Greater Cambridge Local Plan: Proposed Submission Plan

Sustainability Appraisal Appendices C and D

Cambridge City Council and South Cambridgeshire District Council

Final report

Prepared by LUC

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Appendix C
Appraisal of Strategic Spatial Options

C.1 This Appendix summarises the SA findings for the:

- Original six spatial distribution options that were assessed in 2019 – see **Table C.1**. The full assessment was published in the SA of Issues and Options (December 2019).
- Eight Strategic Spatial Options (1 to 8) that were assessed in 2020. In this appendix, just a summary of these findings is provided along with the findings for the additional Strategic Spatial Options 9 and 10 (see below). The full assessment was published in the Greater Cambridge Local Plan strategic spatial options assessment Sustainability Appraisal (November 2020).
- Additional Strategic Spatial Options 9 and 10 that were assessed in 2021. The SA effects tables and text describing them is a record of the assessment published in the 2021 SA Report for the First Proposals.
- Four Further Strategic Spatial Options 9a, 10a, 11a and 11b that were assessed in 2025 – see **Table C.2**. The full assessment findings were published in the SA of the Regulation 18 Greater Cambridge Local Plan (November 2025).

Original six spatial distribution options (2019)

C.2 Six 'spatial distribution options' were assessed in the SA of the First Conversation Issues and Options in December 2019. These were high-level options summarising different focuses for growth as follows:

- 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.

C.3 A summary table of the likely effects identified for each of these options is set out in **Table C.1**.

Table C.1: SA effects of the original six spatial distribution options (2019)

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
1. Housing	++/-?	++/-?	++?	++?	++/-?	++?
2. Access to services and facilities	++/-	++	++/-?	++/-?	--/+	+/-
3. Social inclusion and equalities	+	++?	++/-?	++/-?	+/-	+/-
4. Health	++/-	++	++	++	-	+/-
5. Biodiversity and geodiversity	-?	+/-?	--/+?	--/+?	--?	--?
6. Landscape and townscape	+/-?	+/-?	--?	--/+?	--?	--?
7. Historic environment	--?	-?	--?	--?	--?	-?
8. Efficient use of land	++	++	-?	-?	-?	-?
9. Minerals	-?	0	-?	-?	-?	-?
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
11. Adaptation to climate change	-?	++/-?	-?	-?	-?	-?
12. Climate change mitigation	++	++/-?	++/-?	+/-	--	++/-?
13. Air quality	++	++/-?	++/-?	+/-	-	++/-?
14. Economy	--/+?	++/-?	++/-?	+/-?	--/+?	++/-?
15. Employment	++/-	++/-	++/-	+/-?	--/+?	++/-

Strategic Spatial Options 1 to 10 (2020-2021)

C.4 Eight Strategic Spatial Options were identified by the Councils in 2020, with an additional two identified in 2021:

- Spatial option 1: Densification of existing urban areas
- Spatial option 2: Edge of Cambridge - outside Green Belt
- Spatial option 3: Edge of Cambridge - Green Belt
- Spatial option 4: Dispersal - new settlements
- Spatial option 5: Dispersal – villages
- Spatial option 6: Public transport corridors
- Spatial option 7: Supporting a high-tech corridor by integrating homes and jobs (southern cluster)
- Spatial option 8: Expanding a growth area around transport nodes
- Spatial option 9: Preferred options spatial strategy (Blended strategy including Cambourne)
- Spatial option 10: Blended Strategy including Edge of Cambridge: Green Belt

C.5 The overall SA effects for all ten Strategic Spatial Options are shown in the summary tables below, followed by a discussion of the SA effects for the additional Strategic Spatial Options 9 and 10. The full assessment text describing the effects of the first eight Strategic Spatial Options is presented in in the Greater Cambridge Local Plan strategic spatial options assessment Sustainability Appraisal (November 2020). A summary of the best performing option (considering all ten options) for each SA objective is provided.

C.6 Note that as discussed in Chapter 4 of the SA Report, in this stage of the spatial options assessment, the SA sought to distinguish between short to medium term effects occurring within the plan period and longer term/permanent effects that would occur when sites are fully built out (referred to as the ‘all time’ scenario, i.e. ‘fully built out’). However, for Spatial Options 3 (Edge of Cambridge – Green Belt) and 5 (Dispersal – villages), the assumption was for there to be no further planned development beyond the plan period, i.e. sources of supply will be fully built out within the plan period. As such, no assessment of these two Strategic Spatial Options was made or effects recorded for the 'all time' scenario (shown as ‘0’ in the SA effects tables below). However, this does not mean that additional development

will not take place beyond the plan period, but decisions about how much and where this additional development would be left to future reviews of the Local Plan.

SA objective 1: Housing

Table C.2: SA effects for SA objective 1: Housing

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	++?	++
2. Edge of Cambridge – outside the Green Belt	++?	++
3. Edge of Cambridge – Green Belt	++	0
4. Dispersal - new settlements	+?	++
5. Dispersal - villages	++?	0
6. Public transport corridors	++?	++
7. Supporting a high-tech corridor by integrating homes and jobs	++?	++
8. Expanding a growth area around transport nodes	++	++
9. Preferred options spatial strategy (Blended strategy including Cambourne)	++?	++
10. Blended Strategy including Edge of Cambridge: Green Belt	++?	++

C.7 Both options 9 and 10 are expected to have significant positive effects for SA 1: Housing as both will provide sufficient housing and include a range of sources of supply (including development within Cambridge City, on the edge of Cambridge, within the Southern cluster and villages, as well as Cambourne for the preferred option). As well as development within the Cambridge urban area, both options include large-scale growth at North East Cambridge, Cambridge Airport and either substantial growth at Cambourne (preferred option) or in the Green Belt at the edge of Cambridge. These locations are more likely to include a greater range of housing sites. Larger developments could result in a lower level of affordable housing provision due to greater costs to deliver additional infrastructure, but this may be offset overall by smaller sites coming forward within the other sources of supply in this option. The Housing Delivery Study (2021) notes that there is a risk to rely on delivery from North East Cambridge and Cambridge Airport towards the end of the plan period, given uncertainties relating to the relocation of the wastewater treatment works and the relocation of Marshall's operations respectively.

C.8 In terms of the preferred option, the Housing Delivery study notes that any delay to the phasing of East-West Rail and the new railway station at Cambourne could delay completions. In terms of the Blended Strategy including Edge of Cambridge: Green Belt, the Housing Delivery Study notes that lead in times for Edge of Cambridge Green Belt sites may be extended as applications cannot be 'twin-tracked' alongside plan making due to the need to demonstrate very special circumstances for Green Belt release.

C.9 For the period 2020-2041, significant positive effects with uncertainty are therefore expected for both options.

C.10 When fully built out, the effects are expected to remain the same, although the uncertainty is removed as there is more confidence that the wastewater treatment works at North East Cambridge will be relocated by the end of the plan period, the new station at Cambourne will be operational and Green Belt development will have come forward.

Best performing option

C.11 As all options are expected to deliver the full housing need within the plan period, it is not possible to distinguish a best performing option. Options that include a more diverse range of housing supply are associated with more certainty, as it is less likely that housing delivery will be skewed towards the end of the plan period. Option 4 'Dispersal – new settlements' performs least well, as it may not result in the necessary range of housing types or sufficient housing coming forward until later in the plan period, given its reliance on new settlements to deliver housing supply.

SA objective 2: Access to services and facilities

Table C.3: SA effects for SA objective 2: Access to services and facilities

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	+/-	++/-
2. Edge of Cambridge – outside the Green Belt	+/-?	++/-
3. Edge of Cambridge – Green Belt	+/-?	0
4. Dispersal - new settlements	+/-?	++
5. Dispersal - villages	--/+	0
6. Public transport corridors	+/-	++/-

Strategic Spatial Options	2020-2041	All time
7. Supporting a high-tech corridor by integrating homes and jobs	+/-?	++/-?
8. Expanding a growth area around transport nodes	+/-?	++/-?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	+/-?	++/-?
10. Blended Strategy including Edge of Cambridge: Green Belt	+/-?	++/-?

C.12 Both options 9 and 10 include densification of Cambridge and development on the edge of Cambridge, which would result in new development in close proximity to a number of existing services and facilities. The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt, which would also be close to existing services and facilities within Cambridge. However, an increase in the density of the city, including increased density at North West Cambridge, and expansion 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. Indeed, the Infrastructure Study 2020 states that it is thought much of Cambridge's infrastructure is at or close to capacity. Both options also include large new developments around the edge of Cambridge, including North East Cambridge and Cambridge Airport, which will provide new services and facilities, which may help to relieve some pressure on existing amenities. However, a full range of services and facilities is not expected to be delivered at these sites within the plan period.

C.13 The preferred option also includes substantial growth at Cambourne. Cambourne is served by a range of services and facilities and the level of growth proposed at Cambourne means that additional infrastructure would be provided in the longer term (this may only come forward beyond the plan period). In addition, a new railway station and public transport improvements are expected to be delivered at Cambourne, which will provide good access to Cambridge and probably to other large settlements outside Greater Cambridge, therefore giving access to a wider range of services and facilities. However, there is some uncertainty regarding when these will come forward, which could leave residents with less access to services and facilities further afield, at least early in the plan period.

C.14 Both options include some growth at villages. Although villages generally have less access to services and facilities, new development may help to support viability of existing services and facilities at these villages, providing this is distributed between a number of villages. The Infrastructure Study Supplement (2021)

recognises that development at villages may not provide the critical mass to establish new facilities.

C.15 Both options also include development within the 'Southern cluster', which will help to ensure housing is well-located in relation to existing centres of employment. The Southern cluster villages have some services and facilities, including schools and doctors' surgeries, particularly in Great Shelford, Sawston and Linton, although it is uncertain how much capacity these have to accommodate growth. Effects of development in this area are uncertain, as it depends on the final location of development that might be allocated.

C.16 Both options also include increased delivery rates at Northstowe and Waterbeach, which could potentially provide the critical mass for new services and facilities to come forward more quickly.

C.17 For 2020-2041, both options are expected to have mixed minor positive and minor negative uncertain effects. The minor positive effects are expected to become significant positive effects when fully built out, due to additional provision of services and facilities, including rapid transport links at Cambourne for the preferred option.

Best performing option

C.18 Those options that are expected to result in larger developments, such as new settlements (included in Options 2 'Edge of Cambridge – Green Belt', 4 'Dispersal – new settlements', 6 'Public transport corridors' and 7 'Supporting a high-tech corridor by integrating homes and jobs') perform well, particularly when fully built out, as they are expected to provide new services and facilities to meet development needs. Options 8 'Expanding a growth area around transport nodes' and 9 'Preferred options spatial strategy (Blended strategy including Cambourne)' also perform well when fully built out, as they include substantial growth around Cambourne, which will also likely provide new services and facilities as well as having access to existing infrastructure in Cambourne. Options including development in and around Cambridge, including Options 1 'Densification of existing urban areas', 2 'Edge of Cambridge – Green Belt' and 3 'Edge of Cambridge – Green Belt') are expected to have good accessibility to existing services and facilities within Cambridge, although they could also put pressure on these beyond their capacity. Option 5 'Dispersal – villages' performs least well as this option is most likely to put pressure on existing services and facilities and result in development that is less likely to provide new services and facilities, whilst being more distant from larger centres.

