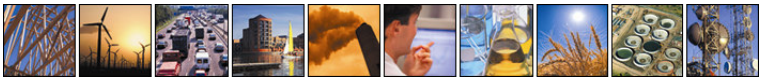

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10. SA Theme 7: Communities, Healthy Lifestyles and Equality

10.1 What are likely to be the key impacts?

10.1.1 Communities

The Core Strategy will have a range of impacts on Birmingham's existing and new communities relating to the new growth that it proposed in terms of meeting people's housing needs and opportunities for employment. It will also impact on their ability to access education, healthcare and other services, considering the capacity of existing facilities and opportunities for enhancement aligned with proposed growth.

Given the significant levels of development proposed it will be possible to seek financial contributions from developers to provide new facilities for the benefit of local communities. This could be through a traditional Section 106 Agreement type approach, developer contributions supplementary planning document (SPD) or the establishment of a Community Infrastructure Levy (CIL).

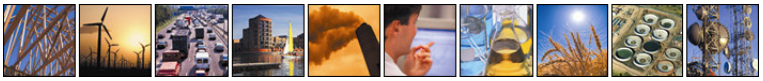
In terms of involvement in the spatial planning process, the Core Strategy presents an opportunity for communities to be involved in decisions affecting the future of Birmingham over the next twenty years, taking forward the Core Strategy in line BCC's Statement of Community Involvement (SCI). This involvement could be invaluable to ensuring that the Core Strategy is responsive to the needs of local communities, for example access to affordable housing, jobs, healthcare and services for example.

10.1.2 Healthy Lifestyles

The Core Strategy can have a significant impact on the promotion of active and healthy lifestyles by:

- Aligning growth and development to areas where investment in existing healthcare facilities is to be targeted and where new facilities are proposed. New healthcare facilities can also be funded in part from new development.

- Providing green infrastructure as a central element to the spatial strategy with provision of new green routes for walking and cycling, retaining existing playing fields, sports pitches, parks and gardens and leisure centres and providing new ones. The importance of this provision to promoting lifestyles, including mental health, was highlighted at the SA workshop. This could also have wider benefits in terms of responding to climate change adaptation, reducing CO_2 emissions by allowing for walking and cycling instead of the car, ecological benefits in terms of new habitat creation and flood attenuation (see SA Theme 3 climate change adaptation). New green infrastructure could also be funded in part from new development.



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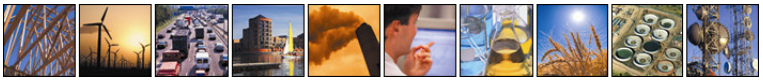
10.1.3 Equality

As a city with a high black and minority ethnic population (BME) particular consideration will need to be given to ensuring that the needs of all communities are taken into account in the decision-making process and in responding to their needs in providing for new development. This could include access to housing, jobs and cultural facilities which respond to expressed and latent needs.



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10.2 Which is the most sustainable option?

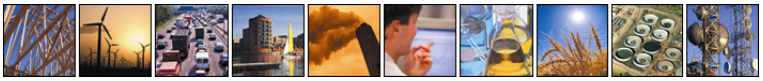
Table 10.1 SA Theme 7: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Local	Likely	Permanent	?/-	?/- -	++	++
Option 2a: + 10%	Local	Likely	Permanent	?	?	++	++
Option 2b: + 20%	Local	Likely	Permanent	+	+	++	++
Option 3: + 30%	Local	Likely	Permanent	+/++	+/++	++	++
Justification	*The Core Strategy will have a local impact on communities, healthy lifestyles and equality.*			*Option 3 proposes the highest levels of development and therefore the ability to respond to community needs through new employment opportunities and housing as well as direct community benefits associated with development (new schools and community facilities for example).*		*Under all options it could be possible to deliver positive benefits for local communities, particularly when considering how developer contributions could fund new community infrastructure and facilities - more so under Option 3 (see Recommendation 15).*	

Reasoning

Option 3 is likely to be the most responsive to the needs of communities compared with Options 1 and 2 since it proposes higher levels of growth overall and therefore the potential to respond to community needs in terms of new housing and employment opportunities are likely to be greatest, as well as the ability to secure the direct provision of or funding for new community facilities as a result of new development (through Section 106 agreements for example). There was some support for this view at the SA workshop. However, whilst recognising that will not be possible to intervene everywhere, stakeholders suggested that identifying additional 'centres' (there are three identified under Option 2 and 3 in the Issues and Options report: Selly Oak, Perry Bar and Meadway) would help to give a greater policy context for targeting community benefits to other areas too.

Stakeholders also highlighted that one of major problems facing existing communities is that new employment opportunities often serve people outside of Birmingham and not necessarily serve the existing communities. This is undermining regeneration efforts in deprived communities in particular and is therefore something that the Core Strategy will need to address. However, it is a complex issue to address, since given Birmingham's role as the



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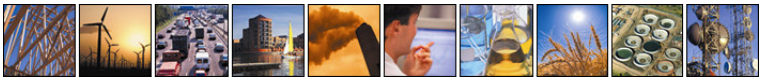
main economic driver within the West Midlands, it will clearly draw its workforce from a wider area (as demonstrated by its travel to work area, extending as far north as Tamworth and as far south as Redditch). Providing as many employment opportunities for existing communities is essential however, in terms of helping respond to factors of deprivation (unemployment and poverty for example) as well as the City's 'self-containment'; ensuring a balance between homes and jobs and reducing people's need to travel.

Recommendation 15 (**Box 15**) therefore sets out how the Core Strategy could deliver significant community benefits relating to the growth planned for the City, including the links with securing local employment opportunities

Box 15	**Recommendation 15: Consider the capacity of existing services and facilities, the demand associated with new growth and the potential for a CIL type approach to securing funding for future improvements**

- A comprehensive approach to the opportunities provided by developer contributions to securing a range of benefits for local communities needs to be adopted. This requires an understanding of the needs and demands of local communities for a range of services which enhance their quality of life. Investment and infrastructure could then be targeted on key centres identified in the Core Strategy, perhaps in addition to those already identified in the Issues and Options report to maximise the benefits across the city.
- Developer contributions also present a significant opportunity to help fund and deliver local employment opportunities through investment in skills and training. This could help to mitigate the problem of new employers not necessarily providing opportunities for existing communities (the London Borough of Greenwich is an example of an authority that has used S106 agreements to deliver local employment opportunities).



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11. SA Theme 8: Housing

11.1 What are likely to be the key impacts?

The key impacts relate to whether or not the Core Strategy provides enough housing, in the right locations and of the right type. There will need to be a suitable supply of both market and affordable housing to meet the needs of existing and new residents. The availability of housing also has significant linkages with economic growth, in terms of providing local housing to house the labour force. A failure to provide sufficient housing within the City to support economic growth could lead to unsustainable travel patterns with high levels of 'in-commuting' and undermining self-containment or, as a worst case, the decline of the City's economy.

11.1.1 Housing needs

- Household projections suggest a need to plan for over 80,000 new homes 2006-2026[21].
- Looking at housing needs, Birmingham's Strategic Housing Market Assessment notes the following:
  - 46 per cent of demand is for two bed properties, 24 per cent for four bed and 23 per cent for one bed;
  - market housing represents the biggest demand for two bed properties (33 per cent out of the 46 per cent in total);
  - 40 per cent of the *overall* housing requirement is for affordable housing (25 per cent intermediate housing and 15 per cent social rented); and
  - looking at affordable housing, there is a clear demand for houses of more than four bedrooms.
- 3,800 affordable dwellings per annum are required in the RSS for the Central HMA in which Birmingham lies. Past trends in completions 2001-2007 total 4,356, an average of 726dpa[22].

11.1.2 Gypsies and travellers

A study into the provision of sites for gypsies and travellers in Birmingham suggests that provision will need to be made for a further 19 pitches in Birmingham between 2007-2017[23]. The location for these pitches will need to be considered and likely allocated in the Core Strategy.

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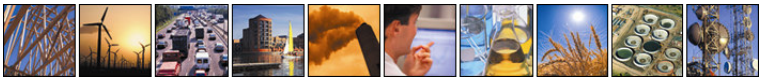
[21] Department for Communities and Local Government (DCLG), Revised projections of households for the English regions to 2026

[22] Table 3.2d, Annual Monitoring Report 2007, Birmingham City Council, December 2007.



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11.2 Which is the most sustainable option?

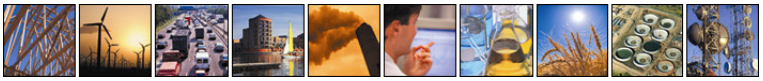
Table 11.1 Theme 8: Summary Options Appraisal

Option	Geographical Effect	Likelihood of Effect	Permanent or Temporary	Current outcomes		Possible outcomes	
				S/M Term	M/L Term	S/M Term	M/L Term
Option 1: Baseline	Regional	Likely	Permanent	?/-	?/- -	++	++
Option 2a: + 10%	Regional	Likely	Permanent	?	?	++	++
Option 2b: + 20%	Regional	Likely	Permanent	+	+	++	++
Option 3: + 30%	Regional	Likely	Permanent	+/++	+/++	++	++
Justification	*Birmingham will have a significant role to play at the regional level in providing for new housing.*			*Option 3 most closely matches household projections and is more likely to be able to respond to meeting housing needs. By developing greenfield sites in particular it may be possible to deliver the larger family homes that are in demand.*		*All options could deliver positive outcomes for housing aspirations in the City, if opportunities to match provision with local needs are taken.*	

Reasoning

Option 3 is the highest growth option and is therefore most likely to deliver a diversity of housing which can meet a wide range of needs. It is important to note that although Option 3 would provide 65,000 additional households, 15,000 more than the RSS Preferred Option, it would still fall short of projected household growth 2006-2026 (over 80,000). This is in part explained by policy decisions at the regional level, to ensure greater levels of development are proposed for the Black Country, to help deliver regeneration. The extent to which the Core Strategy meets housing needs therefore needs to be considered within the context of the wider housing market area and the cross-boundary relationships with the Black Country, Bromsgrove, Solihull and Lichfield for example, a point raised by stakeholders at the SA workshop.

[23] Joint Gypsy and Traveller Accommodation Assessment, Birmingham, Coventry and Solihull Councils, Final Report, Centre for Urban and Regional Studies, University of Birmingham, March 2008.



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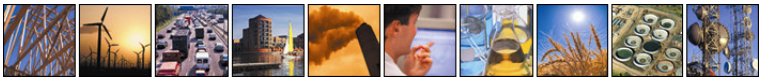
Whichever option is taken forward, careful attention needs to be paid to the delivery of new housing both geographically and in the precise mix which best meets current and future local needs. Ensuring a strong relationship between the location of both housing and employment growth is also important in terms of promoting self-contained communities. **Recommendation 16** (**Box 16**) sets out key considerations for the allocation of housing.

Box 16	**Recommendation 16: Within the allocation of housing, pay close attention to local needs, perhaps through area-specific policies which reflect the character of the locality which will be receiving housing growth**

- This will help to ensure a tailored response to the expressed and latent needs of the existing and future populations of the City.
- Key opportunities identified at the SA workshop included:
  - Providing more aspirational housing (housing that attracts those in professional and managerial jobs) linked with new employment development (for example along the Central Technology Belt).
  - Providing more 'choice' so that 1 or 2 person households living in larger properties (4-bed detached homes) are able to move to smaller properties, thus freeing up homes within the *existing* stock for families.



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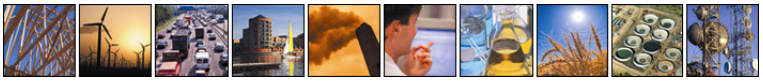

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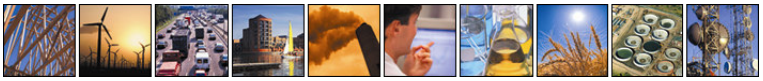
12. Considerations for the Core Strategy

12.1 Which is the most sustainable option?

Table 12.1 summarises the performance of each of the options in relation to the 8 SA Themes.

Table 12.1 Summary of Options Appraisal

SA Theme	Relative Performance of Options				Comments
	1	2a	2b	3	
1. Natural resources and waste	Best			Worst	Option 1 could be considered the best option for reducing resource use and minimising waste since it proposes the lowest level of growth comparative to the other options; therefore the demand for natural resources and generation of waste will be lower. However, measures would need to be taken to ensure an efficient use of resources and to minimise waste whichever option is pursued.
2. Carbon dioxide emissions					Option 1 could have the least impact on CO_2 emissions compared with Options 2 and 3, however significant measures would need to be taken to mitigate CO_2 emissions whichever option is pursued.
3. Climate change adaptation					Greater consideration needs to the potential to deliver adaptation to climate change whichever option is pursued. It could be easier under Option 1, given that there will be more 'space' to accommodate mitigation measures, although a focus on the city centre could exacerbate the urban heat island effect and higher densities increase the risk of flooding. Option 2b could be the least favoured since it proposes the highest levels of growth within the main urban area.
4. Historic environment, landscape, biodiversity and geodiversity					Option 1 could be the most sustainable here because it proposes the lowest level of growth compared to Options 2 and 3 so the potential for impacts are comparatively lower. Option 2b could have the most impact on these features since it proposes the highest level of development within the main urban area and therefore pressures on the historic environment (i.e. mature suburbs), open space and biodiversity.
5. Pollution					Option 1 could be the best option to minimise pollution, since it proposes the lowest levels of growth and thus the potential for pollution (particularly air quality relating to transport) is likely to be lower relative to Options 2 and 3.
6. Economic growth					Option 3 is likely to be the best option to secure economic growth since it provides for a greater level of growth than Options 1 and 2 and therefore the ability for the City to grow, however the impact of the current recession on the deliverability of the higher growth option needs to be considered.
7. Communities, healthy lifestyles and equality					Option 3 could be the best option for local communities, given that the it could be possible to deliver more community benefits through developer contributions.
8. Housing					Option 3 could be the best option for providing new housing, although whichever option is pursued the key priority is ensuring that it is in the right locations and responds to local needs.



