



Greater Cambridge Local Plan

Sustainability Appraisal of Issues and Options

Prepared by LUC
December 2019

Project Title: Greater Cambridge Local Plan SA

Client: South Cambridgeshire District Council and Cambridge City Council

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A Non-Technical Summary has been produced and is available as a separate document.

1 Introduction

- 1.1 This Sustainability Appraisal Report has been prepared by LUC on behalf of South Cambridgeshire District Council and Cambridge City Council (the Councils) as part of the Sustainability Appraisal (SA) (incorporating Strategic Environmental Assessment (SEA), Health Impact Assessment (HIA) and Equalities Impact Assessment (EqIA)) of their Local Plan.
- 1.2 This report relates to the Greater Cambridge Local Plan Issues and Options document, and it should be read in conjunction with that document. The Issues and Options consultation is the first stage in the plan-making process, which seeks the opinions of stakeholders and local people as to what the key issues are that the Local Plan should seek to address. Given the broad nature of this consultation, this SA Report contains a high level commentary on the sustainability considerations for the Local Plan, in relation to the themes discussed in the Issues and Options document. SA of the more detailed options for the Local Plan will be undertaken as they are developed.

Context for the Greater Cambridge Local Plan

- 1.3 Comprising Cambridge City and South Cambridgeshire District, Greater Cambridge covers approximately 360 square miles, with a total population of 290,000 people across the city. Cambridge City and South Cambridgeshire have a unique relationship, in that South Cambridgeshire entirely surrounds Cambridge City. Greater Cambridge borders Huntingdonshire and East Cambridgeshire to the north; Central Bedfordshire to the west; North Hertfordshire, Uttlesford and Braintree to the south, and to the east, it borders St Edmundsbury in Suffolk.
- 1.4 Whilst Cambridge City is distinctly urban, South Cambridgeshire is a mainly rural district. With Cambourne in the west, Histon to the north and Sawston in the south being the most populated settlements in Greater Cambridge, after Cambridge City.
- 1.5 Cambridge is a city of international importance in terms of its world-class university, research, heritage, culture and science. Cambridge also plays a key functional role in planning terms as the dominant centre in Cambridgeshire and as a main nodal point of the Oxford-Milton Keynes-Cambridge Arc and M11 corridor.
- 1.6 As a prominent hub for research and the dominant centre of Cambridgeshire, Cambridge has strong north-south transport links to London and north Cambridgeshire via train and the M11 corridor. Approximately 23,367 people commute daily from South Cambridgeshire to the city. Whilst South Cambridgeshire currently has limited access to bus services and other more sustainable modes of transport, particularly in the more remote west and eastern parts of Greater Cambridge, the emerging Cambridgeshire and Peterborough Local Transport Plan sets out a number of measures to improve transport links in the area.
- 1.7 Greater Cambridge contains a wealth of historic assets, with over 4,000 listed buildings, 32 conservation areas and 24 registered parks and gardens across Cambridge and South Cambridgeshire. A variety of mineral resources are also

found in the Greater Cambridge Local Plan area, including sand, gravel and chalk. These extensive deposits often occur under high quality agricultural land or in areas valued for their biodiversity and landscapes, such as river valleys.

The new Local Plan

- 1.8 Cambridge City Council and South Cambridgeshire District Council have committed to preparing a joint Local Plan for their combined area, referred to as Greater Cambridge, a strand of work which originated as part of the City Deal agreement with central government established in 2014. The individual Councils both adopted separate Local Plans in September and October respectively in 2018 which set out the development needs of the local authority areas up to 2031.
- 1.9 The adopted Local Plans acknowledged the commitment to an early review of their Local Plans beginning in 2019. This decision to take forward the early review of the Local Plans was made in order to establish what impact the anticipated changed infrastructure and economic growth in the area might have on housing need and other aspects of spatial and transport planning. Further, during Examination of the individual Local Plans, a number of issues were highlighted for specific attention. These related to the assessment of housing needs, progress in delivering the development strategy and in particular the proposed new settlements and provision to meet the requirements of caravan dwellers.
- 1.10 The plan period for the Greater Cambridge Local Plan is yet to be determined, but is likely to cover the period to either 2040 or 2050. It will replace the Cambridge Local Plan (2018) and the South Cambridgeshire Local Plan (2018). The Joint Local Development Scheme 2018 sets out the timetable for plan making, with public consultation on the Issues and Options for the plan in late 2019 and submission to the Secretary of State for examination proposed to be around the end of summer 2022.

Sustainability Appraisal and Strategic Environmental Assessment

- 1.11 Sustainability Appraisal is a statutory requirement of the Planning and Compulsory Purchase Act 2004. It is designed to ensure that the plan preparation process maximises the contribution that a plan makes to sustainable development and minimises any potential adverse impacts. The SA process involves appraising the likely social, environmental and economic effects of the policies and proposals within a plan from the outset of its development.
- 1.12 Strategic Environmental Assessment (SEA) is also a statutory assessment process, required under the SEA Directive¹, transposed in the UK by the SEA Regulations (Statutory Instrument 2004, No 1633). The SEA Regulations require the formal assessment of plans and programmes which are likely to have significant effects on the environment and which set the framework for future consent of projects requiring Environmental Impact Assessment (EIA)². The purpose of SEA, as defined in Article 1 of the SEA Directive is “to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into

¹ SEA Directive 2001/42/EC

² Under EU Directives 85/337/EEC and 97/11/EC concerning EIA.

the preparation and adoption of plans...with a view to promoting sustainable development”.

- 1.13 SEA and SA are separate processes but have similar aims and objectives. Simply put, SEA focuses on the likely environmental effects of a plan whilst SA includes a wider range of considerations, extending to social and economic impacts. National Planning Practice Guidance³ shows how it is possible to satisfy both requirements by undertaking a joint SA/SEA process, and to present an SA Report that incorporates the requirements of the SEA Regulations. The SA/SEA of the Greater Cambridge Local Plan is being undertaken using this integrated approach and throughout this report the abbreviation ‘SA’ should therefore be taken to refer to ‘SA incorporating the requirements of SEA’.
- 1.14 **Table 1.1** below signposts how the requirements of the SEA Regulations have been met within this report.

Table 1.1: Requirements of the SEA Regulations and where these have been addressed in this SA Report

SEA Regulations Requirements	Where covered in this SA Report
Preparation of an environmental report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated (Reg. 12). The information to be given is (Schedule 2):	
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes	See Scoping Report.
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme	See Scoping Report.
c) The environmental characteristics of areas likely to be significantly affected	See Scoping Report.
d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.	See Scoping Report.
e) The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation	See Scoping Report.

³ <http://planningguidance.planningportal.gov.uk/>

SEA Regulations Requirements	Where covered in this SA Report
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects)	Chapter 3
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	This will be addressed in later iterations of the SA when preferred options have been identified.
h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Chapter 2 explains how the Councils identified the themes and spatial strategies considered. No decisions have yet been made with regards to which options are to be taken forward.
i) a description of measures envisaged concerning monitoring in accordance with Reg. 17;	This will be addressed in later iterations of the SA when preferred options have been identified.
j) a non-technical summary of the information provided under the above headings	A separate non-technical summary document is available alongside this document.
The report shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Reg. 12(3))	Addressed throughout this SA Report.
<p>Consultation:</p> <ul style="list-style-type: none"> authorities with environmental responsibility, when deciding on the scope and level of detail of the information which must be included in the environmental report (Reg. 12(5)) 	The SA Scoping Report will be published for consultation alongside this document.

SEA Regulations Requirements	Where covered in this SA Report
<ul style="list-style-type: none"> authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Reg. 13) 	<p>This SA Report is being published for consultation alongside the Issues and Options document and the SA Scoping Report.</p>
<ul style="list-style-type: none"> other EU Member States, where the implementation of the plan or programme is likely to have significant effects on the environment of that country (Reg. 14). 	<p>N/A</p>
<p>Taking the environmental report and the results of the consultations into account in decision-making (Reg. 16)</p>	
<p>Provision of information on the decision: When the plan or programme is adopted, the public and any countries consulted under Reg. 14 must be informed and the following made available to those so informed:</p> <ul style="list-style-type: none"> the plan or programme as adopted a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report, the opinions expressed and the results of consultations entered into have been taken into account, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and the measures decided concerning monitoring 	<p>To be addressed after the Local Plan is adopted.</p>
<p>Monitoring of the significant environmental effects of the plan's or programme's implementation (Reg. 17)</p>	<p>To be addressed after the Local Plan is adopted.</p>
<p>Quality assurance: environmental reports should be of a sufficient standard to meet the requirements of the SEA Directive.</p>	<p>This report has been produced in line with current guidance and good practice for SEA/SA and this table demonstrates where the requirements of the SEA Directive have been met.</p>

1.15 As well as incorporating SEA, the SA also incorporates Health Impact Assessment (HIA) and Equalities Impact Assessment (EqIA) as set out below.

Health Impact Assessment

1.16 Health Impact Assessment (HIA) aims to ensure that health-related issues are integrated into the plan-making process. HIA of the Greater Cambridge Local Plan

will be carried out and integrated into the SA and will make recommendations for how the health-related impacts of the Local Plan can be optimised as the options are developed into detailed policies.

Equalities Impact Assessment

- 1.17 The requirement to undertake formal Equalities Impact Assessment (EqIA) of plans was introduced in the Equality Act 2010, but was abolished in 2012. Despite this, authorities are still required to have regard to the provisions of the Equality Act, namely the Public Sector Duty which requires public authorities to have due regard for equalities considerations when exercising their functions. The SA will consider whether the Local Plan is likely to disproportionately affect any groups with particular 'protected characteristics' under the Equality Act, as well as whether the Local Plan may disproportionately affect any other groups, such as different socio-economic groups.

Habitats Regulations Assessment

- 1.18 The requirement to undertake Habitats Regulations Assessment (HRA) of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010 and again in 2012 and 2017⁴. The Regulations translate Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and 79/409/EEC (Birds Directive) into UK law. The purpose of HRA is to assess the impacts of a land-use plan against the conservation objectives of a European Site and to ascertain whether it would adversely affect the integrity of that site.
- 1.19 The HRA will be undertaken separately but the findings will be taken into account in the SA where relevant (for example to inform judgements about the likely effects of potential development locations on biodiversity).

Structure of this report

- 1.20 This section has introduced the SA process for the Greater Cambridge Local Plan. The remainder of the report is structured into the following sections:
- **Chapter 2: Methodology** describes the approach that is being taken to the SA of the Greater Cambridge Local Plan.
 - **Chapter 3: Sustainability Appraisal Findings** presents the SA findings for the options set out in the Issues and Options document.
 - **Chapter 1: Conclusions** summarises the key findings from the SA of the Issues and Options document and describes the next steps to be undertaken.

⁴ *The Conservation of Habitats and Species Regulations 2017* (Statutory Instrument 2017 No. 1012) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments.

2 Methodology

- 2.1 In addition to complying with legal requirements, the approach being taken to the SA of the Greater Cambridge Local Plan is based on current best practice and the guidance on SA/SEA set out in the national Planning Practice Guidance, which involves carrying out SA as an integral part of the plan-making process. **Figure 2.1** below sets out the main stages of the plan-making process and shows how these correspond to the SA process.