SA objective 3: Social inclusion and equalities

Table C.4: SA effects for SA objective 3: Social inclusion and equalities

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	+/-	++/-
2. Edge of Cambridge – outside the Green Belt	+/-	++
3. Edge of Cambridge – Green Belt	+/-	0
4. Dispersal - new settlements	+/-	++/-
5. Dispersal - villages	+/-?	0
6. Public transport corridors	+?	++?
7. Supporting a high-tech corridor by integrating homes and jobs	+	++
8. Expanding a growth area around transport nodes	+?	++?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	+/-	++/-
10. Blended Strategy including Edge of Cambridge: Green Belt	+/-	++/-

C.19 Both options 9 and 10 include densification of Cambridge, including increased density at North West Cambridge, and development on the edge of Cambridge, which would result in new development in close proximity to a number of existing services and facilities, which would improve equalities by benefitting those with protected characteristics (Equality Act 2010), particularly those who are less mobile, such as older or disabled people, and could strengthen inclusivity and community cohesion. However, the Infrastructure Study (2020) states that it is thought much of Cambridge's infrastructure is at or close to capacity. Development in the urban area is also likely to mean housing is closer to facilities such as nurseries, schools and places of worship. Both options also include large new developments around the edge of Cambridge, such as North East Cambridge and Cambridge Airport, which will provide new services and facilities accessible to those living there and in the nearby urban area. Facilities provided may include community meeting space and/or places of worship, which could help ensure the needs of specific groups are met, through providing space for faith groups, ante-natal and parent and baby groups etc. and helping to foster a sense of community. In addition, the preferred option also includes substantial growth at Cambourne, which is similarly likely to provide new services and facilities. Whilst the full range of services and facilities are not likely to be provided within the plan period, these larger developments also offer an opportunity to design streetscapes and buildings suitable for all.

C.20 In addition, a new railway station and public transport improvements are expected to be delivered at Cambourne, which may be particularly useful to access to Cambridge for those unable or unwilling to drive (including young people or those who cannot afford a car), as well as other large settlements outside Greater Cambridge, therefore giving access to a wider range of services and facilities. However, there is some uncertainty regarding when these will come forward, which could leave residents with less access to services and facilities further afield, at least early in the plan period.

C.21 Both options include some growth at villages. Although villages generally have less access to services and facilities, development may help to support existing services and facilities at these villages, providing this is distributed between a number of villages. This may be particularly important for the villages' older residents (the population in rural areas have a higher average age than Cambridge City) although it may be difficult for residents to access employment, services and facilities elsewhere, particularly if good public transport links do not exist, which could disadvantage the less mobile or those unable or unwilling to drive, such as young people, or those who cannot afford a car. Car-dependent development could also disadvantage pregnant women and others who need to regularly access healthcare services.

C.22 Both options also include development within the 'Southern cluster', which will help to ensure housing is well-located with regard to existing centres of employment. The Southern cluster villages have some services and facilities, including schools and doctors' surgeries, particularly in Great Shelford, Sawston and Linton, although it is uncertain how much capacity these have to accommodate growth. Development at these villages may help to boost the vitality and viability of village services and facilities, which is particularly likely to benefit older people and the less mobile, although growth may also put pressure on the capacity of existing services. It is not known if the demographics of the Southern cluster area differ substantially from other areas within Greater Cambridge. Effects of development in this area are uncertain, as it depends on the final location of development that might be allocated.

C.23 Both options also include increased delivery rates at Northstowe and Waterbeach, which could potentially provide the critical mass for new services and facilities to come forward quicker, which may benefit older people and the less mobile.

C.24 For 2020-2041, both options are expected to have mixed minor positive and minor negative effects. The minor positive effects are expected to become significant positive effects when fully built out, due to additional provision of services and facilities, including rapid transport links at Cambourne for the preferred option.

Best performing option

C.25 Overall, Options 6 ‘Public transport corridors’, 7 'Supporting a high-tech corridor by integrating homes and jobs' and 8 ‘Expanding a growth area around transport nodes’ arguably perform best, as development at new settlements, Cambourne extensions and North East Cambridge will provide new services to meet the day to day needs of residents, whilst also being within easy access to Cambridge (and Cambourne) and supporting villages and rural centres, therefore likely benefitting less mobile residents, such as older and disabled people. Options 1 ‘Densification of existing urban areas’, 2 ‘Edge of Cambridge – outside Green Belt’, 4 ‘Dispersal – new settlements’, 9 ‘Preferred options spatial strategy (Blended strategy including Cambourne)’ and 10 ‘Blended Strategy including Edge of Cambridge: Green Belt’ also perform well when fully built out.

C.26 All options include a mix of development in and around Cambridge, which provides good access to services, facilities and employment opportunities, and many also include some growth in more rural locations, which is likely to help support services and facilities in those locations, and may even help provide new facilities or build a business case for improved public transport.

SA objective 4: Health

Table C.5: SA effects for SA objective 4: Health

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+?	++/--
2. Edge of Cambridge – outside the Green Belt	+/-?	++/-?
3. Edge of Cambridge – Green Belt	+/-	0
4. Dispersal - new settlements	+?	++?
5. Dispersal - villages	+/-?	0
6. Public transport corridors	+/-	++/-
7. Supporting a high-tech corridor by integrating homes and jobs	+/-	++/-
8. Expanding a growth area around transport nodes	+/-	++/-
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--/+	++/-
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+	++/-

C.27 Both options 9 and 10 include densification of Cambridge, including increased density at North West Cambridge, and development on the edge of Cambridge, which would result in many residents living in close proximity to their workplace, as well as a range of local amenities, including healthcare and recreation facilities. This would encourage active travel such as walking and cycling. However, the Infrastructure Study (2020) states that it is thought much of Cambridge's infrastructure is at or close to capacity. Furthermore, large parts of Cambridge City centre are an air quality management area (AQMA), and there is an AQMA along the A14, which coincides partly with North East Cambridge and with North West Cambridge. Therefore, poor air quality could have an adverse effect on people's health. Air quality issues could also be exacerbated by development around Cambridge, but may lessen beyond the plan period as services and facilities are provided more locally. Both options also include large new developments around the edge of Cambridge, such as North East Cambridge and Cambridge Airport, which are already within close proximity to a range of amenities, services and facilities and may also provide new open space, recreation and healthcare facilities. Furthermore, at these larger developments, walking and cycling routes can be designed in from the outset. The preferred option also includes substantial growth at Cambourne, which is similarly likely to provide new health and recreation facilities, as well as including large developments that can be designed to promote walking and cycling. New healthcare facilities are only likely to come forward beyond the plan period.

C.28 The Green Infrastructure (GI) Study Supplement (2021) recognised that development at North East Cambridge, North West Cambridge and Cambridge Airport provides greater opportunities for integrating GI, although they may present greater risks to the existing GI network, e.g. due to increased recreational pressure on nearby sites. With regards to development at Cambourne (preferred option only), the Green Infrastructure Study identifies that this option has potential to extend or exacerbate north-south severance of GI, but also to introduce GI connectivity across the A428 corridor and develop active transport connections. However, development distributed among villages may result in piecemeal delivery of GI.

C.29 The 'Blended Strategy including Edge of Cambridge: Green Belt' option includes further growth on Green Belt land on the edge of Cambridge. The Green Infrastructure Study Supplement (2021) noted that this may present an opportunity for urban extensions to cater for GI deficits in neighbouring urban areas and positively enhance the remaining Green Belt.

C.30 Both options also include growth at villages, which could place increasing pressure on existing services, such as primary healthcare, recreational and sporting facilities and amenities, and is unlikely to provide any additional facilities. Furthermore, it is likely that new residents in the villages would need to drive to

access a wider range of jobs, facilities and amenities in larger settlements/urban areas, resulting in less active travel and an increase in poor air quality across Greater Cambridge which could have an adverse effect on people's health.

C.31 Both options also include growth within the 'Southern cluster'. The Green Infrastructure Study Supplement (2021) states that development in this area could enable enhancement of GI, including contributing to strategic GI initiatives. There is a reasonable amount of existing open space provision in the area and there are also a limited number of existing healthcare facilities in this area. Both options include substantial employment growth at Cambridge Biomedical Campus, which is likely to help progress wider medical research and advances.

C.32 Both options also include increased delivery rates at Northstowe and Waterbeach, which both include or are near to healthcare facilities and faster growth could potentially provide the critical mass for new services and facilities to come forward more quickly.

C.33 For 2020-2041, all growth scenarios are expected to have a mixed minor positive and significant negative effect, but a mixed significant positive and minor negative uncertain effect when fully built out.

Best performing option

C.34 Option 4 'Dispersal – new settlements' performs well, as new settlements are likely to be of a scale that requires the development of new healthcare services and amenities, along with being large enough to design space for active travel, green infrastructure and open space. All options except Option 5 'Dispersal – villages' perform relatively well when fully built out, although those that include locations within or near the urban area of Cambridge have potential to be affected by poor air quality. For all options, effects will depend on the specific location, design and size of development.

C.35 Option 5 'Dispersal – villages' performs least well, as it is likely to result in development that would not be of scale that requires new facilities, amenities and open space, and may increase demand on existing services and facilities that cannot be met. It is also more likely to result in piecemeal delivery of GI, failing to support strategic interventions or the wider GI network. Options 9 'Preferred options spatial strategy (Blended strategy including Cambourne)' and 10 'Blended Strategy including Edge of Cambridge: Green Belt' perform poorly in the shorter term, as development in and around Cambridge and in villages may put pressure on existing infrastructure in the shorter term, but perform similarly to other options when fully built out, due to the provision of additional health and recreation infrastructure.

SA objective 5: Biodiversity and geodiversity

Table C.6: SA effects for SA objective 5: Biodiversity and geodiversity

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+?	--/+?
2. Edge of Cambridge – outside the Green Belt	--/+?	--/+?
3. Edge of Cambridge – Green Belt	--/+?	0
4. Dispersal - new settlements	--/+?	--/+?
5. Dispersal - villages	--?	0
6. Public transport corridors	--/+?	--/+?
7. Supporting a high-tech corridor by integrating homes and jobs	--/+?	--/+?
8. Expanding a growth area around transport nodes	--/+?	--/+?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--/+?	--/+?
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+?	--/+?

C.36 Note that the HRA Study 2020 and HRA Study Supplement (2021) identified a range of potential impacts on European sites for each of options 9 and 10, but notes that the level of risk and severity of each impact will be assessed in more detail as part of the full HRA. Reflecting that further HRA work is required to enable firm conclusions on potential risks to European sites, all effects for this SA objective are therefore recorded as uncertain.

C.37 Both options 9 and 10 include densification of Cambridge, including a small amount of development within the urban area and development at North East Cambridge, which is primarily urban brownfield land, which is less likely to be of biodiversity value. However, brownfield land can sometimes be of ecological interest, including brownfield mosaic habitat at North East Cambridge, and there are a number of biodiversity sites within Cambridge that could be affected by development within, or around the urban area. In addition, North West Cambridge includes a geological Site of Special Scientific Interest (SSSI), which could be at risk of degradation from increased density of development in this area, for example as a result of vandalism. In addition, the Green Infrastructure Study (2020) noted that, whilst densification of Cambridge could increase pressure on existing nature conservation sites, there may be opportunities to use GI to support delivery of

Natural England's Habitat Network nearby opportunity zones and support pollinator corridors – particularly in the south of Cambridge.

C.38 In addition, both options include development at Cambridge Airport, another brownfield site. Much of this site is in the form of open grass areas, which is mown regularly, but habitats along the boundary, such as wooded areas and drainage ditches, can act as foraging 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 site could be considered to form part of the wider ecological network due to habitats along the boundary. The Green Infrastructure Study Supplement (2021) highlighted that development at North East Cambridge and Cambridge Airport could increase pressure on wetland assets to the east and north east. There are Biodiversity Opportunity Areas present around the edge of the Cambridge Airport 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.