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The key conclusions that can be drawn from the analysis in **Table 12.1** are as follows:

- Option 1 can be considered the best performing in relation to the achievement of environmental objectives, providing that high environmental standards are set in the plan's core policies. When discussing the options with stakeholders at the SA workshop, this was, typically, the least favoured option, in that it was seen to represent a 'no-change' scenario, similar to current policy.

- Option 3 can be considered the best performing in relation to the achievement of social and economic objectives because it provides for higher levels of growth and thus the ability to respond to community needs and the region's economic growth. This view was generally supported by stakeholders at the SA workshop, although mitigation of negative impacts was a key priority and concerns were raised as to how deliverable higher growth options could be in light of the current recession. The release of Green Belt under Option 3 was not necessarily seen as a negative approach, as long as phasing policies are provided to deliver brownfield options first.

- Option 2, as the mid-point between options 1 and 3 is harder to appraise, although in line with the conclusions for Option 3, 2b may be more positive for responding to social and economic needs than Option 1 or 2a. At the SA workshop, stakeholders typically favoured 2b over 2a, simply because there was seen as more potential to respond to the challenges facing the city. The main issue with Option 2b however is that it proposes the greatest levels of development for the urban area, which could place pressures on features within the natural and historic environment and make it harder to incorporate strategic-scale measures for climate change adaptation.

12.2 Conclusions recommendations

It is not possible to conclude whether one option performs better over another in *overall* sustainability terms at this stage. There are components of each of the options that perform better in response to the specific environmental, social and economic challenges facing the City. This was reflected by the fact that there was no real consensus amongst stakeholders as to what the preferred option is; it is more about how an option is taken forward as a detailed spatial strategy through strategic site allocations and detailed policies.

This interim SA should therefore be used by BCC to pick out the key strengths and weaknesses the three options that we have appraised (summarised in **Table 12.1**), considering the 16 recommendations set out in **Table 12.2** in the further refinement of options and the development of policies for mitigation.

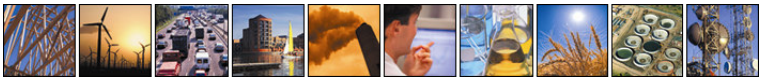

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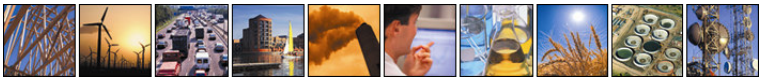
Table 12.2 Summary of recommendations

Recommendations	Reason
Recommendation 1: Amend the spatial vision to more explicitly identify the need to deliver both adaptation to and mitigation of future climate change	Ensuring the overarching context for responding to climate change in the Core Strategy vision
Recommendation 2: Revise wording to spatial objective 2 to reflect climate change adaptation, mitigation and an efficient use of resources	Ensuring alignment between Spatial Objective 2 and SA Climate Change objectives
Recommendation 3: Provide core policies which require an efficient use of resources (minerals, water and land), minimise waste and maximise recycling	Ensuring an efficient use of resources and waste minimisation, whichever option is pursued
Recommendation 4: Consider how CO_2 emissions can be reduced by reducing the need to travel and achieving a modal shift	Ensuring that the spatial strategy and levels of growth proposed are based around reducing car use
Recommendation 5: Make provision for zero and low carbon energy systems and infrastructure at a 'strategic' scale	Ensuring a move away from a dependency on fossil fuels for meeting the City's energy needs
Recommendation 6: Increase energy efficiency within the built environment and providing for on-site renewables	Ensuring that the overall demand for energy associated with new development is minimised
Recommendation 7: Understand Birmingham's potential to deliver zero and low carbon energy infrastructure at the strategic level	Ensuring an evidence base setting out how zero and low carbon energy infrastructure can be delivered
Recommendation 8: Consider the impacts of climate change at a 'strategic' level to enable appropriate responses in Core Strategy	Ensuring that Birmingham is resilient to future climate change, which could impact on the health and well-being of the City's residents
Recommendation 9: Provide a core policy which ensures that new developments are resilient to climate change impacts	Ensuring that individual neighbourhoods, homes, businesses and infrastructure are able to cope with climate change
Recommendation 10: Provide core policies for the protection and enhancement of the historic environment, landscape, biodiversity and geodiversity	Ensuring that new development does not negatively impact on these features
Recommendation 11: Consider landscape capacity within and on the edge of the City to accommodate new development	Ensuring an understanding of the impacts of bringing forward development at a strategic scale on a particular area, to inform decisions on the spatial strategy
Recommendation 12: Consider how biodiversity could be enhanced at a strategic level	Ensuring that the Core Strategy has a positive impact on the City's biodiversity
Recommendation 13: Provide a Core Strategy policy/policies requiring development proposals to demonstrate their impacts on air quality, noise, water quality and soils	Ensuring that new development does not create pollution
Recommendation 14: Develop a Core Strategy policy which seeks to protect sufficient employment land to provide a diversity of supply in locations which meet the needs of local communities	Ensuring that the City is able to facilitate economic growth, with a range of opportunities for employers and businesses to start-up and grow
Recommendation 15: Consider the capacity of existing services and facilities, the demand associated with new growth and the potential for a CIL type approach to securing funding for future improvements	Ensuring that the community benefits that can be derived from new development are maximised
Recommendation 16: Within the allocation of housing, pay close attention to local needs, perhaps through area-specific policies which reflect the character of the locality which will be receiving housing growth.	Ensuring that new housing provision meets the needs of Birmingham's communities



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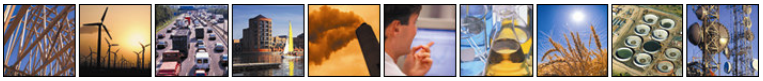

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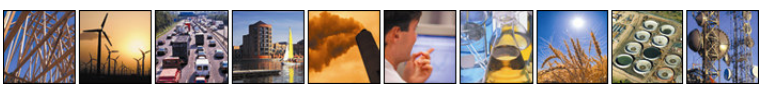
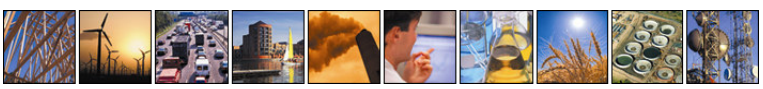
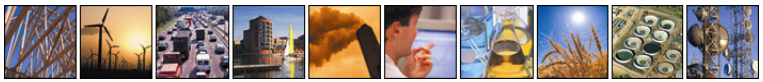
Creating the environment for business

Appendix A
Sustainability Framework

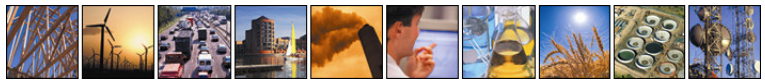




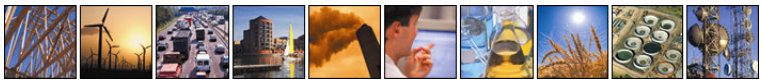
SA Objective	Appraisal Questions	Indicator	Target	Topic
1. Use natural resources such as water and minerals efficiently	Does it incorporate energy efficiency measures into new land use and developments, redevelopment and refurbishment? Does it promote and support resource efficient technologies? Does it reward efficient resource use? -Will it reduce water consumption?	Production of primary won aggregates (AMR)	*No target identified*	Resource Use
		Production of secondary/recycled aggregates (AMR)	*No target identified*	
		Water supply Domestic water consumption - litres/ head/ day	Enhance water supply by 5% over next 20 years (Water Resources for the Future)	
2. Promote and ensure high standards of sustainable resource-efficient design, construction and maintenance of buildings, where possible exceeding the requirements of the Building Regulations	Does it help reduce dependence on fossil fuels? Will it increase the number of buildings which meet recognised standards for sustainability?	Number of buildings meeting Code for Sustainable homes/BREEAM Standards	*None found*	Sustainable design, construction and maintenance
3. Encourage development of alternative and renewable resources	Does it help reduce dependence on fossil fuels? Does it promote and support the development of new high value and low impact technologies, especially resource efficient technologies and environmental technology initiatives? Does it increase the proportion of energy generated from renewable and low carbon sources, including micro generation, CHP, district heating and transportation?	Renewable energy capacity installed by type (AMR)	*No target identified*	Renewable Energy
		Percentage of energy generated by renewable sources in Birmingham	Ensure 15% of energy use in Birmingham is from renewable sources by 2020. (Birmingham Climate Change Strategy and Action Plan Consultation) 5% of energy to be generated from renewable sources by 2010 and 10% by 2020 (Regional Energy Strategy)	
			10% of electricity to be supplied from renewables by 2010/11, with an aspiration to double this by 2020. (UK Sustainable Development Strategy)	



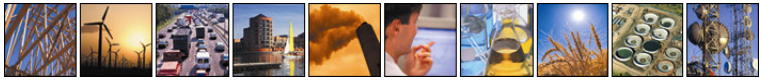
SA Objective	Appraisal Questions	Indicator	Target	Topic
4. Reduce overall energy use through energy efficiency	Will It reduce energy consumption?			Energy Efficiency
5. Increase use of public transport, cycling and walking as a proportion of total travel and ensure development is primarily focused in the major urban areas, making efficient use of existing physical transport infrastructure	Does it reduce road traffic congestion, pollution and accidents? Will it encourage walking and cycling? Does it help to reduce travel by private car? Does it promote accessibility for disabled people?	Net additional dwellings in the City Centre (AMR)	*No target identified*	Sustainable Transport
		Percentage of new residential development within 30 mins public transport time of a GP, hospital, primary and secondary school, employment and a major shopping centre (AMR)	By 2011, increase by 50% the total population within 30 minutes inter-peak travel time of a main NHS hospital by 'accessible' public transport compared to 2005 (West Midlands Local Transport Plan)	
		Percentage of trips by public transport into Birmingham City Centre (AMR)	*No target identified*	
		Percentage of completed retail, office and leisure development in town centres (AMR)	*No target identified*	
		Number of people killed or seriously injured in road accidents in Birmingham Number of children killed or seriously injured in road accidents in Birmingham	Reduce the number of people killed or seriously injured in Great Britain in road accidents by 40% and the number of children killed or seriously injured by 50% by 2010 compared with the average for 1994-98 (Transport White Paper, The Future of Transport)	
		Crime levels on public transport	Improve actual and perceived safety while travelling on public transport by 10% by 2010 (West Midlands Local Transport Plan)	
		Cycling index	Increase the cycling index by 1% by 2010 (West Midlands Local Transport Plan)	



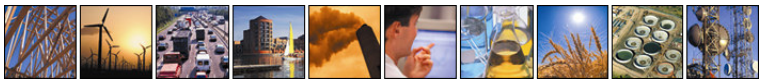
SA Objective	Appraisal Questions	Indicator	Target	Topic
		Car use in the city centre	By 2020, reduce car use in the city centre by 20% (compared with 2000 levels) (Local Transport Plan Visions)	
		Car use outside the inner ring road	By 2020, reduce car use outside the inner ring road by 14% (compared to 2000) levels (Local Transport Plan Visions)	
		Road traffic mileage	Limit the increase in road traffic mileage to no more than 7% between 2004 and 2010 (West Midlands Local Transport Plan)	
		Number of public transport vehicles accessible to disabled people	No target identified	
6. Ensure development reduces the need to travel	Will it reduce traffic volumes? Will it reduce average journey length?	Increase in road traffic	No more than a 7% increase in road traffic mileage between 2004 and 2010 (Local Transport Plan)	Reduce the need to travel
		Work Place Travel Plans	30% of all employees to work in organisations committed to work place travel plans by 2011	
		Number of people working from home	*No target identified*	
7. Encourage and enable waste minimisation, reuse, recycling and recovery	Does it divert resources away from the waste stream, including the use of recycled materials where possible?	Capacity of new waste management facilities by type (AMR)	*No target identified*	Waste Reduction and Minimisation
		- Amount of municipal waste arising, and managed by management type, and percentage each management type represents of the waste managed (AMR)	Aim to be better than average, by reducing or exhibiting less growth in household waste relative to the average authority in England, year on year (Municipal Waste Management Strategy)	