Figure 2.1: Corresponding stages in plan making and SA

Local Plan Step 1: Evidence Gathering and engagement
SA stages and tasks
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope <ul style="list-style-type: none"> • 1: Identifying other relevant policies, plans and programmes, and sustainability objectives • 2: Collecting baseline information • 3: Identifying sustainability issues and problems • 4: Developing the SA framework • 5: Consulting on the scope of the SA
Local Plan Step 2: Production
SA stages and tasks
Stage B: Developing and refining options and assessing effects <ul style="list-style-type: none"> • 1: Testing the Local Plan objectives against the SA framework • 2: Developing the Local Plan options • 3: Evaluating the effects of the Local Plan • 4: Considering ways of mitigating adverse effects and maximising beneficial effects • 5: Proposing measures to monitor the significant effects of implementing the Local Plan
Stage C: Preparing the Sustainability Appraisal Report <ul style="list-style-type: none"> • 1: Preparing the SA Report
Stage D: Seek representations on the Local Plan and the Sustainability Appraisal Report <ul style="list-style-type: none"> • 1: Public participation on Local Plan and the SA Report • 2(i): Appraising significant changes
Local Plan Step 3: Examination
SA stages and tasks
<ul style="list-style-type: none"> • 2(ii): Appraising significant changes resulting from representations
Local Plan Step 4 & 5: Adoption and Monitoring
SA stages and tasks
<ul style="list-style-type: none"> • 3: Making decisions and providing information
Stage E: Monitoring the significant effects of implementing the Local Plan <ul style="list-style-type: none"> • 1: Finalising aims and methods for monitoring • 2: Responding to adverse effects

- 2.2 The sections below describe the approach that has been taken to the SA of the Greater Cambridge Local Plan to date and provide information on the subsequent stages of the process.

SA Stage A: Scoping

- 2.3 The SA process began in September 2019 with the production of a Scoping Report for the Greater Cambridge Local Plan.
- 2.4 The Scoping stage of the SA involves understanding the social, economic and environmental baseline for the plan area as well as the sustainability policy context and key sustainability issues. The Scoping Report presented the outputs of the following tasks:
- Policies, plans and programmes of relevance to the Local Plan were identified and the relationships between them and the Local Plan and the SA were considered, enabling any potential synergies to be exploited and any potential inconsistencies and incompatibilities to be identified and addressed.
 - Baseline information was collected on environmental, social and economic issues in Greater Cambridge. This baseline information provides the basis for predicting and monitoring the likely effects of options for policies and site allocations and helps to identify alternative ways of dealing with any adverse effects identified.
 - Key sustainability issues for Greater Cambridge were identified.
 - A Sustainability Appraisal framework was presented, setting out the SA objectives against which options and subsequently policies will be appraised. The SA framework provides a way in which the sustainability impacts of implementing a plan can be described, analysed and compared. It comprises a series of sustainability objectives and associated sub-questions that can be used to 'interrogate' options and draft policies during the plan-making process. During the SA, the performances of the plan options (and later, policies) are assessed against these SA objectives and sub-questions.
- 2.5 The SA Scoping Report also sets out information about the methodology for this and later stages of the SA, including proposed criteria for the appraisal of site options. **Table 2.1** presents the SA framework for the Greater Cambridge Local Plan, which includes 15 SA objectives along with their associated appraisal questions. The table also shows how all of the 'SEA topics' (as listed in Schedule 2 of the SEA Regulations) have been covered by the SA objectives, reflecting the fact that an integrated approach is being taken to the SA and SEA of the Local Plan.
- 2.6 Public and stakeholder participation is an important part of the SA and wider plan-making processes. It helps to ensure that the SA Report is robust and has due regard for all appropriate information that will support the plan in making a contribution to sustainable development. The Scoping Report will be consulted upon alongside the Issues and Options document and this SA Report and comments received will be addressed at the next stage of SA.

Table 2.1: SA Framework for the Greater Cambridge Local Plan

SA Objective	Appraisal questions	Relevant SEA Topics
<p>SA 1: Housing</p> <p>To ensure that everyone has the opportunity to live in a decent, well-designed, sustainably constructed and affordable home.</p>	<p>SA 1.1: Does the Plan provide for the local housing need of Greater Cambridge?</p> <p>SA 1.2: Does the Plan deliver the range of types, tenures that Greater Cambridge needs over the plan period?</p> <p>SA 1.3: Does the Plan increase the supply of affordable homes in both urban and rural areas?</p> <p>SA 1.4: Does the Plan provide for the housing needs of both an ageing and young population based on locational needs?</p> <p>SA 1.5: Does the Plan provide for specialist housing needs, including that of the student population and Gypsies and Travellers?</p>	<p>Population, Human Health and Material Assets</p>
<p>SA 2: Access to services and facilities</p> <p>To maintain and improve access to centres of services and facilities including health centres and education.</p>	<p>SA 2.1: Does the Plan support the existing city, district, local, neighbourhood, rural and minor rural centres?</p> <p>SA 2.2: Does the Plan provide for sufficient local services and facilities to support new and growing communities (e.g. schools, employment training and lifetime learning facilities, health facilities, sport and recreation, accessible green space and services in local centres)?</p> <p>SA 2.3: Does the Plan provide for development within proximity to existing or new services and facilities that are accessible for all?</p>	<p>Population, Human Health and Material Assets</p>
<p>SA 3: Social Inclusion and Equalities</p> <p>To encourage social inclusion, strengthen community cohesion, and advance equality between those who share a</p>	<p>SA 3.1: Does the Plan facilitate the integration of new neighbourhoods with existing neighbourhoods?</p> <p>SA 3.2: Does the Plan promote developments that benefit and are used by existing and new residents in Greater Cambridge, particularly for Greater Cambridge's most deprived areas?</p> <p>SA 3.3: Does the Plan meet the needs of specific groups in Greater</p>	<p>Population, Human Health and Material Assets</p>

SA Objective	Appraisal questions	Relevant SEA Topics
protected characteristic (Equality Act 2010) and those who do not.	<p>Cambridge, including those with protected characteristics and the needs of a growing and ageing population?</p> <p>SA 3.4: Does the Plan promote the vitality and viability of Greater Cambridge's city, district, local, neighbourhood, rural and minor rural centres through social and cultural initiatives?</p> <p>SA 3.5: Does the Plan help to support high levels of pedestrian activity/ outdoor interaction, where people mix?</p> <p>SA 3.6: Does the Plan remove or reduce disadvantages suffered by people due to their protected characteristics?</p>	
<p>SA 4: Health</p> <p>To improve public health, safety and wellbeing and reduce health inequalities.</p>	<p>SA 4.1: Does the Plan promote health and wellbeing and encourage healthy lifestyles by maintaining, connecting, creating and enhancing multifunctional open spaces, green infrastructure, and recreation and sports facilities and by providing access to recreational opportunities in the countryside?</p> <p>SA 4.2 Does the Plan promote healthy lifestyle choices by encouraging and facilitating walking and cycling, including provision of dedicated cycleways, as well as permeable and legible streets?</p> <p>SA 4.3: Does the Plan safeguard human health and well-being by promoting climate change resilience through sustainable siting, design, landscaping and infrastructure, particularly green infrastructure?</p> <p>SA 4.4: Does the Plan provide sufficient access to local health services and facilities (e.g. health centres and hospitals)?</p> <p>SA 4.5: Does the Plan encourage local food growing?</p> <p>SA 4.6: Does the Plan promote mental wellbeing through the design of attractive places and opportunities for social interaction?</p> <p>SA 4.7: Does the Plan promote principles of good urban design to limit the</p>	Population, Human Health and Climatic Factors

SA Objective	Appraisal questions	Relevant SEA Topics
	<p>potential for crime in Greater Cambridge?</p> <p>SA 4.8: Does the Plan contribute to a reduction in the fear of crime?</p>	
<p>SA 5: Biodiversity and geodiversity</p> <p>To conserve, enhance, restore and connect wildlife, habitats, species and/or sites of biodiversity or geological interest.</p>	<p>SA 5.1: Does the Plan avoid adverse effects on internationally and nationally designated biodiversity and geodiversity assets within and outside Greater Cambridge?</p> <p>SA 5.2: Does the Plan avoid adverse effects on locally designated biodiversity and geodiversity assets within and outside Greater Cambridge, including ancient woodland?</p> <p>SA 5.3: Does the Plan seek to protect and enhance ecological networks, including opportunity areas (buffer and stepping stone opportunities) identified through biodiversity opportunity mapping, promoting the achievement of biodiversity net gain, whilst taking into account the impacts of climate change?</p> <p>SA 5.4: Does the Plan provide and manage opportunities for people to come into contact with wildlife whilst encouraging respect for and raising awareness of the sensitivity of biodiversity?</p>	<p>Biodiversity, Flora, Fauna and Human Health</p>
<p>SA 6: Landscape and townscape</p> <p>To conserve and enhance the character and distinctiveness of Greater Cambridge's landscapes and townscapes, maintaining and strengthening local distinctiveness and sense of place.</p>	<p>SA 6.1: Does the Plan protect and enhance Greater Cambridge's sensitive, special landscapes, such as fens, and historic settlements?</p> <p>SA 6.2: Does the Plan protect and enhance Greater Cambridge's natural environment assets (including parks and green spaces, common land, woodland and forest reserves) and public realm?</p> <p>SA 6.3: Does the Plan protect the setting of the city of Cambridge, including key views into and out of the city?</p>	<p>Landscape, Biodiversity, Flora, Fauna and Cultural Heritage</p>
<p>SA 7: Historic environment</p>	<p>SA 7.1: Does the Plan conserve and enhance Greater Cambridge's designated heritage assets, including their setting and their contribution to</p>	<p>Cultural Heritage, Architectural and</p>

SA Objective	Appraisal questions	Relevant SEA Topics
<p>To conserve and/or enhance the qualities, fabric, setting and accessibility of Greater Cambridge's historic environment.</p>	<p>wider local character and distinctiveness?</p> <p>SA 7.2: Does the Plan conserve and enhance Greater Cambridge's non-designated heritage assets, including their setting and their contribution to wider local character and distinctiveness?</p> <p>SA 7.3: Does the Plan safeguard, and where possible enhance, the historic fabric of the city of Cambridge?</p> <p>SA 7.4: Does the Plan provide opportunities for improvements to the conservation, management and enhancement of Greater Cambridge's heritage assets, particularly heritage at risk?</p> <p>SA 7.5: Does the Plan promote access to, as well as enjoyment and understanding of, the local historic environment for Greater Cambridge's residents and visitors?</p>	<p>Archaeological Heritage</p>
<p>SA 8: Efficient use of land To make efficient use of Greater Cambridge's land resources through the re-use of previously developed land and conserve its soils.</p>	<p>SA 8.1: Does the Plan maximise the provision of housing and employment development on previously developed land?</p> <p>SA 8.2: Does the Plan ensure contaminated land is remediated where appropriate?</p> <p>SA 8.3: Does the Plan minimise the loss of best and most versatile agricultural land to development?</p>	<p>Soil and Material Assets</p>
<p>SA 9: Minerals To conserve mineral resources in Greater Cambridge.</p>	<p>SA 9.1 Does the Plan ensure that unnecessary or unjustified sterilisation of mineral resources is prevented?</p>	<p>Material Assets</p>
<p>SA 10: Water To achieve sustainable water resource management and enhance the quality of Greater</p>	<p>SA 10.1: Does the Plan ensure there is sufficient water to serve new growth for the lifetime of the development in a changing climate without negatively impacting on the environment?</p> <p>SA 10.2: Does the Plan seek to improve the water quality of Greater</p>	<p>Water, Biodiversity, Fauna and Flora</p>