C.39 The Blended Strategy including Edge of Cambridge: Green Belt includes further growth on greenfield land around the edge of Cambridge, which could have a negative effect on biodiversity including the loss of local species, wildlife and their habitats. The Green Belt fringe supports significant habitat opportunity zones (as identified by Natural England Habitat Network mapping) in the south east and south west in particular, and to a lesser extent to the west around Coton. There is some sensitivity within Green Belt corridors that protrude into urban areas where assets are at greatest risk of fragmentation or severance. Green Belt Fringe areas of particular sensitivity include the Cam corridor through Trumpington, Fen Ditton and Grantchester which are vulnerable to hydrological change and recreational pressure. 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.

C.40 The preferred option includes substantial development at Cambourne. The area contains a number of designated and non-designated habitats. For example, north west of Cambourne is Elsworth Wood, which is designated as ancient woodland and a SSSI. North east of Cambourne is Knapwell Woods and east is Bucket Hill Plantation Grassland both of which are Local Wildlife Sites. It is therefore possible that development could take place within close proximity to these biodiversity assets, even if the sites themselves remain protected from development. It is noted that greenfield sites themselves are not always of particular ecological value, but they can provide supporting habitat for nearby more sensitive locations. Larger new developments, such as North East Cambridge, Cambridge Airport and growth at

Cambourne, are able to incorporate green infrastructure and ecological networks into designs. The exact locations of the developments are unknown, leading to uncertainty.

C.41 Both options also include some village growth. As many of the villages across Greater Cambridge contain or are located within close proximity to designated and non-designated biodiversity assets, and development is likely to come forward on greenfield land, both options could lead to loss of biodiversity, depending on the exact location of village growth. Depending on the detailed distribution of development, potential impacts on international sites may occur via hydrological connectivity or quality, recreational impact, air quality impact, or through habitat loss or damage (of designated or functionally linked land). It may also be more challenging to deliver integrated ecological networks as part of individual development proposals, due to their likely smaller scale.

C.42 Both options also include housing growth at the 'Southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. The Green Infrastructure Study Supplement (2021) states that housing delivery in this area provides opportunities to enhance to GI network, including contributing to pollinator corridors and revitalising the chalk stream network.

C.43 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which is likely to be on greenfield land. However, such effects are likely to be minor, given that the area of land to be lost is likely to be relatively small and adjacent to existing industrial uses and a busy road.

C.44 Both options also have potential to impact biodiversity designations of national and international importance, including those in closest proximity to Cambridge, including the wider south east fenland complex (Wilbraham Fen, Fulbourn Fen, and associated watercourses) and north east fen-peat complex (Stow-cum-Quy Fen, Cam Washes, Wicken Fen and local peatlands). This is particularly the case for the 'Blended Strategy including Edge of Cambridge: Green Belt' option, given it includes greater levels of Growth around Cambridge. The Green Infrastructure Study Supplement (2021) also states that growth around Cambourne has potential to affect the Eversden and Wimpole SAC and woodland SSSIs, as the SAC supports barbastelle bats, who rely on habitats in the wider area for foraging.

C.45 The HRA Supplement (2021) recognised that both options have potential for effects on a number of internationally important biodiversity sites, but notes substantial uncertainty as effects depend on the final location and nature of development.

C.46 For 2020-2041, both options are expected to have mixed minor positive and significant negative effects with uncertainty. The effects are all uncertain as it will depend on the exact location of sites and design details, such as whether developments include green infrastructure and open green spaces. These effects are expected to be the same both within the plan period and when fully built out, particularly as construction for elements coming forward beyond 2041 is likely to commence within the plan period, and therefore effects are expected to arise from that point.

Best performing option

C.47 There is no one option which outperforms the other options. However, development that is focused in urban areas or on brownfield land is less likely to have a negative effect on Objective 5. Furthermore, development at new settlements or larger sites offers the opportunity to design in green infrastructure, networks and corridors from the outset (which could include protecting existing features, such as hedgerows and waterbodies), which will have a positive effect on SA objective 5. Option 5 'Dispersal – villages' performs least well as this option includes development at a broad range of locations, so it is likely that development would take place on greenfield land and may intersect with or be adjacent to an ecological designation. In addition, mitigation and enhancement measures will be more difficult to achieve due to the likely smaller scale of development.

SA objective 6: Landscape and townscape

Table C.7: SA effects for SA objective 6: Landscape and townscape

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+	--/+
2. Edge of Cambridge – outside the Green Belt	--/+	--/+
3. Edge of Cambridge – Green Belt	--/+?	0
4. Dispersal - new settlements	--/+?	--/+?
5. Dispersal - villages	-?	0
6. Public transport corridors	--/+?	--/+?
7. Supporting a high-tech corridor by integrating homes and jobs	--/+?	--/+?
8. Expanding a growth area around transport nodes	--/+?	--/+

Strategic Spatial Options	2020-2041	All time
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--/+?	--/+?
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+	--/+

C.48 Both options 9 and 10 include densification of Cambridge and development on the edge of Cambridge, which could have an adverse effect on the historic townscape, views within, into, and out of the city and the setting of the city. The Landscape Study Supplement (2021) identifies that densification of the Cambridge urban area could result in tall buildings, which may alter the historic townscape and key views towards the city. In addition, all landscape character types surrounding Cambridge have features that are vulnerable to change, which could be a particular issue for the 'Blended Strategy including Edge of Cambridge: Green Belt' option, as this includes greater growth on the edge of Cambridge. The Landscape Study Supplement (2021) notes that the 'Blended Strategy including Edge of Cambridge: Green Belt' option may alter the setting of Cambridge, including in relation to its historic core and views into and out of the city. However, both options also include redevelopment of North East Cambridge and other brownfield development, which could improve the townscape and landscape if development is considerate to existing surroundings. Both options include Cambridge Airport, a site that is predominantly grassland. 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, therefore the absence of these after development may improve the tranquillity of the area. The Landscape Study Supplement (2021) suggests the 'new urban edge' of development at the airport would be a prominent feature in the landscape.

C.49 Both options include a relatively small amount of growth at village locations. The Landscape Study Supplement (2021) suggests that this growth may cause some harm to local landscape and townscape features. Nevertheless, this development is likely to be distributed so that any one settlement receives a relatively small level of growth, therefore the effect on the landscape/townscape is likely to be fairly minor. Both options also include growth in the 'southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. Whilst this would introduce more development to a predominantly rural area, and has potential to lead to settlement coalescence, this is considered less likely due to the relatively small level of development in this area.

C.50 The preferred option includes substantial growth around Cambourne. Given that the area around Cambourne is largely rural, substantial growth in this area would

alter the local landscape and may bring a sense of urbanisation to the area. However, large new developments provide an opportunity to consider the character and distinctiveness of the area and design it sensitively from the outset. The final location, design and layout of the proposed development is not yet known so the effects are uncertain.

C.51 Both options also include employment growth on the A14 corridor (in the vicinity of Swavesey junction). Whilst this area is rural, effects are likely to be limited, given that the area of land to be lost is likely to be relatively small and adjacent to existing industrial uses and a busy road.

C.52 For 2020-2041, both options are expected to have mixed minor positive and significant negative effects, which is the same when fully built out. Effects are uncertain for the preferred option, due to the uncertainties regarding the final location, design and layout of development at Cambourne.

Best performing option

C.53 Most options perform similarly, as all but Option 5 'Dispersal – villages' have potential for minor positive and significant negative effects.

C.54 Option 5 'Dispersal – villages' arguably performs best, as more dispersed development is less likely to lead to significant landscape change. Whilst Option 4 'Dispersal – new settlements' would have minimal effects on the historic townscape of Cambridge, new settlements would result in substantial change to the local landscape, which would change from rural to urban.

SA objective 7: Historic environment

Table C.8: SA effects for SA objective 7: Historic environment

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--	--
2. Edge of Cambridge – outside the Green Belt	--?	--?
3. Edge of Cambridge – Green Belt	--?	0
4. Dispersal - new settlements	--?	--?
5. Dispersal - villages	--?	0
6. Public transport corridors	--?	--?

Strategic Spatial Options	2020-2041	All time
7. Supporting a high-tech corridor by integrating homes and jobs	--?	--?
8. Expanding a growth area around transport nodes	-?	-?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	-?	-?
10. Blended Strategy including Edge of Cambridge: Green Belt	--	--

C.55 Both options 9 and 10 include densification of Cambridge, including increased density at North West Cambridge, and development on the edge of Cambridge. Cambridge contains a high number of heritage assets, including listed buildings, as well as a number of scheduled monuments and registered parks and gardens, particularly associated with the University. There are a large number of conservation areas in the city, including at North West Cambridge. Development, and increased density of development, in and around Cambridge could have an adverse effect on heritage assets, the historic townscape, views within, into, and out of the city and the setting of the city. This could be a particular issue for the 'Blended Strategy including Edge of Cambridge: Green Belt' option, as this includes greater growth on the edge of Cambridge. However, both also include redevelopment of North East Cambridge and other brownfield development, which would be less likely to adversely affect the setting of heritage assets, if well-designed. Both options also include development at Cambridge Airport, where there is an airport control tower that is Grade 2 listed. Development of the airport could remove the historic context of this feature. However, less air traffic may have a positive effect on the setting of the historic city.

C.56 Both options include a relatively small level of development in the villages, many of which include conservation areas, contain listed buildings or are located within close proximity to listed buildings, scheduled monuments and registered parks and gardens. If development is dispersed across a range of villages and rural centres, it is more likely to affect a wider range of assets. Both options also include growth in the 'southern cluster'. This area contains a number of listed buildings, scheduled monuments and conservation areas. However, the exact location of growth in this area is unknown, so effects are uncertain.

C.57 Both options also include employment growth at Cambridge Biomedical Campus and Babraham. Whilst there are few designated heritage assets at or in the immediate vicinity of Cambridge Biomedical Campus, a large expansion of this site has potential to affect the historic city. However, effects of this particular development alone are unlikely to be significant. Babraham has a number of designated assets, including listed buildings and a conservation area, which are likely to be affected by

employment development in the area, although the scale of effects depends on the final location, layout and design of development.

C.58 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction). There are a no designated heritage assets within the immediate vicinity of the site, and given this existing setting of industrial development and the A14, development here is unlikely to affect the setting of assets further afield.

C.59 The preferred option includes substantial growth at Cambourne, which itself has no listed buildings, conservation areas, scheduled monuments or registered parks and gardens. There are a small number of listed buildings in close proximity to Cambourne and to the south and north east of Cambourne there are registered parks and gardens. To the south and west there are scheduled monuments. Development around Cambourne is unlikely to affect much in the way of historic assets or features, but this is uncertain depending on the final location, design and layout of development.

C.60 The Strategic Heritage Impact Assessment Supplement (2021) considers the preferred option to have low/moderate risk to the historic environment and the 'Blended Strategy including Edge of Cambridge: Green Belt' option to have moderate risk, due to the greater level of growth around Cambridge.

C.61 For 2020-2041, the preferred option is expected to have minor positive uncertain effects and the 'Blended Strategy including Edge of Cambridge: Green Belt' option is expected to have significant negative effects. These are expected to be the same when fully built out. The effects for the preferred option are uncertain, as effects depend on the final location, design and layout of development.