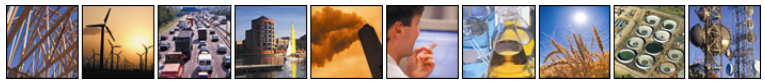
SA Objective	Appraisal Questions	Indicator	Target	Topic
			Aim to be consistently better than average, but reducing or exhibiting less growth in household waste relative to the average authority in England (Municipal Waste Management Strategy)	
		Percentage of household waste not re-used, recycled or composted	Reduce the amount of household waste not re-used, recycled or composted by 29% by 2010 (Waste Strategy 2007)	
		Percentage of household waste sent for recycling	24% of household waste to be recycled by 2008/0. 30% target by 2009/10 (LAA)	
		The percentage of people expressing satisfaction with household waste collection	56% of residents to be satisfied with recycling facilities by 2008/9	
		Percentage of residents satisfied with recycling facilities	Recycle and/or compost 40% of household waste by 2010, 45% by 2015 and 50% by 2020 (Waste Strategy 2007)	
		Amount of recycling infrastructure	To develop recycling infrastructure to secure sustainable markets for all collected recyclable materials for the duration of this strategy (to 2026) (Municipal Waste Management Strategy)	



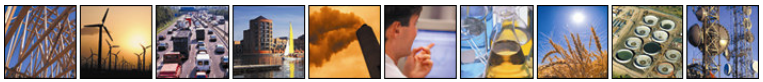
SA Objective	Appraisal Questions	Indicator	Target	Topic
8. Encourage land use and development that optimises the use of previously developed land and buildings	Will it encourage the efficient use of land and minimise the loss of greenfield land? Will it value and protect the biodiversity/geodiversity (of previously developed land and buildings)?	Percentage of employment land, by type which is on previously developed land (AMR)	*No target identified*	Efficient use of land
		Percentage of new and converted dwellings on previously developed land (AMR)	*No target identified*	
		Percentage of new dwellings completed at: (i) less than 30 dwellings per hectare; (ii) between 30 and 50 dwellings per hectare; (iii) above 50 dwellings per hectare. (AMR)	*No target identified*	
		BV106 New homes on previously developed land	*No target identified*	
		Ecological surveys/supporting information provided to support development on previously developed land and buildings	*100% of planning applications consider biodiversity/geodiversity*	
9. Minimise Birmingham's contribution to the causes of climate change by reducing emissions of greenhouse gases from transport, domestic, commercial and industrial sources	Will it reduce emissions of greenhouse gases by reducing energy consumption?	*Carbon dioxide emissions*	Reduce carbon dioxide emissions by 60% by 2050 (Energy White Paper)	Reduce climate change
			Reduce carbon dioxide emissions by 60% by 2050 with real progress by 2020 (UK Sustainable Development Strategy)	
			Reduce carbon dioxide emissions by 20% below 1990 levels by 2010 (UK Sustainable Development Strategy)	



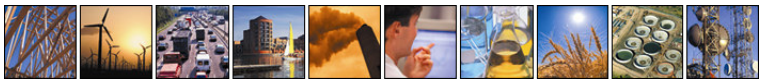
SA Objective	Appraisal Questions	Indicator	Target	Topic
		Greenhouse gas emissions	Reduce greenhouse gas emissions by 12.5% below base year levels over the period 2008-2012 (UK Sustainable Development Strategy)	
		Household carbon dioxide emissions	By 2011, reduce by 26% the total annual household carbon dioxide emissions for Birmingham (Community Strategy)	
10. Implement a managed response to the unavoidable impacts of climate change, ensuring that the design and planning process takes into account predicted changes in Birmingham's climate including flood risk	Will it minimise the risk of flooding from rivers and watercourses to people and property? Will it reduce the risk of damage to property from storm events? Will it protect, enhance and extend green infrastructure resources? Will it address climate change adaptation for biodiversity fragmentation?	Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality	*No target identified*	Manage Climate Change
11. Encourage land use and development that creates and sustains well-designed, high quality built environments that incorporate multi-functional Green Infrastructure	Will it improve the satisfaction of a diverse range people with the neighbourhoods where they live?	Percentage of eligible open spaces managed to "green flag award" standard	By 2009. double the number of Green Flag parks from 3 to 6 (Community Strategy)	Sense of Place
		Provision of open space: (i) Net loss/gain in amount of public open space and public and private playing fields; (ii) Percentage of new dwelling completions within reasonable walking distance of public open space	*No target identified*	
		The percentage of sites with unsatisfactory levels of (combined) litter and detritus	By 2008/9, only 12% of sites will be of an unsatisfactory level (LAA)	



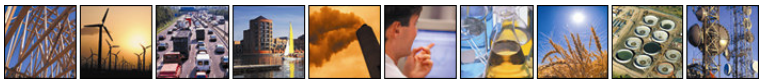
SA Objective	Appraisal Questions	Indicator	Target	Topic
		Neighbourhood element indicator for percentage of sites with unsatisfactory levels of (combined) litter and detritus	No target identified	
		'Closing the Gap' – The gap between the identified Districts (Sparkbrook, Hodge Hill and Perry Barr) and the City average for the percentage of sites with unsatisfactory levels of (combined) litter and detritus	Annual reduction of 5% (LAA)	
		Percentage of people who would like to remain living in their neighbourhood *Gap between people from equalities groups and the average percentage of people who would like to remain living in their neighbourhood*	By 2009, increase by 15% the percentage of people who would like to remain living in their neighbourhood (Community Strategy)	
		Provision of open space: no home should be more than 300m from accessible natural green space	100% of planning applications meeting ANGSt	
		Amount of GI created per ha of development	100% of development provides GI	
12. Value, protect, enhance and restore Birmingham's built and historic environment and landscape	Will it protect and enhance features of built and historic environment and landscape?	*None found*	*No target identified*	Built and Historic Environment
13. Value, protect, enhance and restore Birmingham's natural landscape	Will it safeguard and enhance the character of the local landscape and	*None found*	*None found*	Natural Landscape



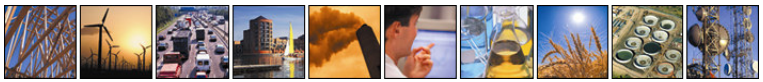
SA Objective	Appraisal Questions	Indicator	Target	Topic
	local distinctiveness? Will it improve the landscape quality and character of the countryside?	*Number of planning applications including a landscape appraisal*	*100% of planning applications with a landscape appraisal*	
14. Value, protect, manage, restore and re-create local biodiversity and geodiversity	Does it use approaches that improve the resilience of natural systems such as linking fragmented habitats where possible? Will it conserve and enhance natural/semi-natural habitats and conserve and enhance species diversity? Will it lead to habitat creation delivering BAP priorities?	Change in areas and populations of biodiversity importance, including: (i) change in priority habitats and species (by type); and (ii) change in areas designated from their intrinsic environmental value including sites of international, national, regional or sub-regional significance (AMR)	No loss of SSSIs Maintain current extent of other Priority Habitats (RSS) Birmingham and Black Country Biodiversity Action Plan Targets (various)	Biodiversity
		Populations of Wild Birds (Working with the Grain of Nature)	*No target identified*	
		Condition of SSSIs (Working with the Grain of Nature)	95% the SSSI area in recovering or favourable condition (FC) by 2010 (Government's Public Service Agreement (PSA) target)	
		Biological quality of rivers (Working with the Grain of Nature)	Specific River Quality Objective Targets (Environment Agency)	
		Area of BAP habitats created	XX BAP priorities created	
15. Minimise air pollution levels and create good quality air	Will it improve air quality? Will it reduce CO2 emissions?	*Number of publicly available long stay parking spaces in the City Centre*	Reduce the number of publicly available long stay parking spaces in the City Centre by 1.5% per year (Air Quality Action Plan)	Air Quality
		Nitrogen dioxide levels	By 2011, reduce the average nitrogen dioxide level by 1% in areas where nitrogen dioxide exceeds the national objective compared to 2004/05 (West Midlands LTP)	



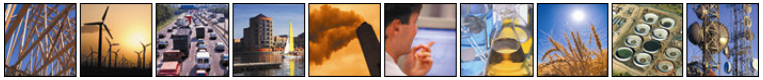
SA Objective	Appraisal Questions	Indicator	Target	Topic
16. Minimise water pollution levels and create good quality water	Will it improve water quality?	Number of planning permissions granted contrary to the advice of the Environment Agency on either flood defence grounds or water quality (AMR)	*No target identified*	Water Quality
		Biological quality of rivers (Working with the Grain of Nature)	Specific River Quality Objective Targets (Environment *Agency)*	
		Percentage of water bodies classified as being of 'good ecological status'	All water bodies to reach 'Good Ecological Status' by 2015 (Water Framework Directive)	
17. Minimise soil pollution levels and create good quality soil	Will it maintain and enhance soil quality? Will it minimise the loss of soils to development?	Area of contaminated land		Soil Quality
18. Minimise noise pollution levels	Will it cause noise pollution? Are mitigation measures proposed to minimise noise pollution?	*Road traffic surveys*		Noise
19. Encourage corporate social and environmental responsibility, with local organisations and agencies leading by example	Does it encourage local stewardship of local environments, for example enabling communities to improve their neighbourhoods? Will it encourage good employee relations and management practices? Will it encourage ethical trading?	*Percentage of people who feel they can influence decisions affecting the local area*	By 2009, increase by 63% the percentage of people who feel that they can influence decisions affecting the local area (Community Strategy)	Social and Environmental Responsibility
		Geographic coverage of community neighbourhood forums	By 2009, increase by 15% (to 75%) the geographic coverage of community neighbourhood forums (Community Strategy)	
		Membership of community networks and associations	By 2009, increase by 50% (to 12,000) the membership of community networks and associations (Community Strategy)	



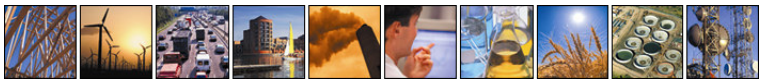
SA Objective	Appraisal Questions	Indicator	Target	Topic
		Percentage of citizens who are active citizens or volunteers	By 2009, increase by 18-30% the percentage of citizens who are active citizens or volunteers (Community Strategy)	
		Percentage of companies with live Travel Plans that are actively managed	By 2009 increase by XXXX the percentage of companies that have Travel Plans	
20. Achieve a strong, stable and sustainable economy and prosperity for the benefit of all of Birmingham's inhabitants	Does it encourage and support a culture of enterprise and innovation, including social enterprise? Will it improve business development and enhance competitiveness? Will it promote growth in key sectors? Will it reduce unemployment, especially amongst disadvantaged groups?	Amount of land developed for employment by type (AMR)	*No target identified*	Economy and Equality
		Employment land supply by type (AMR)	*No target identified*	
		Loss of employment land to other uses (AMR)	*No target identified*	
		Percentage of new businesses created and demonstrating growth after 12 months in the 11 priority wards	By 2009, increase by 75% the number of new businesses created and demonstrating growth after 12 months in the 11 priority (high deprivation and high BME) wards compared to 2005/06) (Community Strategy)	
		Percentage difference between the Job Seeker's Allowance unemployment rate in the 11 most deprived priority wards and the city average	By 2009, reduce by 19% the difference between the Job Seeker's Allowance, unemployment rate in the 11 most deprived priority wards and the city average (Community Strategy)	
		Percentage difference between the Job Seeker's Allowance unemployment rate in the 5 wards with the highest unemployment and the city average	By 2009, reduce by 12% the difference between the Job Seeker's Allowance unemployment rate in the 5 wards with the highest unemployment and the city average (Community Strategy)	
		Percentage of new businesses created and demonstrating growth after 12 months in the 11 priority wards	By 2009, increase by 75% the number of new businesses created and demonstrating growth after 12 months in the 11 priority wards compared the 2005/06 (Community Strategy)	



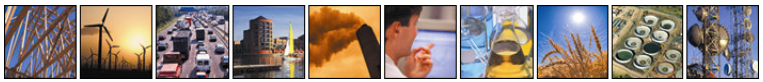
SA Objective	Appraisal Questions	Indicator	Target	Topic
21. Promote investment in future prosperity, including ongoing investment and engagement in learning and skills development	Does it ensure that Birmingham's workforce is equipped with the skills to access high quality employment opportunities suited to the changing needs of Birmingham's economy whilst recognising the value and contribution of unpaid work?	*Number of working age adults achieving basic skills qualification in the 11 priority wards*	By 2009, increase by 250% (to 7,415) the number of working age adults achieving basic skills qualification in the 11 priority (high deprivation and high BME) wards compared to 2003/04 (Community Strategy)	Learning and Skills
		Number of working age adults achieving NVQ Level 2 qualification in the 11 priority wards	By 2009, increase by 28% (to 6,602) the number of working age adults achieving NVQ Level 2 qualification in the 11 priority wards compared to 2003/04 (Community Strategy)	
		Number of working age adults achieving NVQ Level 3 qualification in the 11 priority wards	By 2009, increase by 16% (to 4,077) the number of working age adults achieving NVQ Level 3 qualification in the 11 priority wards compared to 2003/04 (Community Strategy)	
		Percentage of 16 year olds achieving at least 5 A*-C GCSE or equivalent	By 2008/9, the percentage of 16 year olds achieving at least 5A*-C GCSE or equivalent will be 60% (LAA)	
		Percentage of 16 year olds achieving 5 or more GCSEs with grades A* - G or equivalent (including English, and Maths	By 2008/9, the percentage of 16 year olds achieving at leas 5A*-G or equivalent (including English and Maths) will be 91%(LAA)	
		Proportion of 19 year olds who achieve at least NVQ Level 2	By 2008/9,the percentage of 19 year olds who achieve at least NVQ Level 2 will be 69%(LAA)	
22. Enable communities to influence the decisions that affect their neighbourhoods and quality of life	Does it encourage local stewardship of local environments, for example enabling communities to improve their neighbourhoods? Will it encourage engagement in community activities for example	*Percentage of people who feel that they can influence decisions affecting the local area*	By 2009, increase by 63% the percentage of people who feel that they can influence decisions affecting the local area (Community Strategy)	Community Involvement
		Percentage of geographic coverage of community neighbourhood forums	By 2009, increase by 15% (to 75%) the geographic coverage of community neighbourhood forums (Community Strategy)	