SA Objective	Appraisal questions	Relevant SEA Topics
Cambridge's waters.	<p>Cambridge's rivers and water bodies?</p> <p>SA 10.3: Does the Plan minimise inappropriate development in Source Protection Zones?</p> <p>SA 10.4: Does the Plan ensure there is sufficient waste water treatment infrastructure and environmental capacity to accommodate the new development in a changing climate?</p> <p>SA 10.5: Does the Plan promote development which would avoid water pollution due to contaminated runoff from development?</p> <p>SA 10.6: Does the Plan support efficient use of water in new developments, including the recycling of water resources, promoting water stewardship and water sensitive design where appropriate?</p>	
<p>SA 11: Adaptation to climate change</p> <p>To adapt to climate change, including minimising flood risk.</p>	<p>SA 11.1: Does the Plan minimise inappropriate development in areas prone to flood risk and areas prone to increasing flood risk elsewhere, taking into account the impacts of climate change?</p> <p>SA11.2: Does the Plan promote the use of Natural Flood Management schemes, SuDS and flood resilient design?</p> <p>SA11.3: Does the Plan promote design measures in new development and the public realm to respond to weather events arising from climate change, such as heatwaves and intense rainfall?</p> <p>SA 11.4: Does the Plan provide, enhance and retrofit green infrastructure?</p>	Water, Material Assets, Climatic Factors and Human Health
<p>SA 12: Climate change mitigation</p> <p>To minimise Greater Cambridge's contribution to climate change</p>	<p>SA 12.1: Does the Plan promote energy efficient design?</p> <p>SA 12.2: Does the Plan encourage the provision of energy from renewable sources?</p> <p>SA 12.3: Does the Plan promote the use of locally and sustainably sourced, and recycling of, materials in construction and renovation?</p>	Air, Human health, air and Climatic factors

SA Objective	Appraisal questions	Relevant SEA Topics
	<p>SA 12.4: Does the Plan support access to public transport provision?</p> <p>SA 12.5: Does the Plan create, maintain and enhance attractive and well-connected networks of public transport and active travel, including walking and cycling?</p> <p>SA 12.6: Does the Plan support development which is in close proximity to city, district and rural centres, services and facilities, key employment areas and/or public transport nodes, thus reducing the need to travel by car?</p> <p>SA12.7: Does the Plan address congestion hotspots in the road network?</p>	
<p>SA 13: Air quality To limit air pollution in Greater Cambridge and ensure lasting improvements in air quality.</p>	<p>SA 13.1: Does the Plan avoid, minimise and mitigate the effects of poor air quality?</p> <p>SA 13.2: Does the Plan promote more sustainable transport and reduce the need to travel?</p> <p>SA 13.3: Does the Plan contain measures which will help to reduce congestion?</p> <p>SA 13.4: Does the Plan minimise increases in traffic, particularly non-electric vehicles, in Air Quality Management Areas?</p> <p>SA 13.5: Does the Plan facilitate the take up of low / zero emission vehicles?</p>	Air and Human Health
<p>SA 14: Economy To facilitate a sustainable and growing economy.</p>	<p>SA 14.1: Does the Plan provide for an adequate supply of land and the delivery of infrastructure to meet Greater Cambridge's economic and employment needs?</p> <p>SA 14.2: Does the Plan support opportunities for the expansion and diversification of businesses?</p> <p>SA 14.3: Does the Plan provide for start-up businesses and flexible working practices?</p>	Population and Material Assets

SA Objective	Appraisal questions	Relevant SEA Topics
	<p>SA 14.4: Does the Plan support the prosperity and diversification of Greater Cambridge's rural economy?</p> <p>SA 14.5: Does the Plan support stronger links to the wider economy of the Oxford-Cambridge Arc?</p> <p>SA 14.6: Does the Plan support the growth of the knowledge, science, research and high tech sectors?</p>	
<p>SA 15: Employment</p> <p>To deliver, maintain and enhance access to diverse employment opportunities, to meet both current and future needs in Greater Cambridge.</p>	<p>SA 15.1: Does the Plan provide for employment opportunities that are easily accessible, preferably via sustainable modes of transport?</p> <p>SA 15.2: Does the Plan support equality of opportunity for young people and job seekers?</p>	<p>Population and Material Assets</p>

SA Stage B: Developing and refining options and assessing effects

- 2.7 Developing options for a plan is an iterative process, usually involving a number of consultations with the public and stakeholders. Consultation responses and the SA can help to identify where there may be other 'reasonable alternatives' to the options being considered for a plan.
- 2.8 Regulation 12 (2) of the SEA Regulations requires that:
"The (environmental or SA) report must identify, describe and evaluate the likely significant effects on the environment of—
(a) implementing the plan or programme; and
(b) reasonable alternatives, taking into account the objectives and the geographical scope of the plan or programme."
- 2.9 Any alternatives considered for the plan need to be 'reasonable'. This implies that alternatives that are not reasonable do not need to be subject to appraisal. Examples of unreasonable alternatives could include policy options that do not meet the objectives of the plan or national policy (e.g. the National Planning Policy Framework) or site options that are unavailable or undeliverable.
- 2.10 The SA findings are not the only factors taken into account when determining a preferred option to take forward in a plan. Indeed, there will often be an equal number of positive or negative effects identified for each option, such that it is not possible to 'rank' them based on sustainability performance in order to select a preferred option. Factors such as public opinion, deliverability and conformity with national policy will also be taken into account by plan-makers when selecting preferred options for their plan.
- 2.11 The big themes set out in the Issues and Options document, and considered in **Chapter 3** of this document, were identified by drawing on views shared in a number of workshops held with community representatives and local organisations in summer 2019, the Councils' priorities set out in the Cambridge City and South Cambridgeshire District corporate plans, and by taking into account national and local planning priorities and requirements.
- 2.12 The spatial strategy options assessed in **Chapter 3** were identified by the Councils as reasonable options drawing upon the development strategy options considered for the Councils' current Local Plans, as well as considering spatial options identified in the recent Cambridgeshire & Peterborough Independent Economic Review and other approaches taken nationally. In the Issues and Options document the Councils recognise that it is likely that the best scenario will involve some growth in all of these locations but in different proportions depending upon the prioritisation of the themes in the plan.

SA Stage C: Preparing the Sustainability Appraisal report

- 2.13 This SA Report describes the process that has been undertaken to date in carrying out the SA of the Greater Cambridge Local Plan. It sets out the findings of the appraisal of options set out in the Issues and Options document. As set out previously, the nature of this SA Report reflects the high-level nature of the Issues and Options document as an early stage in the development of the Local Plan.

Once more detailed options have been worked up, these will be subject to SA and the results of this will be published in future SA Reports.

SA Stage D: Consultation on the Greater Cambridge Local Plan and this SA Report

- 2.14 This document is subject to consultation alongside the Issues and Options document to which it relates and the SA Scoping Report. Comments received will be taken on board and addressed at the next stage of the SA process.

SA Stage E: Monitoring implementation of the Local Plan

- 2.15 At this early stage in the plan making process, the Councils are seeking views on what issues should be addressed through the Local Plan. Recommendations for monitoring the likely significant social, environmental and economic effects of implementing the Greater Cambridge Local Plan will be included in later stages of the SA, once the Local Plan has been drafted.

Appraisal methodology

- 2.16 The findings of the SA are presented as colour coded symbols showing a score for each option against each of the SA objectives along with a concise justification for the score given, where appropriate. The use of colour coding and symbols allows for likely significant effects (both positive and negative) to be easily identified, as shown in **Figure 2.2** below.

Figure 2.2: Key to symbols and colour coding used in the SA of the Greater Cambridge Local Plan

++	Significant positive effect likely
++/-	Mixed significant positive and minor negative effects likely
+	Minor positive effect
+/-	Mixed minor effects likely
-	Minor negative effect likely
-/+	Mixed significant negative and minor positive effects likely
--	Significant negative effect likely
0	Negligible effect likely
?	Likely effect uncertain

- 2.17 Due to the high level nature of options assessed at this stage, all potential effects identified are uncertain. Where this uncertainty is considered to be particularly significant, a question mark is added to the relevant score (e.g. +? or -?) and the score has been colour coded as per the potential positive, negligible or negative effect (e.g. green, blue, orange, etc.).
- 2.18 The likely effects of options and policies need to be determined and their significance assessed, which inevitably requires a series of judgments to be made. The appraisal has attempted to differentiate between the most significant effects and other more minor effects through the use of the symbols shown above. The dividing line in making a decision about the significance of an effect is often quite small. Where either (++) or (--) has been used to distinguish significant effects from more minor effects (+ or -) this is because the effect of an option or policy on the SA objective in question is considered to be of such magnitude that it will have a noticeable and measurable effect taking into account other factors that may influence the achievement of that objective. However, scores are relative to the scale of proposals under consideration.

Difficulties Encountered

- 2.19 It is a requirement of the SEA Regulations that consideration is given to any data limitations or other difficulties that are encountered during the SA process. The majority of the Issues and Options document sets out open-ended questions regarding what the Local Plan should include and allows respondents to rate how important they consider various issues to be, in relation to a number of themes. It is not possible to carry out full SA assessments of such questions, due to the lack of detail and defined options; therefore this document provides an overview of the sustainability considerations for the themes discussed.
- 2.20 The Issues and Options document sets out options for the spatial distribution of development (in the 'Towards a Spatial Plan' section), which allow for some more detailed appraisal. However, these are fairly broad options regarding the spatial distribution of development and do not relate to specific sites or quanta of development. As such, this document has sought to flag up where these options have potential to result in significant effects, but the actual effects will depend on the exact location, layout and design of developments. Once the Councils have identified more detailed site and policy options it will be possible to draw more certain conclusions about their likely sustainability effects.
- 2.21 Because many effects of development are dependent on the exact location, layout and design of development, it may be possible to mitigate some of the effects highlighted in this SA. However, given the inherent uncertainties about these details at this strategic stage of planning and assessment, the SA focuses on identifying potential significant effects of the options considered, whilst making no assumptions about detailed design or mitigation matters.
- 2.22 The SA of the options has been undertaken using available evidence. There may be gaps in this evidence base that, where possible, will be filled as information and data to inform the Local Plan preparation process continues. For example:
- The need for further investment in infrastructure (e.g. transport, water), services and facilities are likely to be identified once options for development are firmed

up, which may address some of the issues identified in the SA at this early stage of the process.

- There could be undiscovered archaeological features at any location within Greater Cambridge. For the purposes of this SA, we have focused on assessing the likely effects of development on known heritage assets, but further archaeological work may be necessary prior to any development in order to avoid loss of archaeological resources.
- The rate at which emissions from private vehicles will change over the course of the plan period as a result of technological improvements cannot be predicted or realistically factored into judgements about air quality.

3 Sustainability Appraisal Findings

- 3.1 This chapter presents the SA findings for the Issues and Options document. Commentary is given on the sustainability considerations for the ‘big themes’ set out in the document, with consideration of the questions asked in relation to these.
- 3.2 This chapter also sets out the assessment of the spatial distribution options set out in the ‘Where to build?’ section of the Issues and Options document.