Best performing option

C.62 Option 8 'Expanding a growth area around transport nodes' performs best (although it would have a minor negative effect). This is because it has more potential to locate development in less sensitive areas in terms of the historic environment.

C.63 All other options have the potential to result in significant harm to the historic environment, as Greater Cambridge has a number of historic assets in both urban and rural locations, as well as within the city of Cambridge itself.

SA objective 8: Efficient use of land

Table C.9: SA effects for SA objective 8: Efficient use of land

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	++	++
2. Edge of Cambridge – outside the Green Belt	++/--?	++/--?
3. Edge of Cambridge – Green Belt	--/+?	0
4. Dispersal - new settlements	++/--?	++/--?
5. Dispersal - villages	--?	0
6. Public transport corridors	--/+?	--/+?
7. Supporting a high-tech corridor by integrating homes and jobs	--?	--?
8. Expanding a growth area around transport nodes	--/+?	--/+?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--/+?	--/+?
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+?	--/+?

C.64 Both options 9 and 10 include densification of Cambridge, including development of North East Cambridge, and development of Cambridge Airfield, and likely other brownfield sites. This will help to minimise the loss of high-quality agricultural land. Whilst Cambridge Airfield is a brownfield site, it does contain open grassland and associated soil resources (although unlikely to be used for commercial farming).

C.65 The 'Blended Strategy including Edge of Cambridge: Green Belt' option would include development of greenfield land around Cambridge. The areas around the city of Cambridge consist of Grades 1, 2 and 3 agricultural land, therefore it is possible or even probable that high-quality agricultural land could be lost. The preferred option includes substantial development around Cambourne. Cambourne and the surrounding area has a large amount of Grade 1, 2 and 3 agricultural land, which could be lost to development. However, the exact location of the development is not yet known, so the effect is uncertain.

C.66 Both options include a relatively small amount of development at villages, which is likely to be on greenfield land. This could be high-quality agricultural land, as a large part of South Cambridgeshire consists of Grades 1, 2 and 3 agricultural land.

However, the exact location of the development is unknown, so the effect is uncertain.

C.67 Both options also include growth in the 'southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. This area includes large areas of Grades 2 and 3 agricultural land, some of which could be lost to development (although development at Cambridge Biomedical Campus may take place in the urban area).

C.68 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which constitutes primarily Grade 3 agricultural land, which could be lost to development.

C.69 For 2020-2041, both options are expected to have mixed minor positive and significant negative uncertain effects. This is the same when fully built out. Effects are uncertain as they depend on the final location and layout of development.

Best performing option

C.70 Option 1 'Densification of existing urban areas' performs best, as development under this option is likely to be focused on brownfield sites and therefore less likely to affect the wider rural areas of Greater Cambridge where there is the best and most versatile agricultural land. The focus source of supply for Option 2 'Edge of Cambridge – outside Green Belt' is at Cambridge Airport, a large brownfield site, albeit with existing soil resources in the large, grassy areas. However, in order to provide sufficient housing this option also includes potential greenfield sites, including at new settlements for the medium growth scenario. All options except Option 3 'Edge of Cambridge – Green Belt', 4 'Dispersal – new settlements' and 5 'Dispersal – villages' also include North East Cambridge, a large brownfield site on the outskirts of Cambridge. However, all options also include other sources of supply.

C.71 Option 5 'Dispersal – villages' performs least well as this options includes development at a broad range of rural locations, so it is likely that development will take place on greenfield land, which has greater potential to be Grade 1, 2 or 3 agricultural land.

SA objective 9: Minerals

Table C.10: SA effects for SA objective 9: Minerals

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--?	--?
2. Edge of Cambridge – outside the Green Belt	--?	--?
3. Edge of Cambridge – Green Belt	--?	0
4. Dispersal - new settlements	--?	--?
5. Dispersal - villages	--?	0
6. Public transport corridors	--?	--?
7. Supporting a high-tech corridor by integrating homes and jobs	--?	--?
8. Expanding a growth area around transport nodes	-?	-?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--?	--?
10. Blended Strategy including Edge of Cambridge: Green Belt	--?	--?

C.72 Both options 9 and 10 include densification of Cambridge, including increased density at North West Cambridge, and development around Cambridge. The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt. Cambridge and the surrounding area (including North East Cambridge, North West Cambridge and Cambridge Airport) lie within Minerals Safeguarding Areas, albeit very little minerals extraction is likely to take place in or adjacent to the urban area.

C.73 Both options also include a relatively small amount of growth in villages, which could include areas within Minerals Safeguarding and Consultation Areas. However, this depends on the specific location of any particular development that come forward. The 'Southern cluster', Cambridge Biomedical Campus and Babraham, which are included in both options, lie within Minerals Safeguarding Areas for chalk, and sand and gravel.

C.74 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which does not intersect with any Minerals Safeguarding Areas.

C.75 The preferred option includes substantial growth at Cambourne. Cambourne and the surrounding area do not contain any Minerals Safeguarding Areas and

Minerals Consultation Areas so development is unlikely to coincide with these designations.

C.76 Overall, development is likely to come forward within Mineral Safeguarding Areas and therefore could sterilise mineral resources. As such, from 2020-2041, both options are expected to have significant negative uncertain effects. This effect is the same when fully built out.

Best performing option

C.77 Option 8 'Expanding a growth area around transport nodes' performs best as Cambourne and the surrounding area is not within a Minerals Safeguarding or Consultation Area (although there is a possibility that other growth included in this option could lie within a Minerals Safeguarding Area). All other options have potential to result in development that could be within Minerals Safeguarding Areas or a Minerals Consultation Areas.

SA objective 10: Water

Table C.11: SA effects for SA objective 10: Water

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+?	++/--?
2. Edge of Cambridge – outside the Green Belt	--/+?	++/--?
3. Edge of Cambridge – Green Belt	--/+?	0
4. Dispersal - new settlements	--/+?	++/--?
5. Dispersal - villages	--/+?	0
6. Public transport corridors	--/+?	++/--?
7. Supporting a high-tech corridor by integrating homes and jobs	--/+?	++/--?
8. Expanding a growth area around transport nodes	--/+?	++/--?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	--/+?	++/--?
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+?	++/--?

C.78 Greater Cambridge lies within an area of water stress, where water resources are under substantial pressure, which will be exacerbated by new development. The

Water Study identified that supplying water for this level of development can be accommodated if regional scale solutions are operations by the mid-2030s, and that interim measures will be necessary beforehand. However, the study also notes that development in the Cambourne area could have good opportunities for water resources with the potential to be supplied by bulk transfer, which could reduce water supply issues in the short term.

C.79 Both options 9 and 10 include growth in the Cambridge urban area, including increased density at North West Cambridge, and at North East Cambridge. North East Cambridge is not within a Source Protection Zone (SPZ). Cambridge contains two SPZs (1 and 2) by The Leys School. However, since built development is already present at these SPZs; it is unlikely that any development coming forward would take place within these SPZs. Furthermore, both options include development at Cambridge Airport which is not in a SPZ. The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt, which could include development within an SPZ, depending on the final location of development. Wastewater from these developments in and around Cambridge could be accommodated in the new Cambridge Water Recycling Centre (WRC) however, this is dependent on timing. Maintaining water quality is likely to be achievable with some mitigation measures at the new WRC, but interim mitigation may be necessary before new works are operational.

C.80 The preferred option includes substantial growth at Cambourne. Any extension to Cambourne may result in wastewater issues, as both Bourn and Uttons Drove WRC have capacity limitations that would require addressing. Maintaining water quality is likely to be achievable with some mitigation measures at the relevant WRC.

C.81 Both options include a relatively small amount of village growth and growth within the 'Southern cluster', although exact locations are not specified, and employment growth at Cambridge Biomedical Campus and Babraham. Wastewater from these developments is generally expected to be able to be accommodated (although it is noted some WRC catchments lack capacity), although this is dependent on the specific location and timing of development. Maintaining water quality is likely to be achievable, with some mitigation measures at the relevant WRC. As the locations of the new housing developments are unknown, it is not possible to state whether these developments would be within a SPZ. Cambridge Biomedical Campus is not within an SPZ but part of Babraham lies within SPZ1, with surrounding areas of SPZ2 and 3.

C.82 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which is not within a SPZ.

C.83 Water recycling and new blue-green infrastructure may be easier to implement across larger sites, such as at Cambourne, North East Cambridge and Cambridge Airport, although this is more likely to come forward in the longer term, resulting in minor positive effects within the plan period and potential significant positive effects beyond.

C.84 For 2020-2041, a mixed minor positive and significant negative effect with uncertainty is identified for both options. Mixed significant positive and significant negative effects with uncertainty are expected for both options when fully built out. These effects are based on a precautionary approach, which does not assume mitigation will be in place.

Best performing option

C.85 It is not possible to distinguish a best performing option. The Water Study Supplement (2021) concludes that the most preferable spatial options are Option 2 'Edge of Cambridge – outside Green Belt' and Option 4 'Dispersal – new settlements', following by the preferred option, whereas the least preferable option is Option 5 'Dispersal – villages'. However, this also takes into account flood risk, which is considered under SA objective 11.

C.86 Availability of water resources is a major issue in Greater Cambridge and the surrounding area. It is noted that the level of growth has significant constraints with regards to water supply that would require regional-scale solutions to be operational by the mid-2030s.

SA objective 11: Adaptation to climate change

Table C.12: SA effects for SA objective 11: Adaptation to climate change

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+	++/--
2. Edge of Cambridge – outside the Green Belt	+/-?	++/-?
3. Edge of Cambridge – Green Belt	++/--	0
4. Dispersal - new settlements	--/+?	++/--?
5. Dispersal - villages	-?	0
6. Public transport corridors	+/-?	++/-?
7. Supporting a high-tech corridor by integrating homes and jobs	+/-	++/-

Strategic Spatial Options	2020-2041	All time
8. Expanding a growth area around transport nodes	-?	+/-?
9. Preferred options spatial strategy (Blended strategy including Cambourne)	+/-?	++/-?
10. Blended Strategy including Edge of Cambridge: Green Belt	+/-?	++/-?

C.87 Both options 9 and 10 include development within the city of Cambridge, which 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, and Cambridge also has high levels of surface water flood risk. North East Cambridge (included in both options) is not within Flood Zones 2 or 3 and North West Cambridge only includes a very small area within Flood Zone 2, in the northern part of the site. Development within the urban area is likely to be on brownfield and North East Cambridge is a brownfield site, which may help reduce any additional risk of flooding through new development due to not increasing the area of impermeable surfaces when compared to greenfield development. Both options also include development at Cambridge Airport, which is not within Flood Zones 2 or 3. This site constitutes brownfield land, which may help to reduce any additional risk of flooding as a result of development, although large parts of the site are currently areas of grass. The site also has some areas at risk of surface water flooding. The Water Study (2020) states that North East Cambridge is in an area at low risk of flooding and has good opportunities to retrofit sustainable drainage systems (SuDS) and other flood risk measures, and that development at Cambridge Airport could use on-site attenuation to reduce flood risk downstream.

C.88 The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt. The edge of Cambridge does not contain many areas that fall within Flood Zones 2 or 3, although the Water Study notes that existing fluvial flood and surface water flood risk may make individual sites difficult to deliver, depending on location. Development around the edge of Cambridge is also likely to increase the amount of impermeable areas, which will reduce the infiltration capacity and flood retention provided by greenfield land. However, these developments, particularly larger individual developments, present the opportunity for green spaces to be delivered on-site and to use large scale features in larger sites to reduce flood risk downstream. In addition, provision of green space could incorporate sustainable drainage systems and build climate resilience in the area, especially if the open spaces are naturally designed compared to simple amenity space.