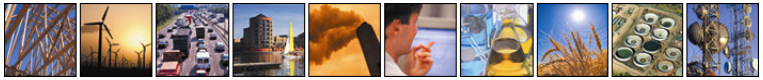
SA Objective	Appraisal Questions	Indicator	Target	Topic
	through the establishment of social and cultural facilities that address the needs of equalities groups? Will it increase the ability of people to influence decisions?	*Membership of community networks and associations*	By 2009, increase by 50% (to 12,000) the membership of community networks and associations (Community Strategy)	
		Percentage of citizens who are active citizens or volunteers	By 2009, increase by 18-30% the percentage of citizens who are active citizens or volunteers (Community Strategy)	
23. Ensure easy and equitable access to services, facilities and opportunities, including jobs and learning	Does it promote environmental justice, recognising that deprived areas and disadvantaged communities are more likely to be affected by environmental damage and degradation? Does it ensure that people are not disadvantaged with regard to ethnicity, gender, age, disability, faith, sexuality, background or location?	The difference between the JSA unemployment rate in the 5 wards with the highest unemployment and the city average	Target of 11% by 2008/9 (LAA)	Equality
		The average length of stay temporary accommodation (Gender Equality Scheme)	*By 2008/9 the total will be 250 (36% reduction)*	
		The number of hate crimes committed in Birmingham	A target of 1,630 is proposed for 2008/9 (5% reduction) (LAA)	
24. Address poverty and disadvantage, taking into account the particular difficulties of those facing multiple disadvantage	Does it promote environmental justice, recognising that deprived areas and disadvantaged communities are more likely to be affected by environmental damage and degradation? Does it reduce household poverty, especially the proportion of children living in poor households?	Children in poverty (Tackling Health Inequalities: A Programme for Action)	*No target identified*	Poverty
		Homeless families living in temporary accommodation (Tackling Health Inequalities: A Programme for Action)	By 2009, reduce by 36% the number of people and families accepted as homeless (Community Strategy)	
25. Improve health and reduce health inequalities by encouraging and enabling healthy active lifestyles and protecting health	Does it help provide equitable access to health services? Will it provide sufficient areas of	Consumption of fruit and vegetables (Tackling Health Inequalities: A Programme for Action)	*No target identified*	



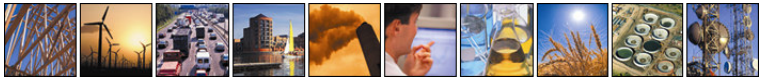
SA Objective	Appraisal Questions	Indicator	Target	Topic
	accessible natural greenspace?	Proportion in non-decent housing (Tackling Health Inequalities: A Programme for Action)	*No target identified*	
		Percentage of 5-16 year olds undertaking moderate physical activity	By 2009, increase percentage of 5-16 year olds undertaking moderate physical activity by 26%	
		- Infant mortality *- Life expectancy at birth*	By 2010 reduce the inequalities in health outcomes by 10% as measured by infant mortality and life expectancy at birth (Tackling Health Inequalities: A Programme for Action)	
		Gap between the areas with the worst health and deprivation indicators and the population as a whole	By 2010 reduce by at least 10% the gap between the areas with the worst health and deprivation indicators and the population as a whole (Tackling Health Inequalities: A Programme for Action)	
		Gap in mortality between routine and manual groups and the population as a whole	Starting with children under one year, by 2010 reduce by at least 10% the gap in mortality between routine and manual groups and the population as a whole (Tackling Health Inequalities: A Programme for Action)	
		- Number of people killed or seriously injured in road accidents in Birmingham *- Number of children killed or seriously injured in road accidents in Birmingham*	Reduce the number of people killed or seriously injured in Great Britain in road accidents by 40% and the number of children killed or seriously injured by 50% by 2010 compared with the average for 1994-98 (Transport White Paper, The Future of Transport)	
		Number of planning applications meeting ANGSt	100% of planning applications meeting ANGSt	Health
26. Reduce crime, fear of crime and antisocial behaviour	Will it reduce crime? Will it reduce the fear of crime	The number of personal robbery crimes committed in Birmingham	By 2008/9 reduce robbery of personal property to total of 5,065 per year (11% reduction) (LAA)	Crime



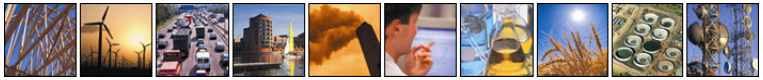
SA Objective	Appraisal Questions	Indicator	Target	Topic
	amongst all social and cultural groups?	The number of Burglary dwelling crimes committed in Birmingham	By 2008/9 reduce residential burglary to 9,493 incidents per year (22% reduction) (LAA)	
		Common assault rates	Reduce common assault by 20% (Community Safety Strategy)	
		Amount of theft from person	Reduce theft from person by 22% (Community Safety Strategy)	
		Amount of woundings (serious and other)	Reduce woundings (serious and other) by 18% (Community Safety Strategy)	
		Recorded crime rates	Reduce total recorded crime by 20% (Community Safety Strategy)	
		Number of children and young people under 18 who are victims of crime	By 2009, reduce by 2% the number of children and young people under the age of 18 who are victims of crime (Community Strategy)	
		Number of arson vehicle crimes	By 2009, reduce the number of arson vehicle fires by 33% (compared to 2003/04) (Community Strategy)	



SA Objective	Appraisal Questions	Indicator	Target	Topic
27. Provide decent and affordable housing for all, of the right quantity, type, tenure and affordability to meet local needs	Will it reduce homelessness? Will it increase the range and affordability of housing for all social and cultural l groups? Will it reduce the number of unfit homes?	Housing trajectory showing: (i) net additional dwellings over the previous five year period or since the start of the relevant development plan document period, whichever is longer; (ii) net additional dwellings for the current year; (iii) projected net additional dwellings up to the end of the relevant development plan document or over a ten year period from its adoption, whichever is the longer; (iv) the annual net additional dwelling requirement; and (v) annual average number of net additional dwellings needed to meet overall housing requirements, having regard to previous years' performances (AMR)	*No target identified*	Housing
		Affordable housing completions (AMR)	*No target identified*	
		Reduction in vacancies in the existing housing stock (AMR)	*No target identified*	
		Number (or proportion) of Lifetime Homes constructed	*No target identified*	
		Length of stay in temporary accommodation (hostel)	By 2008/9, the average stay in temporary accommodation will be 60 days (63% reduction on 04/05) (LAA)	

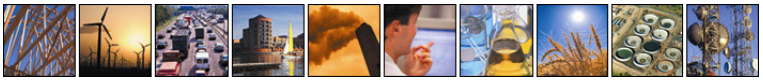


SA Objective	Appraisal Questions	Indicator	Target	Topic
28. Improve opportunities to participate in diverse cultural, sporting and recreational activities	Will it encourage participation in sport and cultural activities for all the diverse communities in Birmingham?	Percentage of residents satisfied with musems and galleries	By 2009, increase by 7% the percentage of residents satisfied with museums and galleries (Community Strategy)	Culture/Sport/Recreation
		Percentage of residents satisfied with library services	By 2008/9, 55% of residents will be satisfied with library services (LAA)	
		Percentage of residents satisfied with theatres and concert halls	By 2009, increase by 6% the percentage of residents satisfied with theatres and concert halls (Community Strategy)	
		Percentage of 5-16 year olds undertaking moderate physical activity	By 2009, increase the percentage of 5-16 year olds undertaking moderate physical activity by 26% (Community Strategy)	
		Percentage of children achieving Key Stage 2 standard for swimming by age 11	By 2009, double the percentage of children achieving Key Stage 2 standard for swimming (25m) by age 11 (Community Strategy)	
		Gap between 5-15 year olds from equalities groups undertaking moderate physical activity and the average	*No target identified*	

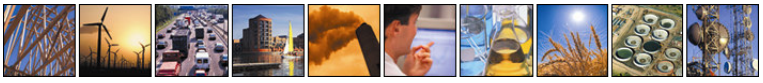


Appendix B
SA and LDF Objectives: Compatibility Matrix

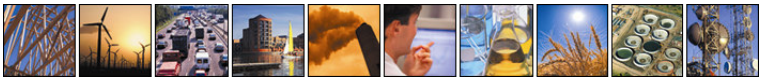
Score	Description	Symbol
Major Positive Impact	The Spatial Objective contributes significantly to the achievement of the SA Objective	++
Minor Positive Impact	The Spatial Objective contributes to the achievement the SA Objective but not significantly	+
Neutral	The Spatial Objective is unlikely to have any significant impact on the achievement of the SA Objective	N
Minor Negative Impact	The Spatial Objective detracts from the achievement the SA Objective but not significantly	-
Major Negative Impact	The Spatial Objective detracts significantly to the achievement of the SA Objective	- -
No Relationship	There is no clear relationship between the Spatial Objective and the SA Objective or the relationship is negligible	~
Uncertain	There is an uncertain relationship between the Spatial Objective and the SA Objective, since it depends on the way the Spatial Objective is managed and taken forward in the Spatial Options and supporting policies	?

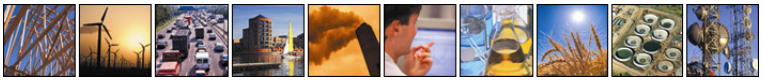


		Plan Objectives							
		1. National & international role	2. Minimise carbon footprint & waste	3. Vibrant, safe, diverse & inclusive city	4. Meet new housing targets	5. Prosperous, successful economy	6. High-quality transport	7. A Learning city	8. Encourage health & well-being
SA Objectives	Efficient Resource Use	N	++	+	?	?	N	N	+
	Sustainable Design	N	++	+	?	?	N	N	+
	Renewable Energy	N	++	N	?	?	N	N	N
	Energy Efficiency	N	++	N	?	?	N	N	N
	Sustainable Transport	?	++	N	?	?	++	++	+
	Reduce Need to Travel	N	++	N	?	?	++	N	N
	Waste Minimisation, Reuse and Recycling	N	++	N	?	?	N	N	N
	Efficient Land Use	N	+	N	?	?	N	N	N
	Reduce Climate Change	N	++	N	?	?	++	N	N
	Manage Responses to Climate Change	N	++	N	?	?	++	N	N
	Sense of Place	++	N	++	?	?	N	N	+
	Built & Historic Environment	++	N	N	?	?	N	N	+
	Natural Landscape	+	N	N	?	?	N	N	+
	Biodiversity	N	N	N	?	?	N	N	+
	Air Quality	N	++	N	?	?	++	N	+
	Water Quality	N	N	N	?	?	N	N	+
	Soil Quality	N	N	N	?	?	N	N	+



	Plan Objectives							
	1. National & international role	2. Minimise carbon footprint & waste	3. Vibrant, safe, diverse & inclusive city	4. Meet new housing targets	5. Prosperous, successful economy	6. High-quality transport	7. A Learning city	8. Encourage health & well-being
Noise	N	N	N	N	N	?	N	+
Social & Environmental Responsibility	N	N	++	?	?	N	N	+
Economy & Equality	++	?	++	++	++	++	++	++
Learning & Skills	N	N	N	N	++	N	++	++
Community Involvement	N	N	++	N	N	N	N	++
Equality	N	N	++	N	+	+	+	++
Poverty	N	N	++	++	++	N	++	++
Health	N	N	++	++	+	+	N	++
Crime	N	N	++	N	N	N	N	++
Housing	N	N	++	++	++	N	N	++
Culture/Sport/Recreation	++	N	N	N	N	N	N	++





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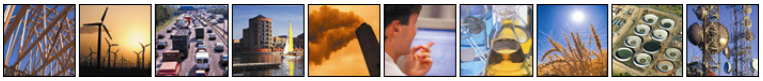
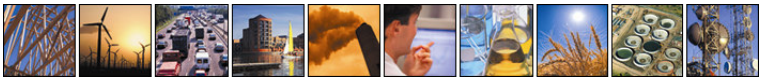
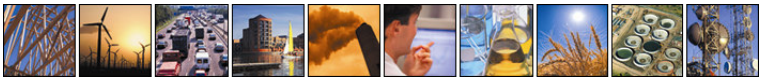
Creating the environment for business