Commentary on ‘big themes’

Climate change

- 3.3 The Issues and Options document identifies the following issues under this theme:
 - Mitigating our climate impacts.
 - Adapting to climate change.
- 3.4 Reducing the Greater Cambridge area’s contribution to climate change, through mitigating impacts on climate change, including promoting energy efficiency, renewable and low carbon energy generation and encouraging use of sustainable transport, directly addresses SA objective 12: climate change mitigation.
- 3.5 Reducing the need to travel by car and reducing carbon emissions from vehicles is a key way in which carbon emissions can be reduced. This is likely to have knock-on effects in terms of improving air quality, as transport is a key source of air pollutants, having positive effects for SA objective 13: air quality. This is likely to involve planning around sustainable transport links and encouraging walking and cycling, including through ensuring residents can access key services and facilities by walking, cycling or public transport. This will have positive effects for SA objectives 2: access to services and facilities and 4: health. Encouraging travel by sustainable transport could help foster community interaction and ensure less mobile groups, such as the elderly, can access the services and facilities they need. This could have positive implications for SA objective 3: social inclusion and equalities.
- 3.6 This theme also covers adapting to the effects of climate change, such as considering cooling buildings, using water resources efficiently and being prepared for increased flood risk and extreme weather events. These factors contribute positively to SA objectives 10: water and 11: adaptation to climate change. Whilst not mentioned explicitly against this theme, green infrastructure is also a key tool in adapting to climate change (e.g. by reducing the risk of flooding from run-off during extreme rainfall events; the cooling and shading effect of trees during heatwaves).

Biodiversity and green spaces

- 3.7 The Issues and Options document identifies the following issues under this theme:
 - Improving the green space network.
 - Achieving biodiversity net gains on future development.

- Tree Cover.

- 3.8 Improving GI and delivering biodiversity net gain will directly contribute to SA objective 5: biodiversity and geodiversity. A key aspect of GI is that it is multifunctional and can deliver a number of benefits alongside biodiversity benefits. Provision of green space can also provide meeting places and encourage social interactions, benefitting SA objective 3: social inclusion and equalities. The benefits of GI include providing space and encouraging residents to be active, as well as improving mental health and wellbeing of residents, workers and visitors, which will result in positive effects for SA objective 4: health. GI is also a key tool in adapting to climate change, through providing habitat corridors, local cooling and helping to minimise flood risk, thus contributing to SA objective 11: adaptation to climate change. GI can encourage walking and cycling, therefore contributing to SA objectives 12: climate change mitigation and 13: air quality. GI has also been shown to encourage inward investment and attract visitors and a workforce to the area, and improve the health and productivity of the working population, resulting in positive effects against SA objective 14: economy.
- 3.9 The plan should consider how to protect and enhance blue space (i.e. waterbodies and water courses) as well as green space.

Wellbeing and social inclusion

- 3.10 The Issues and Options document identifies the following issues under this theme:
- Involving communities in planning for their future.
 - Creating safe and inclusive communities.
 - Encouraging healthy lifestyles.
 - Air quality.
- 3.11 This theme directly addresses SA Objective 3: social inclusion and equalities and SA objective 4: health, through considering physical health, inclusivity and community and reducing crime. This theme discusses the need to create a range of homes for all parts of the community, including affordable and specialist housing, which could positively affect SA1: housing. The issues also discuss the importance of inclusiveness, including in terms of being able to access local services and amenities, which could contribute positively to SA objective 2: access to services and facilities. The document suggests that air quality could be tackled by encouraging travel by sustainable modes of transport, including walking, cycling, public transport and electric vehicles, which would also encourage active lifestyles and reduce carbon emissions, leading to positive effects on SA objectives 4: health and 12: climate change mitigation. Access to a diverse range of jobs and training is discussed under this theme, which could support individuals and the economy as a whole, leading to positive effects on SA objectives 14: economy and 15: employment.

Great places

- 3.12 The Issues and Options document identifies the following issues under this theme:
- Protecting the best of what already exists.
 - Creating beautiful new buildings and places.

- 3.13 Addressing these issues will have positive effects for the environmental SA objectives, particularly in terms of conserving and enhancing the landscape, townscape, and historic environment, leading to positive effects on SA objectives 6: landscape and townscape and 7: historic environment. The document also recognises the need to promote biodiversity and adapt to climate change, leading to positive effects on 5: biodiversity and geodiversity and SA objective 11: adaptation to climate change.
- 3.14 Whilst not explicitly mentioned under this issue, efficient use of land could minimise development that would sterilise mineral resources, leading to positive effects on SA objective 9: minerals, as well as minimise the loss of best and most versatile agricultural land. Improving environmental quality through good design could also be linked to sustainable water management and encouraging walking and cycling, leading to positive effects on SA objective 4: health, SA objective 10: water, SA objective 12: climate change mitigation and SA objective 13: air quality.

Jobs

- 3.15 The Issues and Options document identifies the following issues under this theme:
- Space for businesses to grow.
 - Protecting existing employment land
 - Creating a range of jobs.
 - Where jobs are created.
 - How our city, town and village centres evolve and adapt.
 - Managing the visitor economy.
- 3.16 This theme directly addresses SA objectives 14: economy and 15: employment. Supporting a range of business types and sizes, and therefore an associated range of employment opportunities, across a range of sectors, and supporting more flexible working, would have positive implications for SA objective 3: social inclusion. Flexible working could make it easier for less mobile people or those with other specialist requirements, such as those with disabilities, expectant mothers and parents, to access work. Supporting a range of businesses and employment opportunities could help to minimise in- and out-commuting, as residents may be more likely to find a suitable job in the local area. This could support SA objectives 12: climate change mitigation and 13: air quality, although this depends on the location of homes and jobs in relation to each other and sustainable transport links.
- 3.17 Supporting city, town and village centres would not only help to boost the economy but could help to ensure people can access services and facilities, therefore contributing towards SA objective 2: access to services and facilities. More flexibility may also allow people to meet more of their needs in these centres, therefore reducing the number of trips they need to make to fulfil such needs. This, and a focus on public realm, could also encourage more social interaction (SA objective 3: social inclusion). The Issues and Options document also discusses the possibility of providing more workspace in smaller centres, thereby reducing the need to travel, which would help to reduce emissions of greenhouse gases and air pollutants, contributing positively to SA objectives 12: climate change mitigation and 13: air quality. The location of new employment opportunities and their relationship to sustainable transport links will be an important consideration for SA objectives 12: climate change mitigation, and 13: air quality.

3.18 With regards to managing the visitor economy, the plan needs to balance the economic and employment benefits of tourism (SA objectives 14: economy, and 15: employment); whilst ensuring development of visitor facilities, such as hotels, does not harm the landscape, townscape and historic environment (SA objectives 6: landscape and townscape, and 7: historic environment) and that a sense of community can be retained (SA objective 3: social inclusion). It is also important to encourage sustainable tourism and try to manage emissions of greenhouse gases and air pollutants that may result from people travelling to the plan area for tourism (SA objectives 12: climate change mitigation, and 13: air quality). Many effects will depend on the location of employment land. In general, allocating higher levels of employment land is more likely to have negative effects on environmental objectives where this leads to increased travel and land take, but positive impacts on social and economic factors.

Homes

3.19 The Issues and Options document identifies the following issues under this theme:

- The need for new homes.
- Affordable homes.
- Diverse housing for diverse communities.
- The needs of Gypsies and Travellers and caravan dwellers.
- Housing quality.

3.20 This theme directly addresses SA objective 1: housing, including taking account of the range of housing types and tenures, including specialist housing, required. Delivering the right numbers of homes and in the right locations can support the economy both by housing the workforce and by boosting spending in the local area, as well as supporting the vibrancy and vitality of centres and neighbourhoods, therefore having positive implications for SA objective 14: economy. Providing homes in central, well-connected areas can also help to ensure residents can access key services and facilities, as well as encouraging access to these by walking and cycling. Co-ordinating economic and housing growth, including considering the needs of people who work from home, could result in people working more locally and reducing in- and out-commuting, leading to reductions in emissions of greenhouse gases and air pollutants. As such, positive effects would be expected for SA objectives 2: access to services and facilities, 4: health, 12: climate change mitigation and 13: air quality. However, this is dependent on the location of housing and employment in relation to each other and in relation to sustainable transport links.

3.21 Providing a diverse range of housing for all parts of the community would contribute positively to SA objective 3: social inclusion. Furthermore, provision of diverse, specialist housing and self-build plots could help to reduce inequalities by ensuring everyone has access to suitable housing, including the elderly, disabled and Gypsies and Travellers.

3.22 Ensuring that houses are safe and well designed, as well as promoting accessibility and adaptability is expected to contribute to both physical health and mental wellbeing in making sure people feel secure in their homes, leading to further positive effects on SA objective 4: health.

3.23 Many effects will depend on the location of new housing. In general, allocating higher levels of housing is more likely to have negative effects on environmental objectives, where this leads to increased travel and land take, but positive impacts on social and economic factors.

Infrastructure

3.24 The Issues and Options document identifies the following issues under this theme:

- Reducing the need to travel and delivering sustainable transport opportunities.
- Securing new infrastructure to accompany new homes and jobs.

3.25 Ensuring sufficient infrastructure is provided to support growth could contribute positively towards SA objective 2: access to services. Providing sufficient transport infrastructure, community facilities and allowing people to connect via superfast broadband and mobile phone coverage could help to promote social inclusion and improve equalities, particularly for the less mobile, such as elderly and disabled people. This could have a positive effect on SA objective 3: social inclusion.

3.26 Promoting sustainable transport networks, including walking and cycling, could encourage people in the area to be more active and would also help to reduce emissions of greenhouse gases and air pollutants from transport, having positive effects on SA objective 4: health, 12: climate change mitigation and 13: air quality. In addition, improved communications infrastructure could enable more efficient and flexible working, including working from home, which could contribute to a reduction in traffic, as well as encouraging new businesses into the area, resulting in positive effects with regards to SA objectives 14: economy and 15: employment.

3.27 When planning for utilities infrastructure, the Local Plan should consider how to address additional demand for water resources and increased loads on waste water treatment capacity arising from growth. There is already considerable pressure on the water environment in the Greater Cambridge area, which is likely to become more acute as a result of climate change. Therefore, this will require working closely with utilities companies and the Environment Agency to ensure water resources are sustainably managed in an integrated way (SA objective 10: water).

Spatial distribution options

3.28 The Issues and Options document presents the following spatial distribution options:

- Option 1: Densification.
- Option 2: Edge of Cambridge – Outside the Green Belt.
- Option 3: Edge of Cambridge – Green Belt.
- Option 4: Dispersal – new settlements.
- Option 5: Dispersal – villages.
- Option 6: Public transport corridors.

3.29 The Issues and Options document suggests that more than one of these options could be taken forward. However, as this is uncertain, each has been appraised on its own merits, against each SA objective.

- 3.30 The assessments below consider both the principle of focusing growth at each particular option and, where appropriate the implication of possible locations coming forward under that option. In order to be precautionary, any potential effects that could arise at particular locations where development could come forward under an option have influenced the overall likely effect recorded.
- 3.31 It should be noted that, for Option 2, the only large site on the edge of Cambridge not in the Green Belt is Cambridge Airport, which was identified as safeguarded land for longer term development in the 2018 Local Plans. The appraisal for Option 2 therefore provides a high level appraisal of this location in order to provide consistency as far as possible with the level of detail in the SA of the other options.
- 3.32 The SA does not, at this stage, identify or evaluate the potential effects of relocating Cambridge Airport. It is possible that that the current airport activity could be transferred to another operational airport elsewhere, possibly outside the Greater Cambridge area.

SA Objective 1: To ensure that everyone has the opportunity to live in a decent, well-designed, sustainably constructed and affordable home

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++/-?	++/-?	++?	++?	++/-?	++?