C.89 Both options include a relatively small level of growth at villages and within the 'Southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. It is likely that most development within the villages of Greater Cambridge and the 'Southern cluster' will be on greenfield land, which would increase the risk of flooding in the area through the increase of impermeable surfaces. This will reduce the infiltration capacity and flood retention provided by greenfield land. In Greater Cambridge Flood Zones 2 and 3 correspond with the River Cam and its tributaries, therefore there are patches of Flood Zones 2 and 3 throughout the area (not so much in the Southern cluster, but this could be an issue for village development). As such an increase in flooding would depend on the exact location of the development. Sites coming forward under this option are unlikely to be large enough to offer significant betterment in terms of flood risk.

C.90 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which is likely to be on greenfield land. This could increase the area of impermeable surfaces and therefore increase surface water flooding.

C.91 The preferred option includes growth at Cambourne, which is likely to be on greenfield land, therefore the risk of flooding is likely to rise due to the increase of impermeable areas. There are patches of Flood Zones 2 and 3 within the southern section of Cambourne and the Water Study states that the area has some surface water flood risk, but it should be feasible to safely manage this within development. As such, development could be at some risk of flooding, however the exact locations are uncertain at this time. The large scale of development at Cambourne would be expected to provide new green space, which could incorporate sustainable drainage systems and build climate resilience in the area, especially if the open spaces are naturally designed compared to simple amenity space. The Green Infrastructure Study Supplement (2021) states that this option could provide opportunities to enhance wetland and grassland habitat (possibly as biodiversity mitigation measures), which could support flood management.

C.92 For 2020-2041, both options are expected to have mixed minor positive and minor negative effects. When fully built out, both are likely to have mixed significant positive and minor negative effects. Effects are uncertain as they depend on the exact location, layout and design of development.

Best performing option

C.93 For 2020-2041, Option 3 'Edge of Cambridge – Green Belt' is the only option expected to have significant positive effects, as it is more likely to be able to avoid areas at high risk of flooding and could include flood betterment measures, although significant negative effects are also identified. When fully built out: Options 2 'Edge of

Cambridge – outside the Green Belt', 6 'Public transport corridors', 7 'Supporting a high-tech corridor by integrating homes and jobs', 9 ‘Preferred options spatial strategy (Blended strategy including Cambourne)’ and 10 ‘Blended Strategy including Edge of Cambridge: Green Belt’ perform best because, whilst they could lead to minor negative effects due to development of greenfield land, they all include larger developments, which have potential to incorporate features such as SUDs and green infrastructure.

C.94 The Water Study Supplement (2021) concludes that the most preferable spatial options are Option 2 ‘Edge of Cambridge – outside Green Belt’ and Option 4 ‘Dispersal – new settlements’, followed by the preferred option, whereas the least preferable option is Option 5 ‘Dispersal – villages’. However, this also takes into account water resources, water quality and wastewater treatment, which are considered under SA objective 10.

SA objective 12: Climate change mitigation

Table C.13: SA effects for SA objective 12: Climate change mitigation

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	++/-	++/-
2. Edge of Cambridge – outside the Green Belt	--/+	++/--
3. Edge of Cambridge – Green Belt	+/-?	0
4. Dispersal - new settlements	--/+?	++/--
5. Dispersal - villages	--	0
6. Public transport corridors	++/--?	++/--?
7. Supporting a high-tech corridor by integrating homes and jobs	++/-?	++/-?
8. Expanding a growth area around transport nodes	++/--?	++/--
9. Preferred options spatial strategy (Blended strategy including Cambourne)	++/--?	++/--
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+	++/--

C.95 Both options include development within and around Cambridge, including increased density at North West Cambridge, and development at North East Cambridge and Cambridge Airport. The ‘Blended Strategy including Edge of Cambridge: Green Belt’ option also includes further growth around Cambridge within the Green Belt. Development at these locations is likely to have good access to

existing services, facilities and employment within Cambridge, therefore minimising the need to travel, as well as good access to sustainable transport links. This will help to minimise the increase in carbon emissions arising from new development. Whilst capacity of services and facilities within Cambridge is limited, larger developments, such as North East Cambridge and Cambridge Airport, are expected to provide additional infrastructure and can design in walking and cycling from the outset. However, the Cambridge Airport area and areas to the east and south of Cambridge have been identified as having high levels of estimated soil carbon and carbon in vegetation, which could be disturbed or lost as a result of development. Nevertheless, larger developments, such as urban extensions to Cambridge, may have more potential to incorporate low-carbon and energy efficient design, such as district heating networks.

C.96 Both options also include some village growth. This could help support existing services and facilities, although these will be more limited than in Cambridge and the larger settlements. As such, an increase in the reliance on private vehicles is likely in order to access services and facilities and employment opportunities elsewhere, thereby leading to an increase in greenhouse gas emissions. This will be more prevalent in villages without good public transport links, although most are not as well connected via public transport (particularly regarding frequency of services), than larger centres.

C.97 Both options include a limited amount of development in the 'Southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. Development in this area seeks to locate homes within close proximity of jobs, particularly in the life sciences cluster around the south of Cambridge, which could help reduce the need to travel. However, there may be some use of private vehicles, particularly to access Cambridge City.

C.98 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which is near a bus stop but otherwise poorly located with regards to access, due to it not being within a town or city. This would likely result to people driving to work in this area, resulting in an increase in greenhouse gas emissions.

C.99 The preferred option includes development at Cambourne, which is expected to be served by a new railway station and public transport improvements. Cambourne is reasonably well served by services and facilities, which will help to reduce the need to travel, although a substantial number of Cambourne residents commute to Cambridge for work. As such, an increase in development at Cambourne is expected to result in an increase in carbon emissions, although this will be minimised by public transport improvements. In addition, development of a large area could have greater

potential to incorporate low-carbon and energy efficient design, such as district heating networks, as well as designing in walking and cycling from the outset.

C.100 The Carbon Emissions Study Supplement (2021) concluded that there is very little difference between the two options. However, once the new railway station is in place at Cambourne, the preferred option will have lower carbon emissions.

C.101 For 2020-2041, the preferred option is expected to have mixed significant positive and significant negative effects, and the 'Blended Strategy including Edge of Cambridge: Green Belt' option is expected to have mixed minor positive and significant negative effects. The effect for the preferred option is uncertain, as it is uncertain whether the full range of supporting services and facilities will come forward within the plan period. When fully built out, both options are expected to have significant positive and significant negative effects.

Best performing option

C.102 Option 1: 'Densification of existing urban areas' performs best, as it locates development within the existing urban area. As such, proximity to existing services, facilities, employment opportunities and public transport is likely to be better than the other options. In addition, the opportunity to cycle and walk are more prevalent within the urban area, but also could be developed within other sources of supply, as active travel could be included from the design stages. Higher density development also tends to have lower embodied carbon. Options 6 'Public transport corridors' and 9 'Preferred options spatial strategy (Blended strategy including Cambourne)' perform relatively well, as they would likely lead to a higher modal share for sustainable transport.

C.103 Option 7 'Supporting a high-tech corridor by integrating homes and jobs' seeks to reduce traffic in the wider Cambridge area and reduce journey length/times to work. However, the Zero Carbon Study (2020) suggested that Option 6 'Public transport corridors' would likely lead to lower carbon emissions than Option 7. In addition, the Transport Study Supplement (2021) found that Options 2 ' Edge of Cambridge – outside Green Belt' and Option 3 'Edge of Cambridge – Green Belt' would also particularly help support active travel.

C.104 Larger urban extensions, such as those that may come forward through options 3 'Edge of Cambridge – Green Belt', 8 'Expanding a growth area around transport nodes', 9 'Preferred options spatial strategy (Blended strategy including Cambourne)' and 10 'Blended Strategy including Edge of Cambridge: Green Belt', as well as new settlements, may present greater opportunity to incorporate sustainable energy generation, such as district heating networks. All development could also help

to minimise carbon emissions through energy efficient design etc., although the Zero Carbon Study highlights that the main source of carbon emissions for all options is transport.

C.105 Option 5 'Dispersal – villages' performs least well as it is likely to lead to development with high levels of dependency on the private car.

SA objective 13: Air pollution

Table C.14: SA effects for SA objective 13: Air pollution

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	++/--	++/--
2. Edge of Cambridge – outside the Green Belt	--/+	++/--
3. Edge of Cambridge – Green Belt	--/+?	0
4. Dispersal - new settlements	--/+?	++/--?
5. Dispersal - villages	--	0
6. Public transport corridors	--/+?	++/--?
7. Supporting a high-tech corridor by integrating homes and jobs	++/-?	++/-?
8. Expanding a growth area around transport nodes	++/--?	++/--
9. Preferred options spatial strategy (Blended strategy including Cambourne)	++/--?	++/--
10. Blended Strategy including Edge of Cambridge: Green Belt	--/+	++/--

C.106 Both options 9 and 10 include development within and around Cambridge, including increased density at North West Cambridge, and development at North East Cambridge and Cambridge Airport. The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt. Development at these locations is likely to have good access to existing services, facilities and employment within Cambridge, therefore minimising the need to travel, as well as good access to sustainable transport links. This will help to minimise the increase in air pollution arising from new development. Whilst capacity of services and facilities within Cambridge is limited, larger developments, such as North East Cambridge and Cambridge Airport, are expected to provide additional infrastructure and can design in walking and cycling from the outset. However, there is an AQMA within the city of Cambridge and another on the A14 which connects to the centre of the city, North West Cambridge and North East

Cambridge. Whilst development would have good access to services and facilities by non-car modes, it is likely some residents will travel by car or other motorised vehicle, therefore, it is likely that additional development within the urban area and at North East Cambridge will exacerbate the poor air quality within the area.

C.107 Both options also include some village growth. This could help support existing services and facilities, although these will be more limited than in Cambridge and the larger settlements. As such, an increase in the reliance on private vehicles is likely in order to access services and facilities and employment opportunities elsewhere, thereby leading to an increase in air pollution. This will be more prevalent in villages without good public transport links, although most are not as well connected via public transport (particularly regarding frequency of services), than larger centres.

C.108 Both options include a limited amount of development in the 'Southern cluster' and employment growth at Cambridge Biomedical Campus and Babraham. Development in the Southern cluster seeks to locate homes within close proximity of jobs, particularly in the life sciences cluster around the south of Cambridge, which could help reduce the need to travel. However, there may still be some use of private vehicles, particularly to access Cambridge City and new employment at Babraham.

C.109 Both options also include employment growth on the A14 corridor (in vicinity of Swavesey junction), which is near a bus stop but otherwise poorly located with regards to access, due to it not being within a town or city. This would likely result to people driving to work in this area, resulting in an increase in air pollution, including exacerbating air quality issues in the A14 AQMA.

C.110 The preferred option includes development at Cambourne, which is expected to be served by a new railway station and public transport improvements. Cambourne is reasonably well served by services and facilities, which will help to reduce the need to travel, although a substantial number of Cambourne residents commute to Cambridge for work. As such, an increase in development at Cambourne is expected to result in an increase in air pollution, although this will be minimised by public transport improvements.

C.111 For 2020-2041, the preferred option is expected to have mixed significant positive and significant negative effects, and the 'Blended Strategy including Edge of Cambridge: Green Belt' option is expected to have mixed minor positive and significant negative effects. The effect for the preferred option is uncertain, as it is uncertain whether the full range of supporting services and facilities will come forward within the plan period. When fully built out, both options are expected to have significant positive and significant negative effects.