Appendix C
Table of Consultation Responses to SA Scoping Report

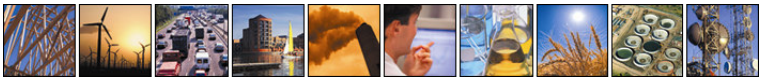




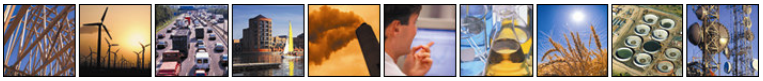
Para	Comment	Received by	Response
Table 2.1	This table should include a reference to the Nature Conservation Strategy for Birmingham (1997) under the Local heading; the Nature Conservation Strategy is adopted SPG. Although it does not have any statutory status, it may also be helpful to include a reference to the Biodiversity Action Plan for Birmingham and the Black Country (BBCBAP Steering Group, July 2000) since this document identifies local biodiversity priorities (see PPS9, paragraph 4).	Birmingham CC Ecologist	Agree, will take into account in SA.
Table 2.2	Should include the following: Regional West Midlands Green Infrastructure Prospectus (West Midlands Regional Assembly's Environment Partnership) Landscapes for Living a 50 Year Vision for rebuilding biodiversity in the West Midlands (West Midlands Biodiversity Partnership) Local Birmingham and Black Country Biodiversity Action Plan 2000 (www.wildlifetrust.org.uk)	Natural England	Agree, will take into account in SA.
3.2.1	"Birmingham is at the heart of the city region…." Clarification should be made that this refers to Birmingham, Coventry and Black Country City Region	Natural England	Agree, will take into account in SA.
3.2.6	Insofar as additional baseline transport information is concerned, HA take the opportunity to draw your attention to a study that the HA has commissioned, in respect of the transport and infrastructure implications arising from the West Midlands Regional Spatial Strategy Phase Two Revision Draft Preferred Option. This study has two aims, firstly to inform that the Highways Agency's formal response to the Preferred Option and secondly, to assist in the development of the transport evidence base to underpin the Local Development Documents under preparation in the Region. As part of this study it is proposed to model a set of core options in PRISM with the detailed land-use and transport assumptions having already been agreed with the West Midlands Regional Assembly. Using different planning and transport network assumptions these options tests would identify how the SRN is performing against a series of network wide congestion level indicators and provide a basis for considering the future policy and transportation infrastructure interventions required to support the delivery of the RSS2 Preferred Option. In order to reflect the timescales for RSS2 the future model years of the study include 2016 and 2026. In the Agency's view the outcome of this study will provide key baseline transportation information that will help inform the Sustainability Appraisal (SA) process, which in turn, will assist you in setting suitable sustainable transport SA objectives. The report on the study is currently being revised and we expect that this will be completed in the next month or two.	Highways Agency	Comments noted. Will need to take this report into account in the SA process to understand the transport implications in more details (see Recommendation 4 in this interim SA).
3.2.10 and 3.2.11	Natural England welcomes the consideration of climate change within the Scoping Report. NE's position on climate change is shaped by its statutory purpose to conserve, enhance and manage the natural environment for the benefit of the current and future generations. Climate change will impact on the natural environment both directly and indirectly and action is needed to ensure that the natural environment is resilient in the face of climate change.	Natural England	Agree, but it is considered important to have distinct sections addressing both mitigation and adaptation given the potential for the Core Strategy to respond at a policy



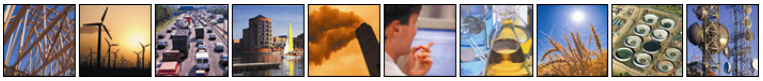
Para	Comment	Received by	Response
	A particular challenge is the need to move to a low carbon economy, which will require a significantly more efficient use of energy. NE believes that improving energy efficiency is the most effective mitigation measure action to reduce greenhouse gas pollution and therefore conserve and enhance the natural environment. NE would encourage combining Sustainability Issues 3.2.10 and 3.2.11 into a single issue for climate change to ensure that mitigation and adaptation baseline and trends are fully addressed		level. This is addressed under SA Themes 2 and 3 in this interim SA. Responding to climate change is also one of the key topics to be discussed at our workshop in January.
3.2.11	This section should consider the role of green infrastructure in managing, and adapting to, climate change.	Birmingham CC Ecologist	Agree, will be taken into account in SA. Considered in this Interim SA under SA Themes 3 and 4 in particular. See also Recommendation 12.
3.2.12	NE has concerns about sustainability issue as 'sense of place' is described as a place with a positive feeling for people and local distinctiveness (CLG website) and is an outcome of a well designed and built sustainable community. The baseline data associated with this sustainability issue is based on option polls from the Community Strategy and the extent of green spaces and city centre environmental improvements. Table 3.2 refers to 'Green Belt' which is not an environmental designation but a planning policy. Land within the Green Belt often has potential to deliver more positive benefits for the natural environment and people's enjoyment of it, and to play a role in climate change adaptation. NE considers GI should underpin sustainability of communities and contribute to sense of place. GI can fulfil many functions, key ones being the provision of corridors for wildlife movement and opportunities for recreation and leisure giving benefits for health and well-being. Through maintenance and enhancement of the connectivity and functions in the GI network there are potential opportunities to provide benefits for the landscape, recreation and biodiversity. NE would encourage inclusion of Sustainability Issue addressing Green Infrastructure	Natural England	Agree. Green Infrastructure has been given greater consideration in this interim SA under Themes 3 and 4 (climate change adaptation and biodiversity respectively) and SA Theme 5 with respect to local communities and healthy lifestyles. See also Recommendation 12. Table 3.2 has been taken from the Birmingham Annual Monitoring Report. We recognise that Green Belt is not an environmental designation. As Natural England note however land within it can have an important role to play in delivering benefits for the natural environment, which are addressed in this interim SA.
3.2.13	Table 3.3 should include the number of archaeological sites on the Sites and Monuments Record, as mentioned in the text and shown on fig 3.6, as well as the number of scheduled ancient monuments, because PPG16, QE5 of the RSS and BCC policies in the UDP and Archaeology Strategy refer to all archaeological sites, not just those that are scheduled ancient monuments. There are now about 2,500 records on the Sites and Monuments Record	Birmingham CC Archaeologist	Agree. Will be taken into account in SA.
3.2.14	Landscape character and cultural heritage are key contributors to regional and local identity, influencing sense of place, shaping settings of people's lives and providing a critical stimulus to their engagement with natural environment. Key issue is to ensure that all development is sensitive to natural landscape and locally distinctive.	Natural England	Agree, will be taken into account in SA process.
3.2.15	NE considers that title should include reference to Geodiversity (the geological	Natural	SA objective 14 now includes



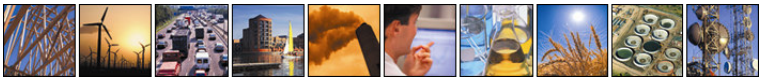
Para	Comment	Received by	Response
	variety of rocks, minerals, fossils and landscape together with the natural processes which form them). Geodiversity is relevant to the issue as Ruby Cutting LNR is noted for its geological significance. There are 2 SSSIs within Birmingham City boundary with 69.53% classified as being in unfavourable condition. In April 2008 Edgbaston Pool the condition status was recorded as being 100% favourable (www.natureonthemap). For Sutton Park SSSI 71% of the area is unfavourable condition and 29% in favourable condition. The *individual* current condition of the SSSIs should be highlighted in the baseline data. Table 3.4 shows Nature Conservation Sites and is an extract from Table 2.8 of AMR 2007. However the extract omits the data on SLINCs and some figures differ from those in original source. Reference should be made to Biodiversity Enhancement Areas of Cannock Chase to Sutton Park and the Black Country to Lickey Hills, which lie within the Birmingham City Boundary. An 'area based' or 'landscape scale' approach means working at a larger scale to manage and reduce fragmentation of habitats and species. The biodiversity issues should acknowledge need to protect significant biodiversity or geological interest often found on brownfield sites.	England	specific reference to geodiversity. It is also considered under SA Theme 7 in this interim SA. Further consideration will need to be given to the potential impacts as the SA progresses (and can be discussed at January workshop). Agree with other suggestions and baseline data will be amended to consider in SA.
3.2.15	This section should also refer to Geodiversity, in line with PPS9 - Biodiversity and Geological Conservation. Geodiversity baseline data is available from EcoRecord (the ecological database for the Black Country and Birmingham) or the Geological Records Centre based at Dudley Museum and Art Gallery.	Birmingham CC Ecologist	Agree, SA objective 14 amended and geodiversity addressed under SA Theme 4 in this interim SA.



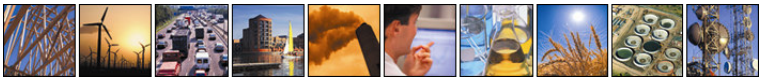
Para	Comment	Received by	Response
	Information about the number of designated nature conservation sites (including table 3.4) is incorrect. The most up-to-date data appears in BCC's 2006-07 AMR and refers to the position as of May 2007. Further changes to the number and extent of SINCs and SLINCs are likely following a Cabinet Member decision in July/August 2008. The information contained in table 3.4 is wrongly attributed to the 2007 AMR; it has been taken from the 2005-06 AMR. Figure 3.8 Nature Conservation Features is also incorrect; up-to-date designated sites data can be obtained from EcoRecord or from myself. The biodiversity section currently refers only to designated sites and does not reflect the full extent of Birmingham's biodiversity resources outside of the series of statutory and non-statutory sites. Baseline information relating to Birmingham's priority habitats and priority species (i.e. legally protected species, Biodiversity Action Plan (BAP) priority habitats and species, and flora, fauna and habitats of principal importance for the conservation of biodiversity) should also be included. PPS9 includes various references to the need for Local Planning Authorities to take account of priority habitats and species in LDF policies (paragraphs 4, 5, 11 and 16). NB The "England Biodiversity List" (Section 41, Natural Environment and Rural Communities (NERC) Act 2006) replaces the list published by Defra in 2002 under Section 74 of the Countryside and Rights of Way (CRoW) Act 2000, which is referred to in PPS9. EcoRecord can advise on S41 habitats and species relevant to Birmingham. Information should be included about the City's networks of natural habitats (PPS9, paragraph 12; Article 10 of the Habitats Directive (implemented by Regulation 37 of the Conservation [Natural Habitats &c.] Regulations 1994 [as amended]); links beyond the Birmingham boundary should also be considered. In addition to the designated sites network, the Nature Conservation Strategy identifies Wildlife Corridors and potential links where gaps currently exist. This information would also be relevant to the managing climate change section - the City's networks of natural habitats are a vital component of its green infrastructure resources. To obtain more comprehensive and accurate baseline biodiversity data (i.e. designated sites, legally protected species, priority habitats and priority species), I suggest that you make contact with EcoRecord. The baseline data obtained from the AMR is not comprehensive, and in any event is mostly derived from data held by EcoRecord. Contact details - EcoRecord, 28 Harborne Road, Edgbaston, Birmingham B15 3AA; email enquiries@ecorecord.org.uk.	Birmingham CC Ecologist	Agree and will be taken into account in SA process, particularly in the appraisal of more detailed options and policies.
3.2.26	There is increasing interest in promoting contact with the natural environment to improve health and well being. Planned Green Infrastructure can give access to high quality green space and provide opportunities for better health and well being.	Natural England	Agree, taken into account in this interim SA under Themes 3 and 4 (climate change adaptation and biodiversity respectively) and SA Theme 5 with respect to local communities and healthy lifestyles. See also Recommendation 12.



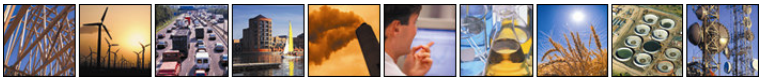
Para	Comment	Received by	Response
Table 3.16	14. Biodiversity - geodiversity, priority habitats and species and habitat networks should be identified as key issues in addition to the designated sites network.	Birmingham CC Ecologist	Agree, will be taken into account in SA process.
Table 3.16	Built Environment: The summary here seriously underplays the extent of this resource. It should also mention archaeological remains and historic buildings as well as conservation areas and canals.	Birmingham CC Archaeologist	Agree, will be taken into account in SA process.
Table 3.16	SA Topic 6: Reducing the need to travel is welcomed. However, it should be ensured that the emphasis is placed on 'smarter travel', discouraging unnecessary journeys and encouraging people to use public transport for journeys made, particularly for travelling to work.	Centro	Agree, will be taken into account in SA process. See Recommendation 4 in this interim SA in particular.
Table 4.1	SA Objective 15 - under this objective, reduction of car journeys could also be included as this will help reduce CO_2 emissions etc (targets should fit in with LAA targets and WMLTP) SA Objective 19 - The percentage of companies with live Travel Plans that are actively managed could be an appropriate targets as Travel Plans help to promote more sustainable transport SA Objective 20 - The public modal share may be an appropriate target especially for the journey to work	Centro (transport)	Noted, will be taken into account in SA process. See Recommendation 4 in this interim SA in particular.
Table 4.1	Under Objective 10 (Implement a managed response to the unavoidable impacts on climate change...) an appraisal question relating to green infrastructure should be included - eg "Will it protect, enhance and extend green infrastructure resources?"	Birmingham CC Ecologist	Agree - SA Framework amended.
Table 4.1 & 4.2	By combining these two tables the links between the Appraisal Questions in 4.1 and the indicators in 4.2 would be strengthened and clarified. The following comments are made on the specific SA Objectives, the appraisal questions, indicators and targets: SA Objective 5 - 'Increase use of public transport, cycling and walking as a proportion of total travel and ensure development …..' Appraisal Question - Does it improve health through increased physical activity? Suggested amendment - Will it encourage walking and cycling? SA Objective 8 - Will it encourage efficient use of land and minimise loss of Greenfield? Appraisal Question - add will it value and protect the biodiversity/geodiversity (of previously developed land and buildings)? Indicator - Ecological surveys/supporting information provided to support development on previously developed land and buildings Target - 100% of planning applications consider biodiversity/geodiversity	Natural England	Agree with suggestions - SA Framework amended.