- 3.33 Option 1 would result in an increase in the density of development, particularly within Cambridge, where demand is high – especially from young professionals. This could involve the development of taller buildings, as well as the development of underused land or possibly open space. However, this may result in a high proportion of flats and therefore may not provide as large a range of housing types. In isolation, this option may not be able to provide sufficient housing, due to the limited amount of space available within Cambridge; therefore for a mixed significant positive and minor negative effect is recognised but uncertain.
- 3.34 The remaining options would also result in an increase in housing provision but, with the exception of Option 2, would be less constrained than Option 1 by the amount of space available. Option 2 would involve development at Cambridge Airport, which would therefore be constrained to that site boundary. This single location may not be able to meet all of Greater Cambridge's housing need. Options 3 and 4 could result in a lower level of affordable housing provision due to the costs required to deliver upfront infrastructure. In addition, Option 4 proposes the development of new settlements, which are likely to have a long lead-in time. Option 5 may be less likely to deliver affordable housing because of the smaller scale of the schemes involved affecting viability, although this depends on the size of any developments coming forward under this option, as mid-sized schemes are often more able to provide affordable housing.
- 3.35 Overall, all options are likely to have an uncertain significant positive effect on this objective. However, the likely effect for Options 1, 2 and 5 are accompanied by a

minor negative effect, because they may be less well placed to meet all of Greater Cambridge's housing need on their own.

SA Objective 2: To maintain and improve access to centres of services and facilities including health centres and education

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++/-	++	++/-?	++/-?	+/--	+/-

- 3.36 Option 1 would result in an increase in the density of development, particularly within Cambridge. There are already a large number of services and facilities in Cambridge; therefore new development is more likely to be in close proximity to these. However, an increase in the density of the city could place increased strain and pressure on these services and facilities, as they may not have capacity to accommodate the additional growth, reducing people’s overall accessibility to them. Option 1 is therefore expected to have a mixed significant positive and minor negative effect against this objective.
- 3.37 Option 2 is of sufficient scale to be able to provide a mixed development incorporating a good range of services and facilities. It also has good accessibility to the city and nearby suburbs (e.g. Cherry Hinton), where additional services and facilities are located. Therefore, Option 2 is expected to have a significant positive effect against this objective.
- 3.38 Option 3 would see the creation of new homes and jobs in extensions on the edge of Cambridge, which is likely to result in provision of new services and facilities, although the range of services and facilities provided at particular development locations will likely depend on the size of the extension. Smaller extensions may provide a more limited range of services and would benefit from existing services and facilities in the city, but, as with Option 1, could lead to existing facilities becoming over-capacity, or may not be well located to existing services and facilities. As such, Option 3 is expected to have a mixed significant positive and minor negative effect with uncertainty.
- 3.39 The creation of new settlements as set out in Option 4 provides an opportunity for significant new infrastructure to be delivered, such as schools, health facilities, local centres and green spaces, but it would be starting from scratch. The creation of new settlements would also likely require supporting transport infrastructure that connected it to Cambridge, which would require large-scale investment and time to implement. Phasing of the delivery of services and facilities would require significant up-front investment if they are to meet the needs of residents in the early years of development, which could lead to challenges in terms of deliverability. Overall, Option 4 is likely to have a significant positive and minor negative effect but with uncertainty.
- 3.40 Option 5 would result in an increase in development at villages across Greater Cambridge. This increase would support existing services and facilities at these villages, but could also place increased pressure on them, as they may not have capacity to accommodate the additional growth, reducing people’s overall

accessibility to them in the long-run. Indeed, villages are likely to have a more limited range of facilities than the city centre or new settlements. Therefore, Option 5 is expected to have a mixed minor positive and significant negative effect against this objective.

- 3.41 Option 6 would result in development along key public transport corridors. This development could have good access to services and facilities elsewhere, due to their proximity to public transport hubs. There is a risk that this option could lead to dispersed services and facilities along the public transport corridors, or services and facilities that are not within easy walking distance. Therefore, Option 6 is expected to have a mixed minor positive and minor negative effect against this objective.

SA Objective 3: To encourage social inclusion, strengthen community cohesion, and advance equality between those who share a protected characteristic (Equality Act 2010) and those who do not

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
+	++?	++/-?	++/-?	+/-	+/-

- 3.42 Option 1 would result in an increase in the density of development in Cambridge, and therefore an increase in population. Residents would have good access to services and facilities, which would improve equalities by benefitting those with protected characteristics (Equality Act 2010), particularly those who are less mobile, such as the elderly or disabled, and could strengthen inclusivity and community cohesion. Therefore, Option 1 is expected to have a minor positive effect against this objective.
- 3.43 Option 2 is likely to be of sufficient scale to create a new cohesive community with its own identity, as well as deliver a range of homes, jobs, services and facilities to meet different needs. It is also well located to the existing urban area, and therefore creates opportunities to be integrated with, and also serve, existing communities, although there could be disruption whilst it is developed. It is therefore considered likely to have significant positive effects against this objective, albeit with uncertainty.
- 3.44 Options 3 and 4 could see the creation of new infrastructure, such as schools, local centres and green spaces, which could act as a focal point of community life. With regard to Option 3, the range of services and facilities provided at particular development locations will likely depend on the size of the extension. Although an urban extension can achieve its own sense of place, integration with the existing urban areas and communities will be important if negative effects on existing communities are to be avoided. With respect to new settlements under Option 4, it can take many years for their delivery and to achieve a scale and critical mass that generate a strong sense of community. They involve building new communities from scratch which can prove challenging and cohesiveness can depend upon both the quality and design of development, and its delivery to schedule. Overall, both

options are likely to have a mixed significant positive effect with uncertain minor negative effects.

- 3.45 Option 5 would result in an increase in development at villages across Greater Cambridge, which could help support the vitality and viability of these villages and help to support community cohesion. However, more dispersed development could place increasing pressure on existing services and facilities within these villages if sufficient investment to maintain and improve them is not forthcoming. Therefore, Option 5 is likely to have a mixed minor positive and minor negative effect against this objective.
- 3.46 An increase in development along key public transport corridors with good access to Cambridge as set out in Option 6 may benefit those who are less mobile, with a positive effect on inclusivity. However, it may be more challenging for development along public transport corridors to achieve a coherent sense of community and place, depending upon where particular developments come forward under this option and their relationship to existing communities. Therefore, Option 6 is considered to have mixed minor positive and minor negative effects.

SA Objective 4: To improve public health, safety and wellbeing and reduce health inequalities

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++/-	++?	++?	++?	-	+/-

- 3.47 Option 1 would result in an increase in the density of development in Cambridge, and therefore an increase in population. As such, it is likely that a large number of people would be living within close proximity to their workplace, as well as a range of local amenities. This would encourage active travel through walking and cycling. It is also likely that a greater number of people would be located within close proximity to primary health care facilities but with an increase in population, it is possible that these services could be over-capacity and would therefore require further investment. Furthermore, large parts of Cambridge City Centre are an AQMA and therefore poor air quality could have an adverse effect on people’s health. Focusing growth in the city may help minimise further deterioration in air quality by facilitating sustainable travel. If this option led to the loss of any open space to development or a lack of both private and public space more generally, it could affect people’s mental well-being if not carefully designed. Therefore, Option 1 is expected to have a mixed significant positive and minor negative effect against this objective.
- 3.48 Because of its scale, Option 2 offers opportunity to incorporate a GP surgery, plus a range of open space, recreational and sporting facilities, and walking and cycling can be designed in from the outset of design. This option is expected to have a significant positive effect on this objective but with uncertainty.

- 3.49 Both Options 3 and 4 could see the creation of new on-site infrastructure, such as open space and a GP surgery, with positive effects on public health. However, with regard to Option 3, the range of services and facilities provided at particular development locations will likely depend on the size of the extension. In addition, larger developments have more scope to be designed in a way that encourages walking and cycling. However, new healthcare facilities may only be provided when the population reaches a certain size, which could in particular be a challenge for new settlements that are some distance from existing healthcare provision. Overall, both options are expected to have a significant positive effect on this objective but with uncertainty.
- 3.50 Option 5 would result in an increase in development at villages across Greater Cambridge, which would place increasing pressure on existing services, such as primary health care. Furthermore, villages are likely to have a more limited range of amenities. It is likely that residents would need to drive to most places meaning less active travel. A minor negative effect is therefore expected.
- 3.51 Option 6 would result in an increase in development along and around key public transport corridors and hubs. It's therefore likely that people would have good access to primary health care facilities, depending upon their location, but these may not be within walking and cycling distance and therefore would not encourage active travel. Depending on the scale of development, it may be more challenging to design in healthy behaviours, such as integrated open space and green infrastructure. Under this option, development would be in close proximity to public transport links, which could help to reduce emissions of air pollutants from private vehicles. Option 6 is expected to have a mixed minor positive and minor negative effect on this objective.

SA Objective 5: To conserve, enhance, restore and connect wildlife, habitats, species and/or sites of biodiversity or geological interest

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
-?	+/-?	+/--?	+/--?	--?	--?

- 3.52 Option 1 would result in an increase in the density of development in Cambridge, a large proportion of which would be located on brownfield land or redevelopment of existing built-up sites. Cambridge contains a large number of designated biodiversity sites, and whilst it is unlikely that development would be permitted on these sites, focusing development in the city could affect the network of green spaces important for wildlife, habitats and species, particularly if multiple sites come forward in proximity to areas of biodiversity value. In addition brownfield land can sometimes contain ecological interest. Therefore, Option 1 is expected to have a minor negative but uncertain effect against this objective.
- 3.53 Option 2 would result in development at the Cambridge Airport site, which comprises largely brownfield land, although much of this is in the form of open grass

areas which can act as a habitat for protected species. The site itself does not contain any designated biodiversity habitats, but the western boundary of the airport abuts Barnwell East Local Nature Reserve, and the airport could be considered to form part of the wider ecological network. There are Biodiversity Opportunity Areas present around the edge of the site, which could be used as a way to enhance the ecological networks present in the area, whilst also providing an opportunity to design in green infrastructure. Option 2 is expected to have a mixed minor positive and minor negative but uncertain effect.

- 3.54 Option 3 would result in development around the edge of Cambridge. The edge of Cambridge contains a small number of Sites of Special Scientific Interest and Local Nature Reserves, as well as many Priority Habitats and Biodiversity Opportunity Areas. It is therefore possible that individual developments would take place at or within close proximity to these biodiversity assets. However, there may be opportunities to design in green infrastructure, incorporating ecological networks, particularly at larger extensions. Therefore, Option 3 is expected to have a mixed minor positive and significant negative but uncertain effect.
- 3.55 The location of any new settlements that could come through Option 4 is uncertain. However, it is very likely that this option will lead to development on greenfield land. Greater Cambridge contains a large number of designated and non-designated habitats and it is therefore possible that a new settlement could take place at or within close proximity to these biodiversity assets. However, greenfield sites are not always of particular ecological value, and the more sensitive ecological locations could be avoided. However, designing a new settlement from scratch means that and green infrastructure incorporating ecological networks can be designed into the development. Therefore, Option 4 is expected to have a mixed significant negative and minor positive effect but with uncertainty.
- 3.56 Option 5 would result in an increase in development at villages across Greater Cambridge, whilst Option 6 focuses development along key public transport corridors and hubs. As the villages and transport corridors across Greater Cambridge contain or are located within close proximity to designated and non-designated biodiversity assets, and contain greenfield land, particular developments coming forward under this option could lead to loss of biodiversity. It may also be more challenging to deliver integrated ecological networks as part of individual development proposals. Options 5 and 6 are expected to have a significant negative but uncertain effect.

