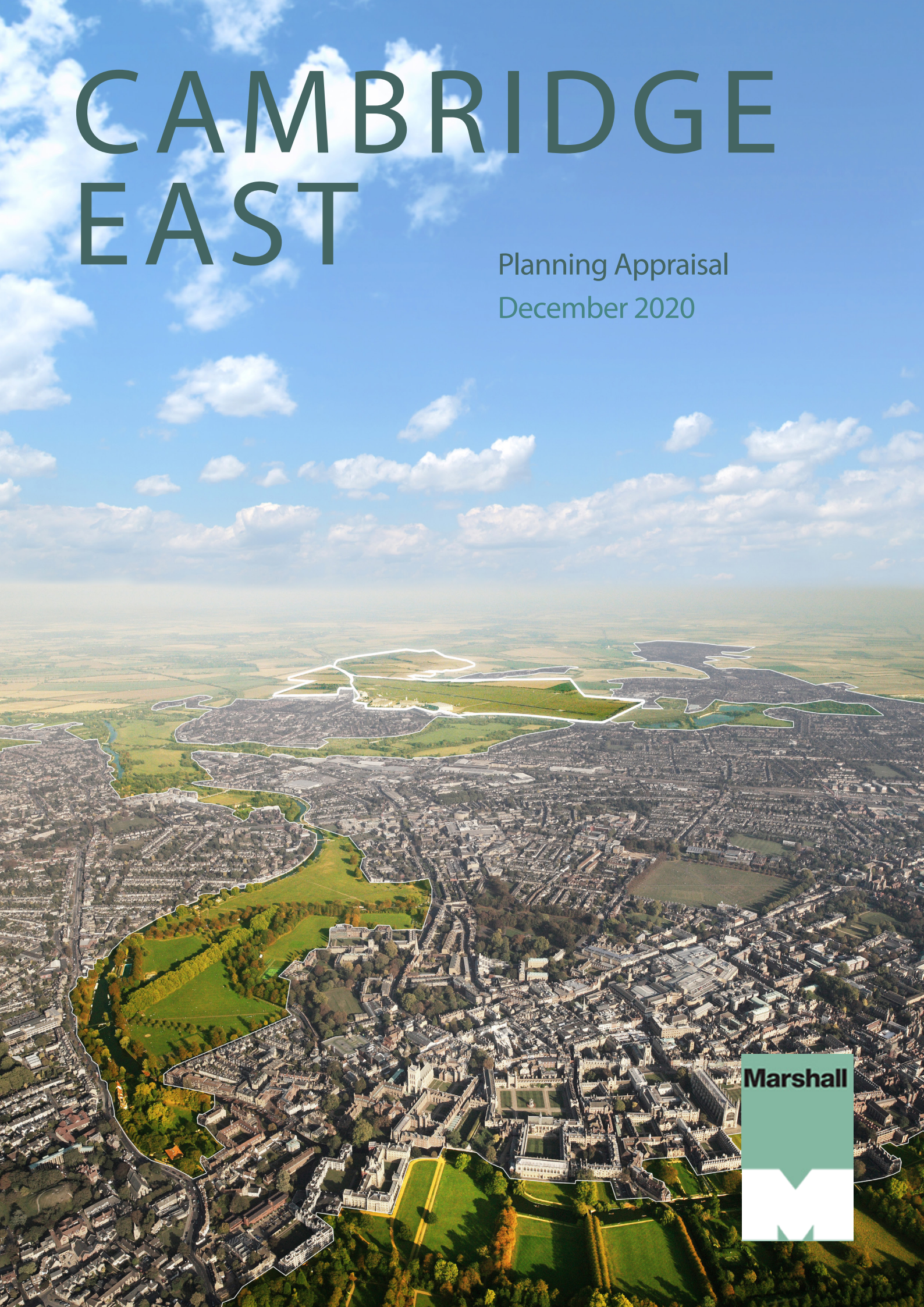
CAMBRIDGE EAST

Planning Appraisal

December 2020



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1 Introduction and Purpose of Submission

Introduction

1.1 This document, together with the Capacity Analysis and Options Appraisal prepared by Allies & Morrison, and a suite of technical reports, has been prepared to report the findings of a site capacity testing exercise that has been undertaken from July to December 2020 as part of exploratory discussions with the Greater Cambridge Shared Planning Services (GCSPS), Cambridgeshire County Council and Greater Cambridge Partnership (GCP) through a Planning Performance Agreement (PPA). The PPA was signed in May 2020 and it sets out requirements for a first phase of pre-application work relating to land at Cambridge Airport to test options for a potential development known as Cambridge East.