Best performing option

C.112 Option 7 'Supporting a high-tech corridor by integrating homes and jobs' performs best, as it is expected to provide additional services and facilities and walking, cycling at the urban extensions/new settlement and are already located near existing public transport links, employment opportunities and Cambridge City, thereby minimising the need to travel far by private car. The Transport Study Supplement (2021) identified that Option 7 'Supporting a high-tech corridor by integrating homes and jobs' will reduce journey length/times to work. The Transport Study Supplement (2021) also found that Option 1 'Densification of existing urban areas' performed best in terms of promoting active travel (for the maximum growth scenario), but growth in and around Cambridge has potential to exacerbate air quality issues in existing AQMAs, as some new residents will travel by car or other private vehicle, increasing traffic in these areas to some extent. Options 6 'Public transport corridors' and 9 'Preferred options spatial strategy (Blended strategy including Cambourne)' perform relatively well, as they would likely lead to a higher modal share for sustainable transport.

C.113 Option 5 'Dispersal – villages' performs least well as it is likely to lead to development with high levels of dependency on the private car.

SA objective 14: Economy

Table C.15: SA effects for SA objective 14: Economy

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+	++/--
2. Edge of Cambridge – outside the Green Belt	--/+?	++/--?
3. Edge of Cambridge – Green Belt	+/-?	0
4. Dispersal - new settlements	+/-	++/-
5. Dispersal - villages	+/-	0
6. Public transport corridors	+/-	++/-
7. Supporting a high-tech corridor by integrating homes and jobs	+/-	++/-
8. Expanding a growth area around transport nodes	--/+	++/-
9. Preferred options spatial strategy (Blended strategy including Cambourne)	+/-	++/-

Strategic Spatial Options	2020-2041	All time
10. Blended Strategy including Edge of Cambridge: Green Belt	+/-	++/-

C.114 Both options 9 and 10 include development within and around Cambridge, including increased density at North West Cambridge, and development at North East Cambridge and Cambridge Airport. The 'Blended Strategy including Edge of Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt. This is likely to support the existing economic hub in Cambridge and support the vitality and viability of the city. This is also likely to help support existing businesses, but locating homes, and therefore workers, close to businesses. North East Cambridge and Cambridge Airport will also provide new employment opportunities within close proximity to homes, particularly beyond the plan period.

C.115 Both options also include some village growth and development of two rural employment locations. This will help to support and diversify the rural economy through supporting rural services and facilities, although some may have more limited public transport into the economic hub of Cambridge. Both options include employment growth in two rural locations (A14 corridor and Babraham), which may help diversity the rural economy.

C.116 Both options include a limited amount of development in the 'Southern cluster', including employment growth at Babraham and Cambridge Biomedical Campus. This would support the growth of the science sector, as it would provide easy access to a large amount of job opportunities, and may also provide access to job opportunities within Cambridge as well.

C.117 The preferred option includes development at Cambourne, which is expected to be served by a new railway station and public transport improvements. This could add to the critical mass of population to generate demand for further services and employment provision. Growth around Cambourne would also provide substantial employment growth, as well as access to Cambridge and other larger settlements. It may take a while to build the vibrancy and vitality of new communities themselves, although the wider settlement of Cambourne is more established.

C.118 For 2020-2041 both options are expected to have mixed minor positive and minor negative effects. When fully built out, both options are expected to have mixed significant positive and minor negative effects.

Best performing option

C.119 For 2020-2041, it is difficult to identify a best performing option, although Options 1 ‘Densification of existing urban areas’, 2 ‘Edge of Cambridge – outside the Green Belt’ and 8 ‘Expanding a growth area around transport nodes’ perform worst, as they have potential for significant negative effects.

C.120 When fully built out, Options 4 ‘Dispersal – new settlements’, 6 'Public transport corridors', 7 'Supporting a high-tech corridor by integrating homes and jobs', 8 ‘Expanding a growth area around transport nodes’, 9 ‘Preferred options spatial strategy (Blended strategy including Cambourne)’ and 10 ‘Blended Strategy including Edge of Cambridge: Green Belt’ perform best.

C.121 Options 1 ‘Densification of existing urban areas’ and 2 ‘Edge of Cambridge – outside the Green Belt’ perform least well overall, as they are less likely to be able to meet the full range of employment land needs.

SA objective 15: Employment

Table C.16: SA effects for SA objective 15: Employment

Strategic Spatial Options	2020-2041	All time
1. Densification of existing urban areas	--/+	++/--
2. Edge of Cambridge – outside the Green Belt	--/+?	++/--?
3. Edge of Cambridge – Green Belt	+/-	0
4. Dispersal - new settlements	+/-	++/-
5. Dispersal - villages	--/+	0
6. Public transport corridors	+/-	++/-
7. Supporting a high-tech corridor by integrating homes and jobs	+/-	++/-
8. Expanding a growth area around transport nodes	--/+	++/-
9. Preferred options spatial strategy (Blended strategy including Cambourne)	+/-	++/-
10. Blended Strategy including Edge of Cambridge: Green Belt	+/-	++/-

C.122 Both options 9 and 10 include development within and around Cambridge, including increased density at North West Cambridge, and development at North East Cambridge and Cambridge Airport. The ‘Blended Strategy including Edge of

Cambridge: Green Belt' option also includes further growth around Cambridge within the Green Belt. Development at these locations is likely to have good access to existing employment and sustainable transport to access jobs within Cambridge and North East Cambridge and Cambridge Airport will provide new employment opportunities within close proximity to homes, particularly beyond the plan period.

C.123 Both options also include some village growth and development of two rural employment locations. This will help to provide some employment opportunities in the wider Greater Cambridge area, although there are likely to be more limited job opportunities in the villages and some may have more limited public transport into the economic hub of Cambridge. Whilst a number of existing employment parks have successfully developed near villages, the location of employment distribution may have a bearing on its level of employment success. Both options include employment growth in two rural locations (A14 corridor and Babraham), which will help provide some employment opportunities in more rural areas.

C.124 Both options include a limited amount of development in the 'Southern cluster', including employment growth at Babraham and Cambridge Biomedical Campus. This would support the growth of the science sector, as it would provide easy access to a large amount of job opportunities, and may also provide access to job opportunities within Cambridge as well.

C.125 The preferred option includes development at Cambourne, which is expected to be served by a new railway station and public transport improvements. This option would provide substantial employment growth, as well as access to Cambridge and other larger settlements. The Employment Study Supplement (2021) notes that Cambourne has been slow to develop as an employment location, but has gained traction as a secondary office location in recent years for professional services and ICT.

C.126 The Employment Study Supplement 2021 suggests that both of these options could provide the full range of anticipated employment needs, due to the variety of locations they include, including standalone employment provision and employment provision on mixed-use sites. However, the 'Blended Strategy including Edge of Cambridge: Green Belt' option would better serve further provision of class E(g)(i/ii) employment space (offices, and research and development) and benefit from Cambridge's professional services cluster, whereas the preferred option could possibly deliver employment floorspace in a more sustainable pattern in the long term, due to increased accessibility via railway. It is noted that a large number of employment opportunities will not come forward until after the plan period.

C.127 For 2020-2041, both options are expected to have mixed minor positive and minor negative effects. When fully built out, both options are expected to have significant positive and minor negative effects.

Best performing option

C.128 Options 4 ‘Dispersal – new settlements’, 6 'Public transport corridors', 7 'Supporting a high-tech corridor by integrating homes and jobs', 9 ‘Preferred options spatial strategy (Blended strategy including Cambourne)’ and 10 ‘Blended Strategy including Edge of Cambridge: Green Belt’ perform well, particularly when fully built out. Whilst Option 8 ‘Expanding a growth area around transport nodes’ performs less well within the plan period, it performs well when fully built out as new strategic transport infrastructure is expected to be implemented in the longer term, which would help new residents to access jobs.

C.129 Option 5 'Dispersal-Villages' performs least well, as existing centres of employment are likely to be less accessible to development under this option. Options 1 ‘Densification of existing urban areas’ and 2 ‘Edge of Cambridge – outside the Green Belt’ also perform less well than other options, as they are less likely to be able to meet the full range of employment needs.

Four Further Strategic Spatial Options (2025)

C.130 In 2025, four further Strategic Spatial Options were identified by the Councils in response to the increased objectively assessed need for homes for the plan area, and to ensure fair testing of a Strategic Spatial Option not previously identified. These options are very similar to Strategic Spatial Options 9 and 10 that were tested at the First Proposals stage in 2021 (as summarised above), but provide more specific locations to meet the higher level of growth.

C.131 The four further options are summarised as follows:

- Spatial option 9a: 2025 growth option: Hybrid spatial strategy including new settlement, and expanding Cambourne.
- Spatial option 10a: 2025 growth option: Hybrid spatial strategy including Edge of Cambridge: Green Belt, and expanding Cambourne.
- Spatial option 11a: 2025 growth option: Hybrid spatial strategy including Expanding an existing market town: Royston, and a new settlement.
- Spatial option 11b: 2025 growth option: Hybrid spatial strategy including Expanding an existing market town: Royston, and expanding Cambourne.

C.132 A summary table of the likely effects identified for each of these options is set out in **Table C.2**. The full assessment text describing the effects of these four options is presented in in the Greater Cambridge Local Plan (Regulation 18) Sustainability Appraisal (November 2025).

Table C.17: Summary of likely effects for the four Further Strategic Spatial Options (2025)

SA Objective	Option 9a Hybrid incl. new settlement	Option 10a Hybrid incl. Edge of Cambridge: Green Belt	Option 11a Same as Option 9a incl. Royston and new settlement but no Cambourne	Option 11b Same as Option 9a incl. Royston and Cambourne but no new settlement
1. Housing	++?	++?	++?/-	++?/-
2. Access to services and facilities	+/-?	+/-?	+/-?	+/-?
3. Social inclusion and equalities	+/-	+/-	+/-	+/-
4. Health	+/-	+/-	+/-	+/-
5. Biodiversity and geodiversity	--/+	--/+	--/+	--/+
6. Landscape and townscape	--/+?	--/+	--/+?	--/+?
7. Historic environment	--?	--?	--?	--?
8. Efficient use of land	--/+?	--/+?	--/+?	--/+?
9. Minerals	-?	-?	--?	--?
10. Water	--/+?	--/+?	--/+?	--/+?
11. Adaptation to climate change	+/-?	+/-?	+/-?	+/-?

SA Objective	Option 9a Hybrid incl. new settlement	Option 10a Hybrid incl. Edge of Cambridge: Green Belt	Option 11a Same as Option 9a incl. Royston and new settlement but no Cambourne	Option 11b Same as Option 9a incl. Royston and Cambourne but no new settlement
12. Climate change mitigation	**++/-?**	**++/-?**	**--/+?**	**--/+?**
13. Air quality	**++/-?**	**++/-?**	**--/+?**	**--/+?**
14. Economy	**+/-**	**+/-**	**+/-**	**+/-**
15. Employment	**+/-**	**+/-**	**+/-**	**+/-**

Appendix D

Appraisal criteria applied in the SA of site options

D.1 This Appendix sets out the appraisal criteria used to ensure that site options are appraised consistently in relation to each of the SA objectives as part of the SA process.

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

Residential / mixed use site options

D.2 All of the residential site options are expected to have positive effects on this objective, due to the nature of the proposed development. Planning Practice Guidance states that affordable housing should only be sought for major residential development (usually 10 or more homes). The performance of the Plan against this objective depends on the overall level of housing development, rather than the number of homes delivered on any one particular site. Therefore:

- All residential sites will have a minor positive (+) effect.