SA Objective 6: To conserve and enhance the character and distinctiveness of Greater Cambridge’s landscapes and townscapes, maintaining and strengthening local distinctiveness and sense of place

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
+/-?	+/-?	--?	+/--?	--?	--?

- 3.57 Option 1 would result in an increase in the density of development in Cambridge, which could have an adverse effect on the townscape. However, it is highly unlikely that development would take place on landscape features present within the city (e.g. valued parks and green spaces). Option 1 could involve the development of taller buildings within Cambridge, which could be out of character with the historic core of the city and affect views and vistas within the urban area, although it is recognised that not all individual developments within Cambridge would necessarily have a negative impact. For example, renewal of some locations, away from the city centre itself, may lead to townscape improvements. Focusing development within Cambridge could protect sensitive landscapes located on its outskirts. A mixed minor positive and minor negative but uncertain effect is expected against this objective. However, the effect is recorded as uncertain because the actual effect will depend on the final location, design, scale and layout of development.
- 3.58 Although Option 2 would result in significant amount of development on the edge of Cambridge on a site that is predominantly open. It includes airport buildings and structures, some of which are quite prominent. Although the airport and its associated buildings have formed part of the character and distinctiveness of this location for many years, they do not reflect the wider character of Cambridge. It also currently has aircraft movements. Overall, development on an open site could have minor negative effects, but conversely a well designed development replacing airport related uses could have a minor positive effect.
- 3.59 Option 3 would result in development around the edge of Cambridge, which could have an adverse effect on views into and out of the city. Whilst such development would extend an already established urban area rather than introducing new urban development into a predominantly rural location, urban extensions could have significant impacts on the setting of Cambridge, therefore a significant negative effect is expected. However, this effect is recorded as uncertain because the actual effect will depend on the final location, design, scale and layout of the proposed development.
- 3.60 The location of any new settlements that could come forward through Option 4 is uncertain. However, a new settlement has the potential to have a major impact on the landscape due to its size, wherever it is located as it would be introducing urban development into a predominantly rural location. As any new settlement would be located outside of Cambridge, this could help to protect the setting of Cambridge by directing development away from its edge, and the effect on the location will depend upon how sensitively the new settlement is designed. Option 4 is expected to have a mixed significant negative and minor positive effect with uncertainty on this objective.
- 3.61 Option 5 would result in an increase in development at villages across Greater Cambridge. The expansion of these villages could therefore have an adverse effect on the open countryside and landscape surrounding these villages, as well as village character, particularly in a large amount of dispersed development is required. A significant negative but uncertain effect is expected because the actual effect will depend on the final design, scale and layout of the proposed development.
- 3.62 Option 6 focuses development along key public transport corridors and hubs through the expansion or intensification of existing settlements, or through more new settlements. This could also have an adverse effect on the landscape surrounding these areas. If this option led to a string of development along key

public transport corridors, which was not done in a sensitive way, it could significantly extend a sense of urbanisation into the more rural parts of Greater Cambridge as these routes are the ones that people would travel through most often. A significant negative but uncertain effect is expected because the actual effect will depend on the final location, design, scale and layout of the proposed development.

SA Objective 7: To conserve and/or enhance the qualities, fabric, setting and accessibility of Greater Cambridge’s historic environment

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
--?	-?	--?	--?	--?	-?

- 3.63 Option 1 would result in an increase in the density of development in Cambridge, which could have an adverse effect on the historic environment. Cambridge contains a high number of listed buildings, as well as a number of scheduled monuments and registered parks and gardens, particularly associated with the University. Much of the city is designated as a conservation area. Therefore, Option 1 as a focus for development is expected to have a significant negative effect, although this is uncertain as it depends on the individual site. The effect is recorded as uncertain because the actual effect will depend on the final location, design, scale and layout of the proposed development.
- 3.64 Under Option 2, although the airport control tower is grade II listed, there are no other designated historic assets within the boundaries of Cambridge Airport. There are some listed buildings in nearby villages that could potentially be affected in terms of their setting, and therefore an uncertain minor negative effect is recorded.
- 3.65 Option 3 would result in development around the edge of Cambridge, which could have an adverse effect on the setting of the historic city of Cambridge. Many of Cambridge’s designated historic assets are located within the city centre, although development on the edge of the city could affect views in and out of the city and would also be likely to affect the setting of the historic city. Overall, a significant negative effect is expected. The effect is recorded as uncertain because the actual effect will depend on the location of development, as well as its final design, scale and layout.
- 3.66 The location of any new settlements that could come through Option 4 is uncertain. However, there are a number of listed buildings, scheduled monuments, registered parks and gardens and conservation areas across Greater Cambridge. Due to the large number of heritage assets across Greater Cambridge, it is likely that a new settlement may be developed within an area that contains or is located within close proximity to various historic assets, which are currently in predominantly more rural locations with more extensive settings. Therefore, Option 4 is expected to have a significant negative effect. The effect is recorded as uncertain because the actual

effect will depend on the location of development, as well as its final design, scale and layout, which may provide opportunities to avoid significant impacts.

3.67 Option 5 would result in an increase in development at villages across Greater Cambridge, many of which are conservation areas, contain listed buildings or are located within close proximity to listed buildings, scheduled monuments and registered parks and gardens. Option 5 is therefore expected to have a significant negative effect. The effect is recorded as uncertain because the actual effect will depend on which villages development is located, as well as the final design, scale and layout of development.

3.68 Option 6 focuses development along key public transport corridors and hubs through the expansion or intensification of existing settlements, or through more new settlements. Due to the fact there are a number of listed buildings, scheduled monuments and registered parks and gardens across Greater Cambridge, it is possible that development could be located within close proximity to one or more such assets, although these may already be affected by existing public transport infrastructure and development. Option 6 is therefore expected to have a minor negative effect. The effect is recorded as uncertain because the actual effect will depend on the location of development, as well as its final design, scale and layout.

SA Objective 8: To make efficient use of Greater Cambridge’s land resources through the re-use of previously developed land and conserve its soils

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++	++	-?	-?	-?	-?

3.69 Option 1 would result in an increase in the density of development in Cambridge, almost all of which would be located on brownfield land or the redevelopment of existing urban uses. Therefore, Option 1 is expected to have a significant positive effect against this objective.

3.70 Option 2 would be primarily on previously developed land of Cambridge Airport, and therefore would not have impact upon agricultural land. Therefore, Option 2 is also expected to have a significant positive effect against this objective.

3.71 Options 3, 4, 5 and 6 would be likely to result in substantial development of greenfield land. Lastly, a large part of South Cambridgeshire consists of Grades 1, 2 and 3 agricultural land; therefore Options 3, 4, 5 and 6 are likely to lead to at least some loss of this.

3.72 Overall, Options 3, 4, 5 and 6 are expected to have a minor negative but uncertain effect.

SA Objective 9: To conserve mineral resources in Greater Cambridge

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
-?	0	-?	-?	-?	-?

3.73 Cambridge contains a small number of Minerals Safeguarding Areas, outside of the city centre. It's therefore possible that particular developments coming forward under Option 1 could take place within these Minerals Safeguarding Areas. No Minerals Consultation Areas are located within Cambridge. Therefore, Option 1 is expected to have a minor negative, but uncertain, effect.

3.74 The Cambridge Airport site is not within a Minerals Safeguarding Area. Therefore, Option 2 is expected to have a negligible effect on this objective.

3.75 There are a small number of Minerals Safeguarding Areas and Minerals Consultation Areas around Cambridge. It is therefore possible that particular development locations coming forward through Option 3 could take place within these Minerals Safeguarding Areas and Minerals Consultation Areas. Option 3 is therefore expected to have a minor negative but uncertain effect.

3.76 A small number of Minerals Safeguarding Areas and Minerals Consultation Areas are located outside of Cambridge. Due to the large proportion of the plan area that is not designated as a Minerals Safeguarding Area or Minerals Consultation Area, it is possible that a new settlement could avoid any effects on these, although this depends on the location of any particular developments that come forward. Therefore, a minor negative but uncertain effect is expected for this objective.

3.77 Option 5 proposes an increase in development at villages across Greater Cambridge. There are also some Minerals Safeguarding Areas and Minerals Consultation Areas located across the area, which could be affected by development under this option, although this depends on the location of any particular developments that come forward. Option 5 is expected to have a minor negative but uncertain effect.

3.78 Option 6 proposes development along or around key public transport corridors and hubs through the expansion or intensification of existing settlements, or through more new settlements. There are a small number of Minerals Safeguarding Areas and Minerals Consultation Areas located along existing and proposed key transport corridors), which could be affected by development under this option, although this depends on the location of any particular developments that come forward; a minor negative but uncertain effect is likely.

SA Objective 10: To achieve sustainable water resource management and promote the quality of Greater Cambridge's waters

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
0?	0	-?	-?	-?	-?

- 3.79 At this stage of the SA process, and given the high level of the options, it is not possible to distinguish between the options with respect to water resources and waste water treatment capacity. Water resources is a key issue in Greater Cambridge, given that it is in the drier Eastern part of the country and that climate change may lead to even more limited water availability in the future, particularly in summer. Low rainfall and over-abstraction have caused problems of low flows in the River Cam and its tributaries, which are important chalk river habitats. The Council will need to ensure that there are sufficient water resources to serve development proposed in the plan, without negatively impacting the environment. In addition, there is a close relationship between water resources and water quality. If there is less dilution in the watercourses, wastewater may need treating to a higher standard. The Council is commissioning evidence with regards to water resource management to ensure this is considered when preparing the plan. This will be taken into consideration in future stages of the SA, when available.
- 3.80 Until the additional evidence is available, the SA is only able to focus on the potential effects on Source Protection Zones at this stage of the SA process. Cambridge contains two Source Protection Zones (SPZs 1 and 2) by The Leys School. However, since built development is already present at these SPZs; it's unlikely that any development coming forward under Option 1 would take place here. Option 1 is expected to have a negligible but uncertain effect against this objective.
- 3.81 The Cambridge Airport site does not contain an SPZ. Therefore, Option 2 is expected to have a negligible effect on this objective.
- 3.82 Although there are many areas around the edge of the city that do not fall within an SPZ, there are some SPZs located on the edge of Cambridge, particularly to the south east, which could be affected if development comes forward in this area. Therefore, Option 3 is expected to have a minor negative, but uncertain, effect against this objective.
- 3.83 The location of any new settlement that could come through under Option 4 is uncertain. However, there are several SPZs located across Greater Cambridge, especially in the south east. It's therefore possible that, depending on where any new settlement is located, it could fall within an SPZ. Option 4 is expected to have a minor negative but uncertain effect against this objective.
- 3.84 Option 5 proposes an increase in development at villages across Greater Cambridge. However, it is unknown which villages will receive this additional development. Due to the fact there are several SPZs located across Greater

Cambridge, it's possible that developments coming forward under Option 5 could fall within one. Option 5 is expected to have a minor negative but uncertain effect against this objective.

- 3.85 Option 6 proposes development along key public transport corridors and hubs through the expansion or intensification of existing settlements, or through more new settlements. Due to the fact there are number of SPZs located across Greater Cambridge, it's possible that developments coming forward under Option 6 could fall within one. Option 6 is expected to have a minor negative but uncertain effect against this objective.

SA Objective 11: To adapt to climate change, including minimising flood risk

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
-?	-?	-?	-?	-?	-?