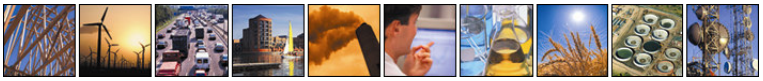
Para	Comment	Received by	Response
	SA Objective 10 - Appraisal question suggest add: Will it address climate change adaptation for biodiversity fragmentation? Indicator - Amount of GI created per ha of development Target - 100% of development provides appropriate GI SA Objective 11 - Encourage land use and development that create and sustains well-designed, high quality built environments that incorporate green space, encourage biodiversity and promote local distinctiveness and sense of place Amend Appraisal question to Encourage land use and development that create and sustain locally distinctive, designed and high quality built environments that incorporate multi-functional Green Infrastructure Indicator - Provision of open space: No home should be more than 300m from accessible natural green space. Target - 100% of planning applications meeting Accessible Natural Greenspace Standards (ANGSt) SA Objective 13 - Value, protect, enhance and restore Birmingham's natural landscape Appraisal Question –- Will it reduce amount of derelict, degraded and underused land? Amend Appraisal question to Will it safeguard and enhance character of the local landscape and local distinctiveness? Indicator - Number of planning applications including a landscape appraisal Target - 100% of planning applications with landscape appraisal SA Objective 14 -Value, protect, maintain restore and re-create local biodiversity Re-word to Value,, protect, manage, restore and re-create local biodiversity and geodiversity Appraisal question - Will it lead to habitat creation delivering BAP priorities? Indicators - Area of BAP habitats created Target - X BAP priorities created SA Objective 25 - Improve health and reduce health inequalities by encouraging and enabling health active lifestyles and protecting health. NOTE SA Objective 25 missing from Table 2.4 Add Appraisal question - Will it provide sufficient areas of accessible natural greenspace? Indicator - Number of planning applications meeting ANGSt Target - 100 of planning applications meeting ANGSt		
Objective 14	Should encompass geodiversity as well as biodiversity, and should also refer to enhancement. PPS9 (paragraph1[ii]) advises that plan policies should aim to maintain, and enhance, restore or add to biodiversity and geological	Birmingham CC Ecologist	Agree, SA objective 14 amended and geodiversity addressed under SA Theme 4 in this interim

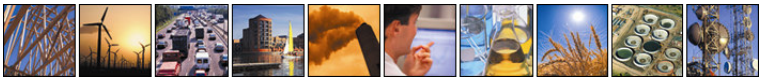


Para	Comment	Received by	Response
	conservation interests.		SA.
App A	Reference should be made to the Nature Conservation Strategy for Birmingham (1997).	Birmingham CC Ecologist	Noted and Appendix A amended.
App B	Built and Historic Environment: This should refer to archaeological remains rather than ancient monuments- the term ancient monuments implies that it just means scheduled ancient monuments	Birmingham CC Archaeologist	Agree and Appendix B amended.
General	SEA Directive Annex I sets out the content for environmental reports. NE considers that the inter-relationship between issues outlined in Section 3 of Scoping report should be fully addressed in SA	Natural England	Agree, will be taken into account in SA.
General	Natural England considers that the Scoping Report generally covers the key areas of nature conservation and natural landscapes, but access should be more fully addressed. One of NEs campaigns focuses on the enjoyment of the natural environment , where research shows that experiencing nature in the outdoors and participating in physical activity in the natural environment can contribute to people's health	Natural England	Agree, will be taken into account in SA.
General	NE considers that Green Infrastructure (GI) – the network of formal and informal green spaces and related environmental assets can underpin the sustainability of communities. Green Infrastructure planning has a vital role in protecting, enhancing and extending the network of green spaces at the local level. Green infrastructure can fulfil many functions, key ones being the provision of opportunities for climate change adaptation for example through the provision of corridors for wildlife movement and opportunities for recreation and leisure giving benefits for health and well-being. Through the maintenance and enhancement of the connectivity and functions in the GI network there are potential opportunities to provide benefits for the landscape, recreation and biodiversity.	Natural England	Agree, will be taken into account in SA.
General	1. Water resources mentioned. Suggest adding *Energy resources* STEERglobal has proposed that reduction of energy usage/wastage should be a key element of the core strategy. As part of a local/national/global strategy this would lead to improvements of well-being in the area by raising disposable incomes because of the energy price reductions possible with reduced demand. Such an increase in disposable incomes could also be helped locally by **Council tax/rate reduction incentives/low interest loans** for certain income groups, businesses and house types. If the national strategy was to be accepted by UK Treasury policymakers inflation could be dramatically reduced by directing **national and personal funds into energy saving proposals** that invest for the long term - thereby solving the problems of older buildings and stimulating the economy on the brink of recession in June 2008. 2. Building design. See "Thermal mass .." – use this to enhance solar/renewable energy	Ian Greenwood – STEER Global Group	Comments noted and will be taken into account, particularly in the appraisal of a more detailed spatial option and supporting policies.



Para	Comment	Received by	Response
	3. Renewable energy would also be assisted as stated in STEERglobal Case Study for renewable energy document attached. (Also it would be much more effective if Thermal mass retained in an Energy Envelope, see below and attachments). 4. Current initiatives such as cavity wall insulation appear to be coming to the end of their usefulness having been around for several years. New funding need to kick-start wider use of Thermal mass, thereby assisting regeneration without community displacement and avoiding widespread demolition and waste of energy. Similar to Bham's "Envelope Scheme" in 1980s an Energy Envelope scheme could now progress. 21. Learning and skills. Craft skill deficit. Enquiries some time ago revealed lack of night school provision for carpentry etc. Also the youngest people need to be allowed to get excited very early about using their hands. One idea was to harness people in older peoples centres by providing "sheds" i.e. workshops where they can do all sorts of activities and share knowledge, but also where children can go after school. This would be a cheap way of motivating and supervising young and old alike harnessing them to help each other - with exciting implications to reduce vandalism and mental ill-health. Overall comment - there should be an almost complete embargo on development of green spaces. Rather the emphasis should shift to educate people to grow their own where possible – even on windowsills, with corresponding health improvement utilising green herbs in the diet (herbs do not generally require the use of pesticides). To get people out into fresh air - exercise and connection to others socially by walking helps to keep a check on the environment and improve appearances. Herbs help by getting people out to pick them from the garden/balcony to mix in with their lettuce- water and pesticide expensive lettuce - reducing local people's costs and multiplying the nutritional value by a factor of 4!		





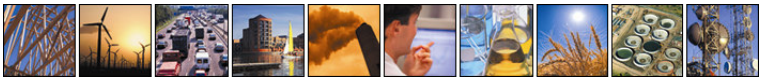
Appendix D
Report of Birmingham SA Stakeholder Workshop

Introduction and approach

In January 2009 an SA workshop was held with key stakeholders representing organisations with specific environmental, economic and social interests (Table D1). The aim of the workshop was to discuss stakeholder views on potential impacts arising from the Core Strategy and to explore how these impacts might be mitigated, focussing on the spatial vision, objectives and options presented in BCC's Issues and Options Report.

Table D1 Attendees at workshop

Attendees*	Key responsibility	Organisation
Lead officers for Core Strategy		
Martin Eade	Planning strategy	BCC
David Ward	Sustainable development	BCC
Carol Grove	Administration	BCC
SA Workshop facilitators		
Robert Deanwood	Natural and historic environment	Entec
Tim Perkins	Local communities	Entec
Claire Barnett	Climate change	Entec
David Fovargue	Housing and economic growth	Entec
Key professionals		
Nick Grayson	Leisure services	BCC
Amrik Dhesy	Learning and skills	Learning & Skills Council (LSC)
Keith Budden	Birmingham Environmental Partnership (BEP)	BEP
Veronica Docherty	Economic Development Strategy	BCC
Chris Lancaster	Regeneration	BCC
Khazi Hussain	Regional economic growth	Advantage West Midlands (AWM)
Rohan Torkildsen	Heritage	English Heritage
Neil Hansen	Highways	Highways Agency
Chris Parry	Wildlife	Wildlife Trust for Birmingham and the Black Country



Attendees*	Key responsibility	Organisation
Ruth Metcalf	Ecology and biodiversity	Natural England
Audrey Miller	Localisation	Localise West Midlands
Winnie Adams Bell	Equality	BCC
Ann Osala	Transportation strategy	BCC
Mike Hodder	Archaeology and planning	BCC
Ben Foster	Environment	Friends of the Earth (FoE)
Jill Crowe	Housing	BCC
Sajeela Naseer	Regulatory services	BCC

*An invitation was sent to 22 organisations

This workshop, facilitated by Entec, followed consultation on the SA Scoping Report (April-May 2008) and the Core Strategy Issues and Options Report (September-October 2008) and provided the opportunity for stakeholders to reflect on the alignment between SA objectives and emerging Core Strategy policy. Figure D1 illustrates the overall approach to the SA Workshop.

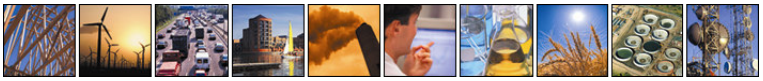
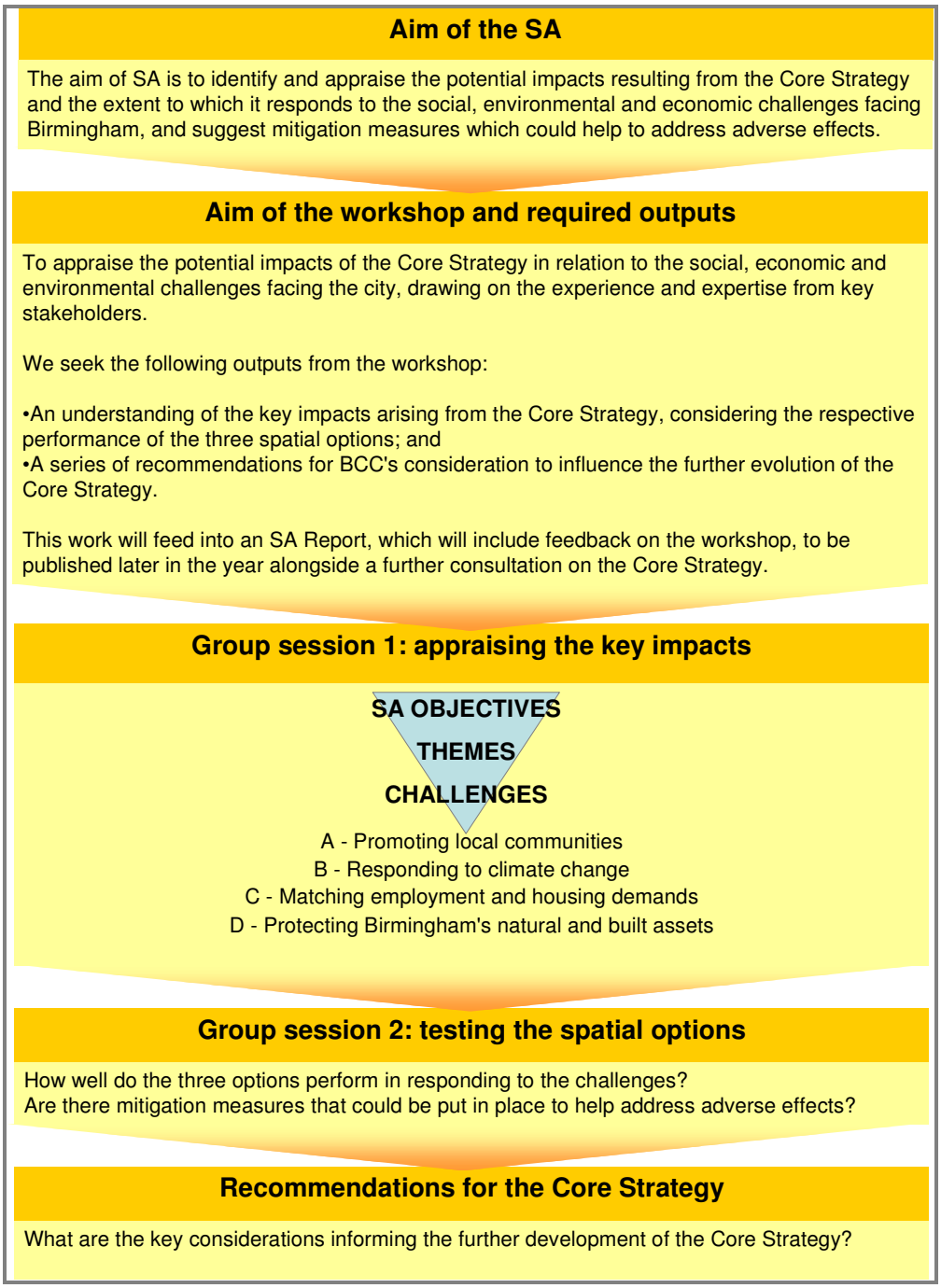
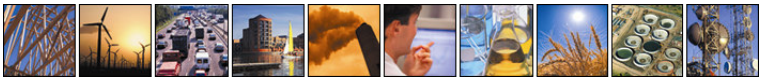


Figure D1 Approach to SA Workshop



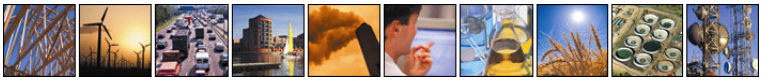


Mitigating impacts through the Core Strategy

The aim of the first part of the workshop was to explore the key impacts arising from the Core Strategy and to seek stakeholder views on how these impacts might be mitigated. Table D2 provides a summary of the mitigation measures identified by stakeholders by SA Theme.