1.2 This Planning Appraisal has been prepared following the completion of that first phase of work by a multi-disciplinary team undertaken during July-December 2020. Although work under the PPA will continue as the proposals for Cambridge East develop further, this document seeks to capture the work undertaken so far and present the outcomes of the scenario testing.

Work to Date

1.3 The capacity testing exercise follows on from work previously undertaken to inform Marshall's submissions to the Councils' Call for Sites in March 2019 and its response to the Councils' consultation on the *Greater Cambridge Local Plan – The First Conversation: Issues and Options 2020* in February 2020.

1.4 The Call for Sites submission in March 2019 provided details of the site itself, identified the scale of the development opportunity available, outlined the first phase of feasibility work that Marshall had undertaken in relation to relocating their business and illustrated Marshall's vision for the site's contribution to the future of Cambridge.

1.5 In February 2020, Marshall responded to the first consultation on the draft Greater Cambridge Local Plan. The consultation presented Marshall with a helpful opportunity to consider how their emerging proposals do and should respond to the Councils' priorities as expressed through the four 'Big Themes' of the emerging Plan. Marshall's response was supported by a Sustainability Vision Statement which addressed the four Big Themes and set out the very high standard to which Marshall intends to hold itself in respect of each of these crucial aspects of delivering sustainable growth.

1.6 In May 2019, Marshall publicly announced its intention to relocate from Cambridge Airport, freeing up the site for development by 2030. Marshall identified three shortlisted potential relocation sites – Duxford, Cranfield and Wyton. This marked the culmination of more than nine months of work, appraising sites against a range of criteria.

1.7 A detailed feasibility study has been continued through 2019 and into 2020 and Marshall confirmed on 22 January 2020 that Duxford was being discontinued as an option, given the challenges in accommodating Marshall's requirements at the site. In October 2020, Marshall reaffirmed that commitment, and submitted evidence to the Greater Cambridge Planning

Service demonstrating that an Option Agreement had been agreed with Cranfield University. The business is still formally considering both Cranfield and Wyton as possible relocation sites.

Purpose of the options testing

1.8 Since the submission in February 2020, Marshall has continued to develop its proposals through the preparation of background technical work and engagement with relevant stakeholders, including the Councils, on matters relating to transport, carbon and environmental sustainability, biodiversity, environmental aspects, socio-economics, masterplanning, planning and viability.

1.9 The purpose of testing different options for the development of the airport land was two-fold:

- to use capacity testing as a means of learning more about the site and its potential for development of different scales and mixes and, through that work, to start to identify the principles of a preferred option; and
- to test the deliverability of that option.

1.10 This document presents the findings of the work from a town planning perspective, drawing on the full range of the work, which is reported in a series of separate, technical topic related reports. Detail of other reports submitted is set out in section 3 of this report.

2 Current Status and the significance of Cambridge East

The Site

2.1 The Cambridge East site covers over 300 hectares of developable land, including Cambridge Airport. The principal constituent parts of the site are shown in Figure 2.1. The development site, edged in red on the plan, was submitted in response to the Councils' Call for Sites in March 2019.

2.2 The plan also shows two development sites which adjoin Cambridge East for context: Marleigh (previously known as Wing) and Land North of Cherry Hinton. Both these sites have planning consent for residential-led development (1,300 dwellings consented at Marleigh and 1,200 dwellings consented at Land North of Cherry Hinton), and construction has begun at Marleigh.