D.3 Significant positive effects can only be determined when considering the cumulative effects of the Plan as a whole.

Employment site options

D.4 The location of employment sites is not considered likely to affect this objective, therefore the score for all site options will be negligible (0).

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

All site options

2a Proximity to services and facilities

D.5 Larger scale development could potentially incorporate the provision of new services. The location of all types of development sites could affect this objective by influencing people's ability to access existing services and facilities (both for local residents and employees during breaks and after work).

D.6 The defined city, town and rural centres are the areas in South Cambridgeshire and Cambridge City that provide access to a high number of services and facilities. Local, neighbourhood and minor rural centres will provide access to a lower level of services and facilities. Proximity to these areas can therefore be used to establish the potential accessibility to a wider number of services and facilities in Greater Cambridge.

D.7 The HELAA assumes the following (note these are broad assumptions for the purposes of assessing all sites on a consistent basis):

- Sites that will provide more than or equal to 2,500 new homes will provide a new local centre.
- Sites that will provide more than or equal to 10,000 new homes will provide a new district centre and/or superstore.

D.8 Therefore:

- Sites that are less than 720m from a defined city, district or rural centre or will provide a new local/district centre/superstore will have a significant positive (++) effect (green in the HELAA).
- Sites that are less than 720m from a defined local, neighbourhood, or minor rural centre will have an uncertain minor positive (+?) effect (green in the HELAA).
- Sites that are between 720m and 2,000m of a defined city, district, local, neighbourhood, rural or minor rural centre will have an uncertain minor negative (-?) effect (amber in the HELAA).

- Sites that are further than 2,000m of a defined city, district, local, neighbourhood, rural or minor rural centre will have an uncertain significant negative (--?) effect (red in the HELAA).

Residential / mixed use site options

2b Proximity to educational facilities

D.9 For sites that support residential use, it will be necessary to consider access to education facilities. It is recognised that educational facilities are often not located within the town and village centres and are instead provided to meet the needs of specific catchment areas. Sites that provide a good level of access to services and facilities at centre locations may not always be those which provide a good level of access to educational facilities. The effects of sites on the educational element of this objective will depend on the access that they provide to existing educational facilities, although there are uncertainties for all positive effects, as the effects will depend on there being capacity at those schools to accommodate new pupils.

D.10 New residential development could stimulate the provision of new schools/school places. The HELAA assumes the following (note these are broad assumptions for the purposes of assessing all sites on a consistent basis):

- Unless stated by site promoter, sites that will provide more than or equal to 1,650 new homes are expected to provide a new primary school.
- Unless stated by site promoter, sites that will provide more than or equal to 3,300 new homes are expected to provide both a new primary and a new secondary school.

D.11 Therefore, for residential sites, in addition to the assumptions set out to consider access to service and facilities centres:

- Sites that are within 900m of a secondary school / will provide a new secondary school and within 450m of a primary school / will provide a new primary school will have an uncertain significant positive (++?) effect (green for both in the HELAA).
- Sites that are within 900m of a secondary school / will provide a new secondary school or within 450m of a primary school / will provide a new primary school (but not both) will have an uncertain minor positive (+?) effect (green for one in the HELAA).

- Sites that are 450-1,000m from a primary school or 900-2,000m from a secondary school but not closer than these distances to either will have a minor negative (-) effect (amber in the HELAA).
- Sites that are more than 2km from a secondary school and more than 1km from a primary school will have a significant negative (--) effect (red for both in the HELAA).

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

All types of site options

3a Regeneration potential

D.12 The proximity of development to services and facilities and public transport links may help to address issues of social inclusion and equality. These issues (including access to facilities such as education and healthcare and proximity to public transport links, such as railway stations and bus stops) are considered under SA objective 2, SA objective 4, and SA objective 12 in the SA framework. Many other contributors to equality, social inclusion and community cohesion cannot be determined using geographical factors and will therefore be more relevant to policy assessments.

D.13 Achieving local regeneration may help to promote a sense of ownership and community cohesion among residents. It is recognised that this will depend in part on the detailed proposals for sites and their design, which are not known at this stage. However, development which occurs on brownfield land is likely to help promote the achievement of regeneration in Greater Cambridge. Therefore:

- Sites that are on brownfield land will have a minor positive (+) effect.
- Sites that are on greenfield land will have a negligible (0) effect.
- Sites that are on a mix of brownfield and greenfield land will have a mixed minor positive and negligible effect (+/0).

3b Social deprivation

D.14 The location of new developments will also affect social deprivation and economic inclusion by influencing how easily people are able to access job opportunities and access to decent housing in a given area. Areas which are identified as most deprived in Greater Cambridge are often also those which could benefit most from the achievement of regeneration.

- The delivery of housing or employment sites within a 40% most deprived area (according to the Index of Multiple Deprivation 2019) will therefore have a minor positive (+) effect.

3c Community uses

D.15 The city centre and district and rural centre locations of South Cambridgeshire and Cambridge City help to support community networks in Greater Cambridge. Development which contains retail and/or community uses and is to occur within existing city centres and district and rural centres could help to maintain the vitality and viability of these locations.

D.16 The HELAA assumes the following (note these are broad assumptions for the purposes of assessing all sites on a consistent basis):

- Unless stated by site promoter, sites that will provide more than or equal to 1,650 new homes will provide a new community centre.

D.17 Therefore:

- Site options that contain retail and/or community uses (including sites of more than 1,650 new homes) to be delivered within existing city, district and rural centres are expected to result in a significant positive (++) effect.
- Site options that contain retail and/or community uses (including sites of more than 1,650 new homes) to be delivered within an existing local, neighbourhood, or minor rural centre are expected to result in a minor positive (+) effect.
- All other site options will have a negligible (0) effect.

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

All types of site options

4a Proximity to healthcare facilities

D.18 Sites that are within walking distance (720m) of existing healthcare facilities (i.e. GP surgeries or hospitals) and areas/features which promote physical activities (open spaces, or sports facilities) among residents will ensure that residents have good access to healthcare services and are provided with opportunities for healthy lifestyle choices. This includes employment sites, which will provide employees with access to these types of features outside of working hours and during break times.

D.19 The HELAA assumes the following (note these are broad assumptions for the purposes of assessing all sites on a consistent basis):

- Sites that will provide more than or equal to 4,100 new homes will provide a new health centre.

D.20 Therefore:

- Sites that are less than 720m from a healthcare facility / will provide a new health centre and are within 50m of an open space or an area of open space/ sports facility will have a significant positive (++) effect.
- Sites that are less than 720m from either healthcare facility / will provide a new health centre or are within 50m of an open space or an area of open space/ sports facility (but not both) will have a minor positive (+) effect.

  Sites that are not within 720m of either a healthcare facility or an area of open space/ sports facility and will not provide a new health centre will have a minor negative (-) effect.

4b Loss of open space or sports facilities

- Sites that would result in a loss of open space or sports facility which could be replaced locally will have an uncertain minor negative (-?) effect (amber in the HELAA).
- Sites that would result in a loss of open space or sports facility which could not be replaced locally will have a significant negative (--) effect (red in the HELAA).

- Sites that would not result in the loss of any open space will have a negligible (0) effect.

D.21 If a number of sites are allocated within close proximity of one another, this could lead to existing healthcare facilities becoming overloaded. If at any point information becomes available regarding the capacity of existing healthcare facilities, this will be taken into account in the SA as relevant.

D.22 If development at a site is likely to incorporate new healthcare facilities, open space/sports facilities, it will be scored in accordance with the assumptions listed above.

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

All types of site options

D.23 Assessment is based on the HELAA assessment of impacts on biodiversity, which was carried out by Ecology officers at Cambridge City Council and South Cambridgeshire District Council. Sites were assessed in terms of their potential impact on both statutory designations such as SSSIs and non-statutory designated sites such as County Wildlife Sites. Sites benefitting from statutory protection were assessed by reference to the Impact Risk Zones issued by Natural England. Assessment of sites with non-statutory designations assessment was more dependent on local knowledge. Sites with national or international protection, in close proximity to such sites or with links to these sites may be at risk of detrimental impacts which cannot be mitigated against and were therefore classified as ‘red’ in the HELAA. Where mitigation is possible, these sites were assessed as ‘amber’ in the HELAA. Development sites that are within close proximity of an international, national or local designated nature conservation site have the potential to affect the biodiversity or geodiversity of those sites/features, e.g. through habitat damage/loss, fragmentation, disturbance to species, air pollution, increased recreation pressure etc. Conversely, there may be opportunities to promote habitat connectivity if new developments include green infrastructure. Therefore, while proximity to designated sites provides an indication of the potential for an adverse effect, uncertainty exists, as appropriate mitigation may avoid adverse effects and may even result in beneficial effects. The potential impacts on undesignated habitats and species adjacent to the potential development sites cannot be determined at this strategic level of

assessment. This would be determined once more specific proposals are developed and submitted as part of a planning application.

- Sites that would have a detrimental impact on designated sites, or those with a regional or local protection which cannot be reasonably mitigated or compensated as appropriate will have an uncertain significant negative (--?) effect (red in the HELAA).
- Sites that may have a detrimental impact on a designated site, or those with a regional or local protection but the impact could be reasonably mitigated or compensated have an uncertain minor negative (-?) effect (amber in the HELAA).
- Sites that would not have a detrimental impact on any designated site, or those with a regional or local protection could have a negligible (0?) effect (green in the HELAA).

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

All types of site options

D.24 Assessment is based on the HELAA assessment of impacts on landscape and townscape, which was carried out by Landscape Architects within the Greater Cambridge Shared Planning Service Built and Natural Environment Team. Site landscapes were assessed against the National and Regional Landscape Character Areas and how typical or atypical (how unique) they are to those National and District Character Areas. Sites to be assessed were located and reviewed and all constraints identified from the councils' GIS data and other planning sources such as MAGIC, if needed. The presence of site designations or features were identified, for example Conservation Areas, Tree Preservation Orders, Important Countryside Frontages or Protected Green Space. The site assessment was informed by the relevant Council's 2018 Local Plan policies, the SCDC Design Guide, Village Design Guides, Neighbourhood Plans, and Cambridge Suburbs and Approaches Studies, and the Greater Cambridge Landscape Character Assessment. Based on the constraints of the site, the scope of the intended proposals and/or expected unit numbers, it was considered whether the site was suitable and if so, to what extent the landscape had

been considered. For example, would there be enough room for adequate boundary buffering, would there be enough room for tree planting within the site, would the grain/density of the development fit in with surrounding development, and would the surrounding designations be impacted by the development. The effects of new development on the character and quality of the landscape will depend in part on its design, which is not yet known; therefore all effects will be to some extent uncertain at this stage.

- Development of the site would have a neutral impact on the landscape may have a negligible effect (0?) (green in the HELAA).
- Sites that would have a detrimental impact on sensitive landscapes which could be mitigated may have a minor negative effect (-?) (amber in the HELAA).
- Sites that would have a detrimental impact on sensitive landscapes which cannot be mitigated may have a significant negative effect (--?) (red in the HELAA).