Table D2 Summary of potential mitigation measures and opportunities by SA Theme

SA Theme	Potential mitigation and opportunities for the Core Strategy
1. Natural resources and waste	Provide new buildings which are adaptive to different uses over time to reduce the need to demolish and rebuild. This will help to ensure a more efficient use of resources in the longer term. Maximising the reuse of vacant buildings and ensuring a more efficient use of the existing housing stock. One particular opportunity identified included providing for more 'choice' so that the potential of *existing* underused 3-4 bedroom homes can be maximised. The example of a retired person living alone in a larger home but wanting to move to a smaller home was highlighted. The barrier to them moving is the 'choice' for them to be able to move to a smaller property, of the right type and in the right location. A key piece of evidence to draw on will be the older persons housing strategy. Providing a phasing policy so that where greenfield land is required, it is only brought forward once the brownfield resource has been exhausted.
2. Carbon dioxide emissions	The Core Strategy should include a commitment to both reducing energy use through more efficient buildings (using existing policy tools such as the Code for Sustainable Homes) and maximising the use of zero and low carbon energy infrastructure (linked to multi-utility services companies). The co-location of homes, jobs, services and community facilities was also identified as a key priority for the Core Strategy, in order to reduce people's need to travel and thus emissions associated with transport. The Core Strategy can only provide the framework for reducing emission, alongside wider social and economic policy which will also be necessary. There was some confusion over what targets for reducing CO_2 emissions the Council was working too – BCC needs to be clear about what it is seeking to achieve and how it can do so through the Core Strategy.
3. Climate change adaptation	Ensuring adaptation to climate change needs to be responded to with some urgency with policies for adaptation included in the Core Strategy (providing trees, covered streets, sustainable urban drainage etc). Although the Core Strategy will only plan for the next 15 years, policies for adaptation need to be considered in the longer term given the impact that climate change could have on Birmingham well into the future. There is the opportunity to provide the framework for adaptation *now.*
4. Historic environment, landscape, biodiversity and geodiversity	Development of the spatial strategy needs to better reflect the wealth of available evidence covering the historic environment, landscape, biodiversity and geodiversity. There is an urgent need to develop a more sophisticated approach to spatial planning and the management of natural and historic resources. To respond, the Core Strategy should be developed around a green infrastructure strategy, which looks a multi-functionality to consider responses to a range of issues, including biodiversity, recreation, heritage protection, local character and connectivity.
5. Pollution	*This Theme was not really explored at a detailed level in the workshop, given that factors linked to emissions and the wider environment were considered under SA Themes 1 and 2.*



SA Theme	Potential mitigation and opportunities for the Core Strategy
6. Economic growth	The Core Strategy needs to consider the level and type of growth to plan for and how deliverable this will be in light of the current recessions. New employment opportunities need to be closely linked with new housing growth to ensure self-containment and balanced communities. Given the significance of BIA to the City and wider regional economy, it was suggested that public transport links to BIA need to be improved, particularly in terms of bus links from outside of the city centre. In order to realise the full potential of the Central Technology Belt, it was also argued that this should be extended further north, towards Perry Barr.
7. Communities, healthy lifestyles and equality	There are significant opportunities to deliver substantial community benefits from the levels of growth proposed. It was acknowledged that it will not be possible to intervene everywhere, but to ensure that investment is targeted to those communities that need it most it was suggested that more local centres and sustainable urban neighbourhoods may need to be identified. Developers should be required to link in national employment/training schemes to provide for the local population through Section 106 agreements to help ensure that new employment opportunities meet the needs of the City's residents. This is because there is a perceived trend of people outside of the city serving those employment opportunities created as part of regeneration schemes. This risks undermining efforts to reduce unemployment in the affected communities as well as promoting unsustainable travel patterns (although it was recognised that given Birmingham's strategic role within the region it will still need to draw workers from a larger catchment to some degree, with its travel to work area extending as far north as Tamworth and as far south as Redditch). The potential to use existing and new schools as community 'hubs' was also identified.
8. Housing	There is an identified shortage of family-sized homes (3-4 bedrooms) across the City, including a shortage of 'aspirational' housing (housing that attracts those in professional and managerial jobs). Providing for more of these types of homes, in the right locations linked to existing and proposed employment areas (for example, new aspirational housing along the Central Technology Belt) is considered important. Provide for new affordable housing, considering both the overall proportion that could be delivered as part of overall housing growth and the level that could be achieved on specific sites and areas to respond to specific local needs. The Strategic Housing Market Area Assessment will be the key piece of evidence here. As well as affordable housing there is also a need to provide for low-cost market in terms of housing key workers and also in retaining graduates in the city. Higher density development within the city does not just have to mean new apartments (which only meet the needs of a particular portion of the population - typically young professionals with no dependants). 3-storey town houses could provide family housing at higher densities for example.

Identifying a preferred option: opportunities and threats

At the SA workshop we explored stakeholder views on their preferred option. There was no real consensus about what the preferred option is *overall* but there were a range of comments on how they perform in relation to the respective SA Themes. Notwithstanding this, a lot of the discussions centred on how the option would actually be delivered in terms of specifics of policies and mitigation measures that needs to be put in place (set out in **Table D1**). **Table D2** therefore sets out the key opportunities and threats identified at the workshop relating to each of the options for BCC's consideration. The identification of more threats under an option does not necessarily mean that it is 'worse' than the other options, just that stakeholders saw it as more of a potential issue. Both the opportunities and threats could therefore be present to some degree across all of the options.

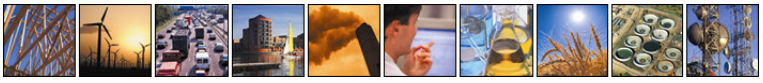
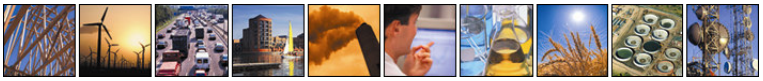


Table D2 Opportunities and threats relating to options

	Option 1	Option 2a/2b	Option 3
OPPORTUNITIES	▪ Likely to result in least emissions from transport ▪ Likely to be better for the natural and built environment in terms of the ability to respond to the impacts of development (i.e. the scale of development to mitigate is less than under 2 and 3) ▪ To resuse underused and vacant properties, particularly houses, rather than releasing greenfield sites ▪ Likely to be more deliverable than higher growth options	▪ More potential to respond to climate change adaptation by providing a balance between over intensification (Option 1) and over extension of the City (Option 2) ▪ Higher growth being able to deliver more in terms of public transport and community benefits, particularly 2b (see also Option 3) ▪ More potential to deliver truly sustainable neighbourhoods ▪ Best options in terms of delivering regeneration of areas and helping deprived communities	▪ Higher growth being able to enhance Birmingham's role as the 'regional capital' ▪ Higher growth being able to deliver more in terms of public transport and community benefits (similar to Option 2) ▪ Green Belt release could be realistic if new development is built to a high quality ▪ More potential to deliver truly sustainable neighbourhoods
THREATS	▪ Over-intensification of mature suburbs threatening the character of the built environment ▪ Focussing development on the city centre could exacerbate the urban heat island effect when considering the impacts of climate change	▪ Are these levels of growth sufficient to meet housing and economic needs? Particularly when compared with Option 3 ▪ Is Option 2b deliverable, given the levels of growth proposed within the main urban area? ▪ Option 2b implies greater densities and there could be higher levels of emissions and more run-off	▪ Greenfield land being developed at the expense of brownfield land within the city centre, undermining regeneration efforts and an efficient use of land ▪ Transport infrastructure lacking to deliver this higher growth ▪ Less green space and less capacity for responding to climate change ▪ Is this option deliverable within current recession? Particularly in terms of economic and housing growth ▪ Least potential to create new communities given the focus on greenfield development ▪ Undermines need to bring back empty homes and vacant buildings back into use



Notes to the workshop sessions

Natural and cultural heritage

SESSION 1: ISSUES AND RESPONSES

Evidence and Understanding

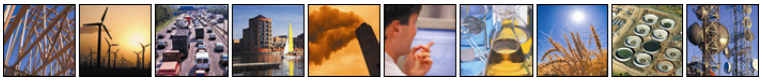
- The City and the region is evidence-rich and understanding poor e.g. sense of place. Urgent need to develop a more sophisticated approach to planning and managing natural resources, reflecting their interconnectedness.
- Mapping of green infrastructure fundamental – use multifunctionality to secure wins across a range of issues: biodiversity, recreation, heritage protection, local character and connectivity
- Natural synergies between topics need to be exploited and translated into policy and practice
- Cross-boundary impacts and opportunities exist, particularly with the Black Country and Solihull – plenty of opportunities to make more of these links to mutual benefit.

Context

- Birmingham constituency structure
- Local knowledge/character/aspirations as a guide
- The majority of assets are not designated e.g. street patterns, therefore responses need to subtle and tailored to localities
- Multiple receptors/generators e.g. noise, contamination – need for a sophisticated response to deal with these, particularly at a local scale
- Challenge of 'big-city' inertia which doesn't help detailed responses to local challenges
- Particular challenge of joining up delivery across departments

Responses

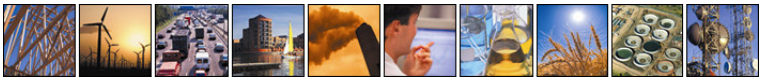
- Danger of ad hoc responses, Green-infrastructure strategy development as a framework for growth → standard-setting
- Local capacity and sensitivity studies
- Making the most of what we already have – building back character to localities using well-developed tools
- Respond to the intensity of growth, through tailored priorities, demonstrating the burden will not be increased. Danger of ad-hoc planning.
- Importance of joined-up planning – does city planning talk to constituency structures?
- Use experience from other areas, particularly links with the Black Country and emerging GI strategies across the country. Also need for cross-boundary solutions to issues e.g. air quality
- Use existing structures and tools e.g. Historic Landscape Characterisation; inter-urban officer groups; policy tools (mature suburbs SPD), AAPs
- Making links to community well-being essential through GI development, for example
- Historic/existing environment as a reference point for new development/indicator of design quality
- Components of all options will have a role to play in producing the most sustainable outcome from a natural resource protection point of view



SESSION 2: OPTION ASSESSMENT

	1	2A	2B	3	Notes
Natural & Built Environment	4	3	2	1	The impact of the options is a matter of scale and degree from Option 1 to 3, with issues common to all. Fundamentals need to in place to address the impacts associated with all the options – land remediation strategy; Green Infrastructure strategy & network; protection/ management/ enhancement/ creation of assets; design solutions to offset permanent negative impacts; better understanding of impacts of change on local character.
Housing & Employment	2			4	Danger of over-intensification (suburbs and employment land) with Option 1, without opportunity to realise a radical change in practice – lack of momentum/scale. Best opportunities for change are associated with Option 3, provided that regeneration areas are properly attended to and environmental technologies (e.g. SUDS) are properly used. Green Belt release is realistic because of the potential quality of the resultant development.
Communities	2		4	4	Opportunities in Options 2B & 3 for the development of properly sustainable neighbourhoods, making choices easier e.g. transport provision and use. More intensive local neighbourhoods can be combined with retention of the Green Belt. Some merits in Option 1 e.g. efficiencies of high density development.
Climate Change		4	4		Middle options present the best opportunities for the delivery of sustainable development overall, a balance between damaging intensification and over-extension of the City. A step-change in practice could be possible without unnecessary damage to the Green Belt. Option 2 presents the best chance of planning the conurbation as a whole, through GI for example. Need to ensure that Option 2 entails wise resource use. Option 1 is insufficiently radical.