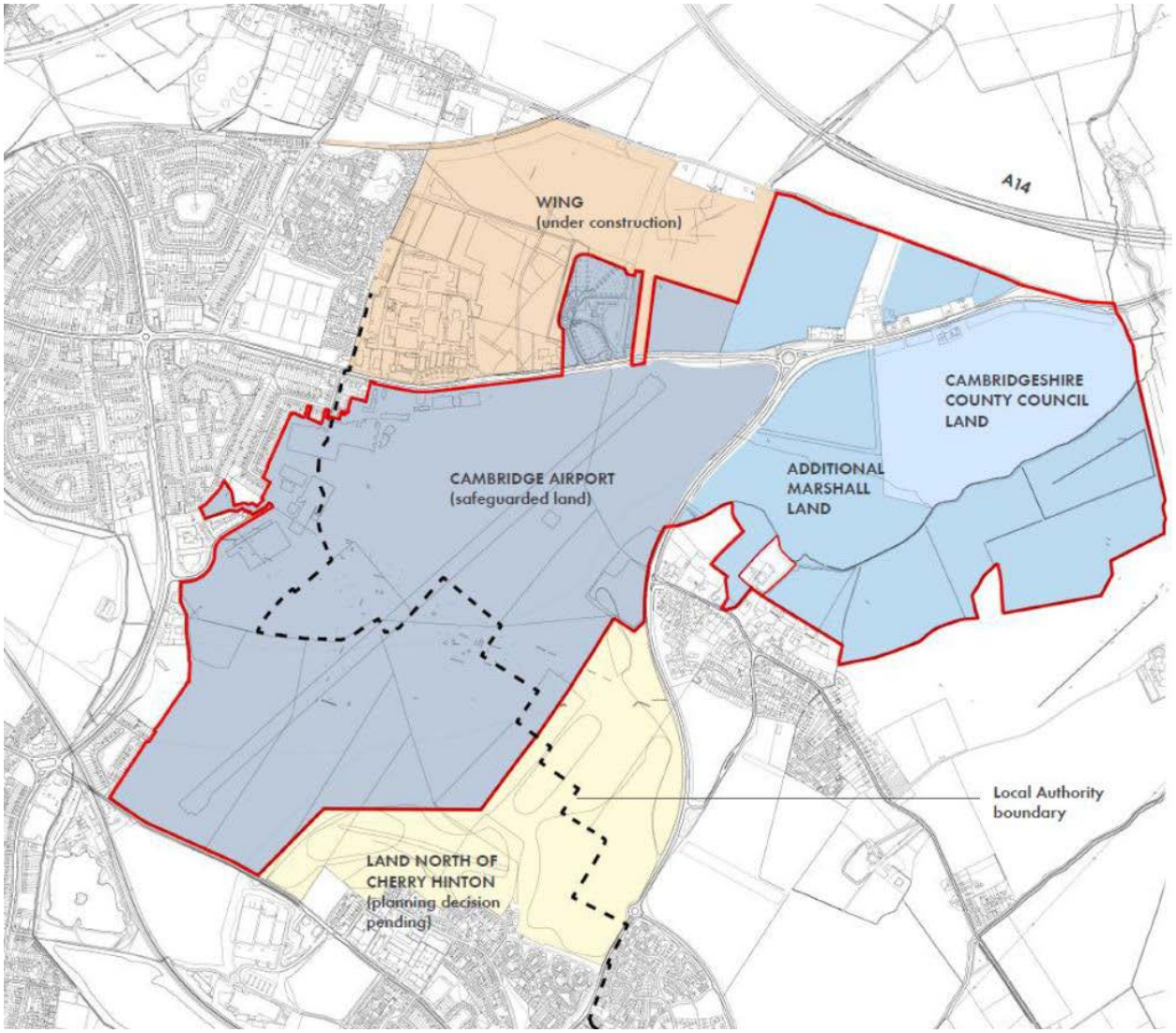

Figure 2-1 Plan showing the constituent parts of Cambridge East

2.3 Historically, the Airport land (outlined in dark blue) formed part of the Green Belt; however, it was formally released from this designation through the Cambridge Local Plan (2006) and South Cambridgeshire Core Strategy (2007).