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

All types of site options

D.25 Assessment is based on the HELAA assessment of impacts on the historic environment, which was carried out by officers at Cambridge City Council and South Cambridgeshire District Council. This was informed by identification of relevant constraints such as listed buildings and scheduled monuments. Conservation officers then used other available evidence such as Conservation Area Appraisals to help consider the wider setting of an asset and the potential impact on any heritage assets. The sorts of issues considered included whether significant views would be impacted, whether development could be consistent with the characteristic layout of a conservation area and the access to the site. The extent to which these issues could be mitigated by only developing part of a site was also assessed. In addition, the Archaeology Team at Cambridgeshire County Council have been consulted on the sites, and assessments have been informed by the Cambridgeshire Historic Environment Record (HER).

D.26 The NPPF states that when considering the impact of a proposed development on the significance of a designated heritage asset "great weight should be given to the asset's conservation … irrespective of whether any potential harm amounts to

substantial harm, total loss or less than substantial harm to its significance". However, development could also enhance the significance of the asset (provided that the development preserves those elements of the setting that make a positive contribution to or better reveals the significance of the asset).

D.27 In all cases, effects will be uncertain at this stage as the potential for negative or positive effects on historic and heritage assets will depend on the exact scale, design and layout of the new development and opportunities which may exist to enhance the setting of heritage features (e.g. where sympathetic development replaces a derelict brownfield site which is currently having an adverse effect).

- Development of the site would not have a detrimental impact on any designated or non-designated heritage assets or archaeology could have a negligible (0?) effect on this objective (green for both historic environment and archaeology in the HELAA).
- Sites which could have a detrimental impact on a designated or non-designated heritage asset, the setting of a designated or non-designated heritage asset or archaeology, but the impact could be reasonably mitigated, could have a minor negative (-?) effect on this objective (amber in the HELAA for one or both of historic environment and archaeology (but not red for either)).
- Sites which would cause substantial harm, or severe or significant "Less than substantial harm" to a designated heritage asset or the setting of a designated heritage asset, or there is known archaeology of significance which cannot be reasonably mitigated (See paragraphs 207 to 211 of the NPPF) could have a significant negative (--?) effect on this objective (red in the HELAA for one or both of historic environment and archaeology).

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

All types of site options

D.28 The effects of new development on soils will depend on its location in relation to the areas of highest quality agricultural land in Greater Cambridge, and whether the land has previously been developed. Therefore:

- Sites that consist of at least 25% greenfield land which is classed as being of Grade 1 or Grade 2 agricultural quality would have a significant negative (--) effect.

- Sites that consist of at least 25% greenfield land which is classed as being of Grade 3 agricultural quality (but where it is not known if it is Grade 3a or 3b land), but less than 25% Grade 1 or Grade 2 land, could have a significant negative effect although this is uncertain (--?).
- All other greenfield sites would have a minor negative (-) effect.
- Sites that are on brownfield land would have a minor positive (+) effect.

D.29 Sites that are on both brownfield and greenfield land will have a mixed effect, depending on the agricultural land classification of the greenfield part.

SA objective 9: To conserve mineral resources in Greater Cambridge

All types of site options

D.30 The effects of new development on mineral resources will depend on its location in relation to areas which have been identified for their importance for mineral reserves in Greater Cambridge. The Cambridgeshire and Peterborough Minerals and Waste Local Plan (2021) identifies minerals allocations. Development within or in close proximity to these areas can result in sterilisation of mineral resources. Therefore:

- Sites that are located directly within a minerals allocation would have a significant negative effect on mineral resources although this is uncertain (--?) dependent upon whether extraction could be achieved prior to any development.
- Sites that are located within 250m of a minerals allocation would have a minor negative effect on mineral resources although this is uncertain (-?) dependent upon whether extraction could be achieved prior to any development.
- Sites located more than 250m from a minerals allocation are expected to have a negligible (0) effect.

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

All types of site options

D.31 The effects of new development in terms of promoting more sustainable use of water resources will depend largely on people's behaviour as well as the design of new developments. However, where development takes place within Source Protection Zones (SPZs), there may be potential risks relating to contamination to result. In addition, the location of development could affect water quality during construction and operation depending on its proximity to watercourses and water bodies, such as lakes, streams and rivers. The extent to which water quality is affected would depend on construction techniques and the use of SuDS within the design, therefore effects are uncertain at this stage. Therefore:

- Sites that coincide with SPZ 1 would have a significant negative uncertain (--?) effect.
- Sites that coincide with SPZ 2 or SPZ 3 (but not SPZ1), or that contain a watercourse or waterbody could have a minor negative uncertain (-?) effect.
- Sites that are not within a SPZ could have a negligible (0) effect.

D.32 Any issues regarding supply of water resources, and wastewater treatment capacity, are more appropriately appraised at the Local Plan scale, rather than through as assessment of each individual site.

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

All types of site options

D.33 The effects of new development on this SA objective will depend to some extent on its design, for example whether it incorporates SuDS, which cannot be assessed at this stage. Where site options are located in areas of high flood risk, it could increase the risk of flooding in those areas (particularly if the sites are not previously developed) and would increase the number of people and assets at risk from flooding. The SFRA recommends that all areas within flood zone 2 are at risk of becoming flood zone 3 once climate change is taken into account. As such:

- Sites that are entirely or mainly within flood zones 2 or 3 (such that it cannot accommodate at least 5 additional dwellings or an increase of 500 square metres of employment floorspace) and/or sites that are a 'dry island' whereby all potential accesses to the adopted public highway require crossing land that is within Flood Zones 2 or 3 are likely to have a significant negative (--) effect (red in the HELAA).
- Sites are within flood zone 1 but have areas at risk from surface water flooding and/or sites that contain some land in Flood Zones 2 and/or 3 but there is sufficient land in Flood Zone 1 to accommodate 5 additional dwellings or an increase of 500 square metres of employment floorspace are likely to have a minor negative (-) effect (amber in the HELAA).
- Sites that are entirely or mainly within flood zone 1 and have no risk of surface water flooding are likely to have a negligible (0) effect (green in the HELAA).

SA objective 12: To minimise Greater Cambridge's contribution to climate change

All types of site options

D.34 The effects of new development in terms of climate change and how development will respond to this issue will depend to some extent on its design, for example whether it incorporates renewable energy generation on site or includes SuDS. However, the proximity of development sites to sustainable transport links will affect the extent to which people are able to make use of non-car-based modes of transport to access services, facilities and job opportunities, although the actual use of sustainable transport modes will depend on people's behaviour.

D.35 It is possible that new transport links such as bus routes or cycle paths may be provided as part of larger-scale housing developments or employment development, but this cannot be assumed.

D.36 It is assumed that people would generally be willing to travel further to access a railway station than a bus stop. It is also recognised that many cyclists will travel on roads as well as dedicated cycle routes, and that the extent to which people choose to do so will depend on factors such as the availability of cycle storage facilities at their end destination, which are not determined by the location of sites. How safe or appealing particular roads are for cyclists cannot be determined at this strategic level of assessment. However, the proximity of site options to existing cycle routes can be taken as an indicator of how likely people are to cycle to or from a development site.

D.37 Rapid public transport in Greater Cambridge includes the Cambridge Busway and the railway. Spatial data on proposed rapid public transport stops used to inform assessments is based on the scheme proposals from Greater Cambridge Partnership. There is some uncertainty as to the exact locations and whether all will come forward.

D.38 Therefore:

12a Proximity to sustainable transport

- Sites that are less than 1.8km from an existing rapid public transport stop (including Cambridge Busway and railway stations), are likely to have a significant positive (++) effect (green in the HELAA).
- Sites that are less than 1.8km from a proposed rapid public transport stop are likely to have significant positive uncertain (++?) effects (green in the HELAA).
- Sites that are less than 450m from a bus stop are likely to have a minor positive (+) effect (green in the HELAA).
- Sites that are more than 1.8km from an existing or proposed rapid public transport stop (including Cambridge Busway and railway stations) and more than 450m from a bus stop could have a minor negative (-) effect.

12b Proximity to centres

- Sites that are less than 720m of a defined city, district or rural centre will have a minor positive (+) effect (green in the HELAA).
- Sites that are not located within 720m of a defined city, district, or rural centre will have a minor negative (-) effect (amber or red in the HELAA).

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

All types of site options

D.39 Development sites that are within, or directly connected via road, to one of the Air Quality Management Areas (AQMAs) in Greater Cambridge, or in AQMAs in surrounding Districts, could increase levels of air pollution in those areas as a result

of increased vehicle traffic. In the HELAA, 'amber' is the default score for sites within an Air Quality Management Area (AQMA) in case of changes to the AQMA and potential mitigation measures that can be put in place. Therefore:

- Sites that are incapable of being developed to provide healthy internal and external environments and acceptable quality of life / amenity living conditions in regard to air quality after careful design and mitigation are likely to have a significant negative (--) effect (red in the HELAA).
- Sites that are capable of being developed to provide healthy internal and external environments in regard to air quality after careful design and mitigation are likely to have a minor negative (-) effect (amber in the HELAA).
- All sites that are at low risk in regard to air quality are likely to have a negligible (0) effect on air quality (green in the HELAA).

SA objective 14: To facilitate a sustainable and growing economy

Employment / mixed use site options

D.40 All of the employment site options are expected to have positive effects on this objective, due to the nature of the proposed development. Larger sites will provide opportunities for the creation of more new jobs and so would have significant positive effects. Therefore:

- Sites that will provide more than or equal to 5ha employment land will have a significant positive (++) effect.
- Sites that will provide less than 5ha in size will have a minor positive (+) effect.

Residential site options

D.41 This objective focuses on economic growth in terms of the type and location of economic development to be delivered by the Local Plan. The potential for the specific location of residential sites within Greater Cambridge to influence economic factors is considered under SA objective 15. Therefore, a negligible (0) effect is expected for these types of site options in relation to SA objective 14.

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

Employment site options

D.42 All employment sites will contribute to this objective and therefore all will have a positive effect. In addition, the provision of new employment sites within Greater Cambridge is likely to benefit the highest number of residents where are accessible by sustainable transport links. Therefore:

- Sites that are less than 1.8km from an existing rapid public transport stop (including Cambridge Busway and railway stations) are likely to have a significant positive (++) effect.
- Sites that are less than 1.8km from a proposed rapid public transport stop are likely to have significant positive uncertain (++?) effects.
- All other employment sites are expected to have minor positive effect (+).

Residential site options

D.43 The location of residential sites will influence the achievement of this objective by determining how easily residents would be able to access job opportunities at existing employment sites.

D.44 The City of Cambridge provides access to a significant range of employment opportunities (including the city centre, business and science parks, and Addenbrooke's Hospital). Some of the larger villages in the South Cambridgeshire District provide services to smaller villages, providing some limited employment. The proximity of site options to employment areas also serves as an indicator of the level of employment opportunities which are likely to be accessible. Therefore:

- Sites that are within 1.8km of an employment area would have a significant positive (++) effect (green in the HELAA).
- Sites that are within 720m of a city, district or rural centre would have a minor positive (+) effect (green in the HELAA).

- Sites that are more than 1.8km from an employment area and more than 720m from a local, neighbourhood or minor rural centre would have a minor negative (-) effect (amber or red in the HELAA).

D.45 In addition, if a site option would result in the loss of an existing employment site, a negative effect would occur in relation to the protection of existing employment sites:

- Sites that are currently in employment use would have a significant negative (--) effect.

Mixed use site options

D.46 Mixed use sites that provide both residential and employment uses will have significant positive (++) effects, as they will locate these uses in close proximity to each other.

D.47 In addition, if a site option would result in the loss of an existing employment site, a negative effect would occur in relation to the protection of existing employment sites.

D.48 Therefore (which could result in mixed effects overall):

D.49 Sites that are currently in employment use would have a significant negative (--) effect.

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