- 3.86 Cambridge contains several areas that fall within Flood Zones 2 and 3. This is due to the fact the River Cam runs through the city. Therefore, development in Cambridge could fall within Flood Zones 2 or 3, which are at a higher risk of flooding, although Cambridge has high levels of surface water flood risk. Furthermore, an increase in housing development in Cambridge could reduce the amount of permeable surfaces available to absorb rainwater, if it leads to an increase in impermeable surfaces, therefore contributing towards flood risk. It should be noted that the NPPF discourages the development of housing within areas at the highest risk of flooding. Therefore overall, Option 1 is expected to have a minor negative uncertain effect for this objective.
- 3.87 The Cambridge Airport site does not fall within Flood Zones 2 or 3. However, development of an area that contains significant amount of grassland would result in an increase in impermeable surfaces. Therefore, Option 2 is expected to have a minor negative but uncertain effect against this objective.
- 3.88 The edge of Cambridge does not contain many areas that fall within Flood Zones 2 or 3, although there are areas identified as being at risk of surface water flooding. However, there is still a possibility that the development proposed by Option 3 could fall within Flood Zones 2 and 3. Option 3 is expected to have a minor negative, but uncertain, effect against this objective.
- 3.89 The location of any new settlements coming forward through Option 4 is uncertain. It is therefore possible that it could fall within an area of high flood risk. As with Option 3, a minor negative but uncertain effect is expected against this objective.
- 3.90 Option 5 proposes an increase in development at villages across Greater Cambridge, whilst Option 6 focuses development along key public transport corridors and hubs. It is therefore possible that developments coming forward under these two options could fall within an area of high flood risk. Options 5 and 6 are expected to a minor negative but uncertain effect against this objective.

3.91 All effects are recorded as uncertain, as development may be able to incorporate surface water management measures, such as sustainable drainage systems (SuDS), to address existing flood risk as well as that generated by development. The Councils are commissioning a Strategic Flood Risk Assessment for Greater Cambridge which will form part of the Integrated Water Management Study. This will provide the most up to date flood zones which also take into account climate change. It will be used in the plan making process in order to allocate sites in the areas least likely to flood and will inform future stages of the SA.

SA Objective 12: To minimise Greater Cambridge’s contribution to climate change

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++	++/-?	++/-?	+/-	--	++/-?

- 3.92 Option 1 would result in an increase in the density of development within Cambridge, and therefore an increase in population. As such, it’s likely that a large number of people would be living within close proximity to their workplace, as a high proportion of people living in Cambridge also work there⁵, as well as a range of local amenities. This would encourage walking and cycling, whilst also reducing everyday reliance on the private car. This would reduce the amount of CO₂ emissions from transport, therefore reducing the area’s overall contribution to climate change. Therefore, Option 1 is expected to have a significant positive effect.
- 3.93 Option 2 is of sufficient scale to deliver a range of homes, jobs, services and facilities, which could reduce the need for people to travel elsewhere to find these amenities. Furthermore, the Cambridge Airport site has access to existing sustainable transport links into the city, and is also within cycling distance of the city centre. It is notable that commuting patterns for edge of Cambridge locations tend to be focused on destinations within the city and have relatively high proportions travelling by more sustainable modes of transport, although it is likely that an edge of city location would still generate car use. Therefore, Option 2 is expected to have a significant positive effect and minor negative effect with uncertainty on this SA objective.
- 3.94 Option 3 could see the creation of new on-site infrastructure, such as schools and local centres, which could reduce the need for people to travel elsewhere to find these amenities. However, the range of services and facilities provided at particular development locations will likely depend on the size of the extension. Larger urban extensions would likely provide a greater range of new services and could have greater potential to incorporate low-carbon and energy efficient design, such as district heating networks. Smaller extensions are less likely to have these benefits. Edge of Cambridge locations are likely to have access to existing sustainable transport links into the city, or be within cycling distance, although the need to travel could be reduced if extensions provide services and employment opportunities. Commuting patterns for edge of Cambridge locations tend to be focused on destinations within the city and have relatively high proportions travelling by more sustainable modes of transport. However, development at edge of city locations is still likely to generate car use. Therefore, Option 3 is expected to have a mixed significant positive and minor negative effect with uncertainty on this SA objective.

⁵ UCL, DataShine Commute, 2011: DataShine Commute, UCL, 2011: <https://commute.datashine.org.uk/#mode=allflows&direction=from&msoa=E02003727&zoo m=13&lon=0.0934&lat=52.2001>

- 3.95 Option 4 could also see the creation of new on-site infrastructure, such as schools and local centres, which could reduce the need for people to travel elsewhere to find these amenities, depending upon the size of development – new settlements would have to be large scale to incorporate a full range. Larger new settlements could have greater potential to incorporate low-carbon and energy efficient design, such as district heating networks. A number of people from Greater Cambridge and beyond commute into Cambridge for work. The extent of employment provision in new settlements under Option 4 is unknown, which may lead to longer journeys to work. It is notable that Cambourne, for example, has a more dispersed pattern of commuting that is also more car dependent than locations on the edge of Cambridge. Cycling to Cambridge may be less attractive, increasing reliance on the private car, however public transport choices may be made available. It is also noted that South Cambridgeshire, where any new settlements would be located, has high rates of cycling for a rural district, including for long-distance commuting. Whilst there is potential for policy to require provision of public transport links to be provided up front as a prerequisite to new development, the nature and quality of these links (i.e. whether they align with commuting patterns and are regular/fast enough to be an attractive option) will be key in determining their level of use. Overall, Option 4 is expected to have a mixed minor positive and minor negative effect against this objective.
- 3.96 Option 5 would result in an increase in development at villages across Greater Cambridge. However, due to the fact there is likely to be a more limited number and range of services and facilities available in these villages, it is likely that people would need to travel to get elsewhere and many of these journeys are likely to be by car. Furthermore, a large proportion of people living in these villages commute by car to Cambridge or elsewhere for work. This has the potential to increase CO₂ emissions through use of the private car. Therefore, Option 5 is expected to have a significant negative effect against this objective.
- 3.97 Option 6 would result in an increase in development along and around public transport corridors and hubs. As such, people would have good access to a number of services and facilities via public transport, which is associated with lower CO₂ emissions, when compared to car travel. However, development outside the city centre is still likely to generate car use. Therefore, Option 6 is expected to have a mixed significant positive and minor negative effect with uncertainty.

SA Objective 13: To limit air pollution in Greater Cambridge and ensure lasting improvements in air quality

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
++	++/-?	++/-?	+/-	-	++/-?

- 3.98 Option 1 would result in an increase in the density of development within Cambridge, and therefore an increase in population. As such, it's likely that a large

number of people would be living within close proximity to their workplace, as well as a range of local amenities. This would encourage walking and cycling, whilst also reducing everyday reliance on the private car. This would reduce the amount of air pollution generated from private vehicles, therefore reducing the area's overall contribution to climate change. Option 1 is therefore expected to have a significant positive effect.

- 3.99 Option 2 is of sufficient scale to deliver a range of homes, jobs, services and facilities, which could reduce the need for people to travel elsewhere to find these amenities. The Cambridge Airport site has access to existing sustainable transport links into the city, and is also within cycling distance of the city centre. It is notable that commuting patterns for edge of Cambridge locations tend to be focused on destinations within the city and have relatively high proportions travelling by more sustainable modes of transport, although it is likely that an edge of city location would still generate car use, which could contribute to pollution within the AQMA. Therefore, Option 2 is expected to have a significant positive effect and minor negative effect with uncertainty on this SA objective.
- 3.100 Option 3 could see the creation of new on-site infrastructure, such as schools and local centres, which could reduce the need for people to travel elsewhere to find these amenities. However, the range of services and facilities provided at particular development locations will likely depend on the size of the extension. Edge of Cambridge locations are likely to have access to existing sustainable transport links into the city, or be within cycling distance. It is notable that commuting patterns for edge of Cambridge locations tend to be focused on destinations within the city and have relatively high proportions travelling by more sustainable modes of transport. However, development at edge of city locations is still likely to generate car use. In addition, people may still travel by car within Cambridge contributing pollution within the AQMA. As such, commuting into Cambridge has the potential to increase air pollution. Therefore, Option 3 is expected to have a mixed significant positive and minor negative effect with uncertainty on this SA objective.
- 3.101 Option 4 could also see the creation of new on-site infrastructure, such as schools and local centres, which could reduce the need for people to travel elsewhere to find these amenities, depending upon the size of development – new settlements would have to be large scale to incorporate a full range. The extent of employment provision in new settlements under Option 4 is unknown, and, at least in the earlier years of the development, there are unlikely to be good, established public transport links into Cambridge, and cycling to Cambridge may be less attractive, increasing reliance on the private car. However, it is noted that South Cambridgeshire, where any new settlements would be located, has high rates of cycling for a rural district, including for long-distance commuting. It is notable that Cambourne, for example, has a more dispersed pattern of commuting that is also more car dependent than locations on the edge of Cambridge. As a result, there could be fewer journeys into Cambridge where an AQMA is located, than development in and around Cambridge. Alternatively, depending on the location of developments coming forward under this option, there could be an increase in traffic on the A14, part of which is designated as an AQMA. Whilst there is potential for policy to require provision of public transport links to be provided up front as a prerequisite to new development, the nature and quality of these links (i.e. whether they align with commuting patterns and are regular/fast enough to be an attractive option) will be key in determining their level of use. It is noted that the Cambourne to Cambridge public transport scheme is in the planning phase and there are proposals for

improved public transport corridors elsewhere connecting into Cambridge, which could connect into new settlements. Overall, Option 4 is expected to have a mixed minor positive and minor negative effect against this objective.

- 3.102 Option 5 would result in an increase in the spread of development at villages across Greater Cambridge. However, due to the fact there are only a small number of services and facilities available in these villages, it is likely that people would need to travel via private car to get elsewhere. This has the potential to increase air pollution, for example if travelling into Cambridge or along the A14, where AQMAs are located. Therefore, Option 5 is expected to have a minor negative effect against this objective.
- 3.103 Option 6 would result in an increase in development along and around public transport corridors hubs. As such, people would have good access to a number of services and facilities via more sustainable modes of transport, which would help reduce their contribution towards air pollution through use of the private car. It is noted that the Cambourne to Cambridge public transport scheme is in the planning phase and there are proposals for improved public transport corridors elsewhere connecting into Cambridge. However, development outside of the city is likely to generate car use. Therefore, Option 6 is expected to have a mixed significant positive and minor negative effect with uncertainty.

SA Objective 14: To facilitate a sustainable and growing economy

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
+/--?	++/-?	++/-?	+/-?	+/--?	++/-?

- 3.104 Option 1 seeks to focus new homes and jobs within Cambridge. Concentrating homes and jobs in Cambridge could help boost the economy through increasing its workforce and attracting investment. For example, living in a central, well-connected and vibrant area is likely to bring young professionals into the area. However, there is limited land availability within the city itself, and the constraints deriving from the city’s sensitive environment suggests that its full economic potential may not be met. Similarly, this approach will do little to support the local economies outside of the city in the wider Greater Cambridge area. Therefore, it will have a mixed minor positive and significant negative effect on the local economy with uncertainty.
- 3.105 Option 2 is likely to result in a mixed development incorporating employment uses as well as homes. Its location relatively close to the city centre and the universities would be of economic benefit. However, it would result in the loss of existing employment on the site, as well as the airport itself. Therefore, this option is considered to have a mixed significant positive and minor negative effect on the local economy with uncertainty.
- 3.106 Option 3 seeks to create new homes and jobs on the edge of Cambridge. Concentrating homes and jobs in close proximity to Cambridge could help boost the

economy through increasing its workforce and attracting investment. It would offer both perceived and actual benefits of being close to the University and other foci of economic activity, and would provide for greater space to attract larger employers and clusters of businesses. However, in isolation, it would not provide for economic needs within the Greater Cambridge beyond the city itself and would further concentrate economic activity in one location. Therefore, this option is considered to have a mixed significant positive and minor negative effect on the local economy with uncertainty.