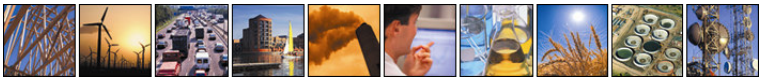
Scoring: 4 = most preferred, 1 = least preferred



Housing and employment

SESSION 1: ISSUES & RESPONSES

- Shortage of family-sized homes (3/4-bed) across the city. The issue here is not necessarily just about providing new 3/4 bed homes across the city, providing more 2-bed homes for example may free-up existing and underused large homes. The example of an elderly person living alone in a 3/4 bed house, but unable to move because there is an insufficient supply of the right type of smaller homes for them to move to – they need both the opportunity and choice to do so.
- When considering areas such as the Central Technology Belt (with the suggestion that this could be extended further north to Perry Bar), the provision of aspirational housing is seen as important to provide homes for the people servicing these jobs, rather than them having to travel from outside of the City.
- A potential conflict between Birmingham's 'strategic' role within the West Midlands and the needs of its communities. For example, new employment is fundamental in underpinning the regeneration of particular areas, however where such development is focussed around highly skilled and professional services, it does not necessarily match the skills on offer within those existing communities. So, the jobs provided by new employment development may not match the skills on offer within a community. These jobs are potentially served by people who live outside of Birmingham. This engenders some antipathy towards regeneration schemes from local communities. At the same time, Birmingham has a large travel to work area and so it needs to be recognised that it is providing jobs for the wider region – as the regional capital.
- In terms of regeneration responses, it will not be possible to intervene everywhere; there will still need to be a focus on particular priority areas.
- Low take-up of shared ownership schemes, increasingly less viable.
- More local centres identified in the Core Strategy, linking with the local centres strategy produced by the Council.
- Cross-boundary issues are a significant consideration, when considering both housing and employment demands. What are the strategies of neighbouring authorities? Key cross-boundary linkages include:
    - Urban living area (Birmingham and Sandwell Pathfinder): extending into Sandwell/Black County
    - Eastern Corridor: extending into Solihull/North Warwickshire
    - Longbridge: extending into Bromsgrove
    - Airport: extending into Solihull MBC
- 2004-based projections suggest a need for over 80,000 new homes in Birmingham. The range in the Core Strategy (for between 50,000-65,000) is therefore some way off, although some of this is due to policy decisions at the regional level (i.e. to focus more development on the Black Country).



- Accessibility to public transport is weak, and this is seen as a major barrier to people accessing job, services and the town centre. Some in the poorer areas will travel to Merry Hill for example, rather than BCC (although this will also relate to distances, catchments and cross-boundary relationships)
- Birmingham airport is clearly important to the future of the city, enhancing its role as an international city, however the links, particularly in terms of public transport (buses specifically) from the city centre to the airport are considered weak. One of the arguments in support of the airport is that it will reduce trips within England – i.e. those people in the Birmingham area having to travel to Manchester or Heathrow for flights to international destinations.
- Density of new development is an important issue. The perception that high density development could restrict the provision of family homes was dismissed. Higher densities could still meet the needs of families – thinking about 3 storey town houses for example. We need to challenge opinions of what family housing is. Also a degree of uncertainty over what actually constitutes high densities.
- 30,000 on housing waiting lists – a person would have to wait over 100 years to get housed!
- Considering how reducing greenfield land could reduce pressures on employment land.
- Providing the opportunity and choice to retain graduates in Birmingham and retaining the younger population.
- The importance of matching infrastructure to growth was also discussed, and putting the public transport infrastructure in place prior to development so people are able to use these links from the start, avoiding the potential for them to settle into the trend of using cars.
- Considering the economic opportunities associated with waste and renewable energy technologies.

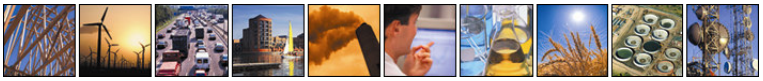
SESSION 2: OPTION ASSESSMENT

- In most cases, the higher growth options (2b and 3) were generally preferred, although there were a number of caveats relating to what is actually in demand and any greenfield release would need to be phases, to ensure that it does not come forward at the expense of brownfield land. Some also raised the point that it is not just about the overall numbers, but locations. Are the major housing areas near to the major areas of employment? (existing or proposed).

- Need to consider the impact of the options on health in more detail and the extent to which they promote healthy lifestyles (green spaces, walking and cycling etc).

- Green infrastructure is critical and this needs to be mapped. Where are the gaps? Where are the priorities for new development?

- The issue of 'deliverability' in relation to current economic conditions was also raised, but recognising that the plan is over a longer timescale and conditions may improve. Although an interesting point was made with respect to economic growth. Will the growth in financial and professional services start up again? Will the current recession mean a further restructuring of the economy? What will the economic growth areas post the current recession? How will the Core Strategy respond?



- 'Green' technologies were considered to be a potential growth area, but the suggestion was that this might not be as significant as first thought.

- The main issue that we need to reflect in the SA report is that it is hard to appraise the degree of impact that the different options will have, although there was seemingly a presumption that Option 1, which most closely resembles the current policy approach, will be insufficient.

Climate change

SESSION 1: ISSUES & OPTIONS

Key risks posed by climate change:

- Delivery of national objectives via core strategy (Climate Change Act, Energy Act, etc)
- Internal aspiration of BCC
- Lack of knowledge/understanding & need for communication
- Economic & social risks including immigration (climate refugees seeking existing ex-pat communities) and health
- Complexity of climate targets (BCC), gives a confusing message
- Core Strategy aims to stem outward migration from the city so needs to deliver a better urban environment for tackling climate impacts (trees, covered streets, SUDs, etc). Reduce traffic. Co-location of living and working space.

Current plans/polices resilient?

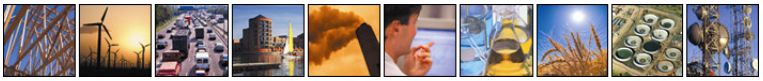
- Don't know….. too early to tell.
- "Room for improvement"
- PPS, CSH, etc make this a moving target
- Core Strategy can only deliver the framework
- Need to do something now as can't wait for next five year review . must be best endeavour now.
- Impact of regional/sub-regional impact still unclear.

Key implications for spatial planning/building design

- Mixed use. Local facilities and services. Live-work relationship
- Limit to core strategy influence over building design, can only set brad parameters
- Resource use
- Sustainable travel plans
- SUDs
- Growth of Birmingham relies on drawing others in from across the region.
- "International knowledge hub"… implications even though airport is outside BCC region. Core Strategy to deliver the spatial plan to minimise impacts. Global connectivity.

Development pressures exceed need for resilience?

- The need is for a sustainable city so approach needs to be holistic.



- Loss of green-space at what cost. Value of natural assets.

CO_2 reductions

- Core strategy must do all possible to drive down CO_2 from all contributions across Birmingham
- District heating/energy schemes
- Longer term target, not just period of Core Strategy.

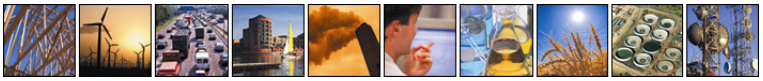
Is the quantum of development significant?

- Yes – greater density of housing, better transport, proximity to CHP, But development of brown-field sites could mean a greater carbon footprint (if including remediation costs)
- Retrofit a better option.
- Enable more sustainable choices
- Open space – community ownership?
- Need for joined up working across public sector (hospitals, schools, etc)

SESSION 2: OPTION ASSESSMENT

Scoring: 4+most preferred, 1+ least preferred

1	2A	2B	3	Notes
1	2	4	3	Decision based on assumption of per capita CO_2 reductions. Option 2b then gives the most news homes with greatest energy efficiency, etc. Can promote working and living in same area and reduce need for travel. Option 2b should include the requirement for developers to invest in retrofit of the area as well. Same for option 3 but includes negative impact of locality/likelihood of travel requirements.
2	4	3	1	Option 1: danger of a warming city. Option 3: transport infrastructure lacking. Option 2b and 2a difficult to choose between but choose 2a as preferred on assumption of energy and resource consumption being less for fewer homes. Option 2a and 2b: make local centres more sustainable, minimise impact of airport, introduce greater investment. These options also tackle more of the city.
4	3	2	1	Option 1 likely to result in least emission from travel as jobs & public transport infrastructure good. Option 3 means less green space and less capacity for tackling climate impacts although does give option of designing new sustainable communities. Option 2b implies greater housing density, higher emissions and more run off. Would like to see a checklist for adaptation/mitigation and a push for retrofit with developers putting money into existing community infrastructure.
1	2	3	4	Option 1 offers most energy efficiency but least opportunity. Decision for other options based on the assumption that this is removal/replacement of existing housing stock in sustainable urban neighbourhoods. Option 3 based on new homes as sustainable as they can be. New public transport infrastructure would benefit other residents on routes into city centre. Option 2b gives more homes so more opportunities.



Sustainable Communities

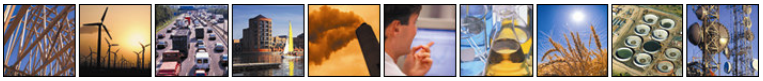
SESSION 1: ISSUES & RESPONSES

General

- SA objectives are very similar to Sustainable Community Strategy (SCS) objectives. Suggest that the two are directly aligned
- Concern that the areas identified in the Core Strategy options do not match with the 25 priority neighbourhoods in the SCS. (Contacts for PN data are Alistair Fornby and Christie Acton)

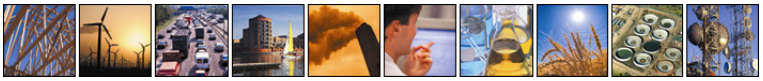
Issues

- Importance of focusing on existing deprived communities – poorer neighbourhoods also have the poorest environmental quality.
- Birmingham's approach to building in previous decades has created problems of poor quality stock e.g. Cheapside.
- Mismatch between existing skills and employment opportunities. SRB6 Community Infrastructure project used builders from outside the area.
- Community cohesion – certain parts of the city e.g. Aston have been reception areas for successive migrant communities over the years and have developed organically.
- City centre- lack of family housing, too many small apartments. Lacks community facilities to support family housing e.g. schools and recreation.
- City has strong academic sector with 4 Universities.
- Open space – there are examples of good quality open spaces in the City but also lack of access to open space in certain areas.
- Poor quality of existing housing stock- One third needs to be replaced.



Responses

- Need to build communities from the bottom up.
- Need to ensure that existing communities are not neglected at the expense of new ones. For example if new houses are being built to high Code for Sustainable Homes standards then existing homes should be upgraded too.
- Developer contributions should be used to fund improvements in existing communities.
- Use contaminated land to create new quality open spaces.
- Skills development – encourage small creative workshops, provide incubator units with larger units in the same development allowing businesses to grow in the same area.
- Work hubs – (from Holland) – People can go to a central point local to home and share workspace with other companies rather than going to work in a central company office.
- Potential for CHP and digital infrastructure. Multi Utiltity Service Companies as a way of delivering services to an area.
- Employment – developers should be required to link in national employment/training schemes to provide for the local population. Requirements to guarantee a proportion of employment opportunities for local people.
- Community cohesion – provide the right balance of support between new and existing communities. Use key places such as schools and community centres to integrate rather than segregate new communities. Shared interest groups (e.g. Friends of Parks).
- BCC organisation – more integration of different services and departments needed to deliver successful communities.
- Identify the right type and balance of housing for the needs of the population.
- Make new buildings as adaptable as possible for a variety of uses – allows flexibility to change over time.
- Need to improve accessibility to services by walking and public transport.
- Links to climate change- Potential for climate change refugees to be attracted to Birmingham-how should the city respond?



- Needs to be a commitment to achieving certain Code for Sustainable Home standard in the Core Strategy and targets for renewable energy.

SESSION 2: OPTION ASSESSMENT

Group 1 (Promoting Local Communities)

- There were differing views within the group regarding the performance of the option against this theme. Some felt that Option 3 which had more potential to deliver more development had the greatest potential for change and therefore improvements to communities (e.g. new employment opportunities/upskilling). Others felt there were difficulties in developing successful communities on Greenfield sites on the edge of the city.

- A fourth option was suggested which was based around emphasis on developing sustainable urban neighbourhoods aligned with the more deprived neighbourhoods.

- Overall there was no consensus within the group as to which of the options performed best.

- All options therefore rank equally.

Group 2 (Climate Change)

- Key to successful delivery of local communities is in capacity building and bringing more investment into existing areas (e.g. improving housing stock).

- Introduction of new infrastructure could stimulate local communities.

- Community strength is not apparent until communities affected.

- There was concern about the effect on communities of wholesale redevelopment as opposed to improving and enhancing existing areas – It was unclear from the options what the nature of the change would be.

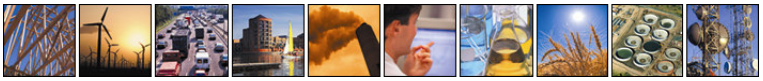
- Overall the Group felt that Option 2 (a or b) offered the best potential to promote local communities because of its focus on regeneration of existing areas.

- Option 2 would therefore score 4, with the others being ranked equally.

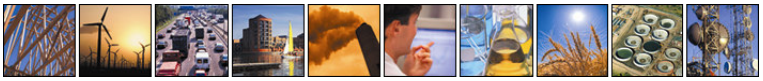
Group 3 (Environment and Resources)

- Option 3 was felt to offer least potential to create new communities with greater focus on greenfield development. Development which focused on existing historic environments to build a sense of place was felt to be a better option.

- Need to make better use of empty homes.



- Option 2a/b have the benefit of focusing on more on existing communities.
- The group had a consensus on the ranking as follows:
    - Option 2a/2b – 4
    - Option 1 – 2
    - Option 3 – 1

Group 4 (housing and employment)

- There were differing views within the group regarding the performance of the options.
- The AWM representative considered that Option 3 offered the best potential for delivering local communities due to the opportunities for change and for developing and improving communities. It was however recognised that Option 3 is more of a longer term aspiration as it will take time to deliver new communities on Greenfield land.
- The question of whether the plan should take a longer term view or concentrate on delivering needs for the plan period only was discussed with different views being expressed as to which was preferable.
- Some views were expressed that Option 2 was better as it focused on improving existing communities within the plan period.
- There was no clear consensus of the group although Options 3 and 2a/2b appeared to be favoured over Option 1.