- 3.107 Option 4 would provide an opportunity for significant new infrastructure to be delivered, which has the potential to generate new jobs. However, the greater the distance from the main centre of economic activity, being the city of Cambridge, the longer the lead-in times to deliver homes and a critical mass in terms of community, the less attractive it may be to potential investors. Therefore, a mixed minor positive and minor negative but uncertain effect is expected for this objective.
- 3.108 Option 5 seeks to spread new homes and jobs out to the villages, which would contribute positively towards the local economy, by supporting local businesses. However, it is unlikely that development would provide many new, long-term jobs in the villages, as particular developments coming forward under this option are likely to be of a smaller scale. Although this option has the potential to support the prosperity and diversification of Greater Cambridge’s rural economy, it is unlikely to be able to provide the scale of economic development required at the Greater Cambridge level. It would also be less attractive to businesses wishing to expand or locate within or close to Cambridge itself. Option 5 is expected to have a mixed minor positive and significant negative but uncertain effect.
- 3.109 Option 6 seeks to focus new homes and jobs along and around key public transport corridors and hubs, which would be likely to make access to employment easier for larger numbers of people and support growth in the Oxford-Cambridge Arc. It could also prove attractive to potential investors, but could also require investment to upgrade existing transport corridors to address any capacity issues. Therefore, Option 6 is expected to have a mixed significant positive and minor negative but uncertain effect.

SA Objective 15: To deliver, maintain and enhance access to diverse employment opportunities, to meet both current and future needs in Greater Cambridge

Likely effect					
Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal villages	Option 6 Public transport corridors
++/-	++/-	++/-	+/-?	+/--?	++/-

- 3.110 This SA objective relates specifically to access to employment opportunities.
- 3.111 Option 1 seeks to focus new homes and jobs within Cambridge; therefore it is likely that new development would be closer to employment opportunities in Cambridge allowing for increased access to a range of employment opportunities. Option 1 is expected to have a significant positive effect on this objective. However,

opportunities to deliver employment development may be restricted and it would do little to meet the needs of the wider Greater Cambridge area. In particular, those living in more rural areas may struggle to find work locally and may therefore need to commute into Cambridge or elsewhere for work, which results in a minor negative effect also being recorded.

- 3.112 Options 2 and 3 seek to create new homes and jobs on the edge of Cambridge, therefore, residents would be likely to be able to easily access the employment opportunities within Cambridge city, although, as with Option 1, this option would not meet the wider employment needs of Greater Cambridge. In particular, those living in more rural areas may struggle to find work locally and may therefore need to commute into Cambridge or elsewhere for work. Options 2 and 3 are expected to have a mixed significant positive and minor negative effect on this objective.
- 3.113 Option 4 would provide an opportunity for significant new infrastructure to be delivered, which has the potential to generate new jobs, particularly for those living in the new settlement itself. However, the extent of employment uses that would be delivered as part of this option is uncertain. If employment in new settlements is limited, residents could be some distance from the main economic hub of Cambridge. Therefore, a mixed minor positive and minor negative but uncertain effect is expected for this objective.
- 3.114 Option 5 seeks to locate new homes and jobs in the villages. However, compared to Options 1 and 3, it is unlikely that as many new, long-term jobs would be delivered in the villages and access to employment hubs may be more difficult for residents. Large scale employment development would in many instances be inappropriate in village locations and difficult to access by sustainable transport modes. However, it could help to provide a greater range of employment in rural villages. Option 5 is expected to have a mixed significant negative and minor positive but uncertain effect.
- 3.115 Option 6 seeks to focus new homes and jobs along and around key public transport corridors and hubs, which would make access to employment easier for larger numbers of people. This would have a positive effect on access to employment for these corridors, but may encourage commuting into Cambridge, without meeting the employment needs of wider Greater Cambridge. Option 6 is expected to have a mixed significant positive and minor negative effect.

Summary of SA scores

- 3.116 **Table 3.1** summarises how each of the spatial distribution options compare to each other against each SA objective.
- 3.117 The summary table suggests that Option 1 and Option 2 perform comparatively well against most of the SA objectives. Option 5 is likely to be the least sustainable option, as it consistently scores poorly against a number of SA objectives compared with the alternatives.
- 3.118 Option 3 generally performs better than Options 4 and 6. It performs better than Option 4 for the SA objectives relating to climate change mitigation, air quality, economy and employment, and only performs worse against SA objective 6: landscape and townscape. It performs better than Option 6 for the SA objectives relating to access to services, social inclusion, health and biodiversity and only performs worse against SA objective 7: landscape and townscape. Although the

scores against individual SA objectives differ, Options 4 and 6 overall perform fairly similarly.

3.119 In practice, the actual effects are heavily dependent upon the precise location and scale of development, the quality of design and the delivery of supporting infrastructure. Therefore, these high level results need to be treated with a considerable degree of caution.

Table 3.1: Summary SA scores for spatial distribution options

SA Objective	Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
SA 1: Housing	++/-?	++/-?	++?	++?	++/-?	++?
SA 2: Access to services	++/-	++	++/-?	++/-?	+/--	+/-
SA 3: Social inclusion	+	++?	++/-?	++/-?	+/-	+/-
SA 4: Health	++/-	++?	++?	++?	-	+/-
SA 5: Biodiversity and geodiversity	-?	+/-?	+/--?	+/--?	--?	--?
SA 6: Landscape and townscape	+/-?	+/-?	--?	+/--?	--?	--?
SA 7: Historic environment	--?	-?	--?	--?	--?	-?
SA 8: Land	++	++	-?	-?	-?	-?
SA 9: Minerals	-?	0	-?	-?	-?	-?
SA 10: Water	0?	0	-?	-?	-?	-?

SA Objective	Option 1 Densification	Option 2 Edge of Cambridge – Outside Green Belt	Option 3 Edge of Cambridge – Green Belt	Option 4 Dispersal – new settlements	Option 5 Dispersal – villages	Option 6 Public transport corridors
SA 11: Climate change adaptation	-?	++/-?	-?	-?	-?	-?
SA 12: Climate change mitigation	++	++/-?	++/-?	+/-	--	++/-?
SA 13: Air quality	++	++/-?	++/-?	+/-	-	++/-?
SA 14: Economy	+/--?	++/-?	++/-?	+/-?	+/--?	++/-?
SA 15: Employment	++/-	++/-	++/-	+/-?	+/--?	++/-

4 Conclusions

- 4.1 This document has considered the sustainability implications of the information and options presented in the Issues and Options document for the Greater Cambridge Local Plan.
- 4.2 The themes set out in the Issues and Options document discuss a number of ideas that would have positive effects regarding sustainability. However, whether such effects come forward and the significance of these effects depend on the exact policies that come forward in the Local Plan.
- 4.3 The spatial distribution options have been assessed at a high level against each SA objective. However, many of the potential effects identified are dependent on the exact location, layout and design of development.
- 4.4 Option 1 performs well compared to most of the other options, as development would be able to take advantage of the existing infrastructure in the city and would facilitate travel by sustainable modes of transport. However, it is unlikely that this option would be able to meet all of Greater Cambridge's development needs and could still lead to likely significant negative effects, particularly with regards to the historic environment of Cambridge. It would also restrict meeting the economic potential of the Greater Cambridge, particularly if it were unable to meet identified growth needs, and would bring limited opportunities for provision of new infrastructure, and therefore may result in capacity issues at existing services and facilities.
- 4.5 Option 2 is considered to perform very well, because it is a brownfield site, and it is relatively well located to the jobs, services and amenities of the city compared to most of the other options. It is of a scale that would allow for a good range of homes, employment, services and facilities to be delivered to create a cohesive community. It is also not particularly affected by biodiversity or heritage designations, although negative effects on these assets cannot be ruled out. It would, however, lead to the permanent loss of the airport itself and its economic and educational activity at this location.
- 4.6 Option 3 also performs reasonably well, as new homes on the edge of Cambridge would benefit from the existing services, facilities, transport links and employment in Cambridge and is likely to provide some new services and facilities. However, the range of facilities provided would likely depend on the size of the extension, and smaller extensions could lead to capacity issues at existing services and facilities. Extensions to Cambridge are likely to have significant impacts on the landscape and the historic environment setting of Cambridge, although this depends to some extent on the location and design of development. High quality design will be crucial. Of critical importance in achieving the sustainability objectives is how new development on the edge of Cambridge integrates with the existing city and with neighbouring communities, in order to become part of the city rather than separate districts. Genuinely mixed development with clear access by public transport, cycling and walking linked into neighbouring areas would help to achieve this, with green infrastructure and networks playing a key role.

- 4.7 Option 4 performs well against social and economic objectives, as a new settlement is expected to provide new services and facilities. In addition, new settlements provide a greater opportunity to incorporate sustainable design, such as creating walkable neighbourhoods and including district heating systems. Although there is no guarantee best practice would be delivered, the Local Plan could require sustainable design to be incorporated. The new settlements will have to be of sufficient scale to become coherent new communities, with a good range of services and facilities, such as healthcare and a secondary school, as well as to become attractive to business investors in order to provide a range of jobs. New settlements have a longer lead-in time and therefore would be unable to provide new housing and employment earlier on in the plan period. New settlements are also likely to have environmental impacts, particularly in terms of landscape, as they are necessarily large developments that may be less able to avoid sensitive features. They may also be some distance from the main centre of economic activity, Cambridge, leading to longer journeys for commuters and a temptation to travel by car. However, there is potential for public transport links to be provided as a perquisite to new development.
- 4.8 Whilst Option 5 could help to support local services, the lack of access to services, facilities and jobs in larger settlements is likely to be an issue. It is likely to lead to high levels of car dependency, increasing carbon emissions, and significant expansion of smaller settlements could harm their character and historic assets. As such, it is likely to be the least sustainable option, although it could form a smaller part of the overall strategy.
- 4.9 Option 6 would enable residents and businesses to have good access to services and facilities, whilst providing more opportunity to protect the historic environment of Cambridge. However, there is potential for adverse effects on environmental objectives, depending on where development is located, and it may prove challenging to create distinctive new communities with a sense of place, depending on where particular developments come forward under this option and their relationship to existing communities.
- 4.10 In practice, there are pros and cons with all of the options, and so the challenge for those preparing the Greater Cambridge Local Plan will be to take those aspects from each of the options that perform well against the SA objectives to create a coherent spatial strategy that performs well in sustainability terms. The options will need to be developed in more detail, including identification of potential specific locations for development, with a greater understanding of the scale, type and mix of development that can be delivered on site, the identification of the infrastructure requirements required for delivery, and the relationship with existing settlements and networks. The SA will be able to assess these options in more detail and with greater certainty helping to lead to the most sustainable strategy overall.

Next steps

- 4.11 This SA Report will be available for consultation alongside the Issues and Options document. Following this consultation, the responses received and the findings of the SA will be considered and incorporated into the next iteration of the Greater Cambridge Local Plan.

LUC

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