2.4 The Cambridge East Area Action Plan (AAP), adopted in 2008, provided the policy framework for a first phase of development at Cambridge East, planned for the land north of Newmarket Road, and set out a general and design policy framework for the future redevelopment of the remainder of the airport land. In line with the Local Plan, the AAP set out a requirement for a Green Belt link to be retained through the site from Coldhams Common to Teversham.

2.5 When timescales for the availability of the airport site became less certain, however, the Councils took the decision to safeguard the site in planning policy for long term development. This is the current policy status of the airport land set out in the Cambridge Local Plan (2018) and South Cambridgeshire Local Plan (2018). Policy 13 (Cambridge East) of the Cambridge Local Plan and Policy SS/3 (Cambridge East) of the South Cambridgeshire Local Plan allocate Land North of Cherry Hinton for 1,200 homes during the Plan period. The policies then confirm:

> *"The rest of the Cambridge East site is safeguarded for longer term development beyond 2031. Development of safeguarded land will only occur once the site becomes available and following a review of both this plan and the Cambridge East Area Action Plan."*

2.6 The lighter blue areas, to the east of Airport Way and north of Newmarket Road, are currently located within the Green Belt.

Scale of the Opportunity

2.7 The scale and location of Cambridge East provide a unique opportunity to establish the next chapter in the remarkable story of Cambridge. The site's exceptional location, substantially embedded within the established urban area of Cambridge, allows for large scale development which can add to and complete the city, rather than be separate from it.

2.8 The National Infrastructure Commission has identified the Oxford – Cambridge Arc as an area of significant economic potential but finds that the rate of housing delivery will need to double – delivering one million new homes by 2050 – if the arc is to deliver its full potential[1].

2.9 In March 2020, the Government published its Spring budget in which it outlined its intention to *"examine and develop the case for up to four new Development Corporations in the OxCam Arc at Bedford, St Neots/Sandy, Cambourne and Cambridge, which includes plans to explore the case for a New Town at Cambridge, to accelerate new housing and infrastructure development.[2]"*

2.10 The site is uniquely referred to in the Cambridgeshire and Peterborough Independent Economic Report (CPIER, September 2018), which concludes that a housing shortage and a

[1] Partnering for Prosperity: A new deal for the Cambridge – Milton Keynes – Oxford Arc – National Infrastructure Commission (November 2017)
[2] Paragraph 2.129, Page 83 – Budget 2020: Delivering on our Promises to the British People – HM Treasury (March 2020)

growing infrastructure deficit are in danger of stifling the 'Cambridge phenomenon'. The report refers to Cambridge Airport as the most promising opportunity to address these issues:

> *"Looking at this in the round, some densification, particularly in Cambridge, is needed, though this should happen away from the historic centre, and more on the edges, as and where new development sites come forward. There should be some scope for expanding development around the city boundary, but intelligently planned transport links will be needed to avoid a worsening of congestion.* ***In Cambridge specifically, though there are limitations to the growth of the city in other directions, the east side of the city offers significant scope for housing and commercial development. Such development would have the advantage of being close to the principal centres of employment and the existing rail infrastructure whilst also opening up opportunities for new transport links to connect the main centres of employment more effectively. Most significantly, it includes land which has previously been safeguarded for development and is within the boundaries of the existing urban area so would provide opportunities in line with the existing spatial strategy."*** (Page 42, emphasis added).

2.11 Cambridge East already benefits from strong policy support for redevelopment, having been removed from the Green Belt[3], formally allocated for development in the Local Plan process in 2006/2007 and safeguarded for long term development in the current Development Plan[4]. This policy support stems from the recognition that Cambridge Airport presents the single greatest opportunity to respond to Cambridge's growing development needs in a highly sustainable location. The site's merits in planning terms are second to none – Cambridge East is:

- Predominantly removed from the Green Belt
- Largely safeguarded for development in the long term
- Predominantly previously developed land
- Located within the existing extent of Cambridge
- Well located to provide sustainable transport connectivity to the rest of Cambridge
- Well located to provide homes and jobs in a location where people want to live and work (i.e. in Cambridge)
- Substantially within one ownership

2.12 The emerging *Greater Cambridge Local Plan – The First Conversation* document rightly recognises the exceptional scale of the opportunity that Cambridge East presents by:

- referring to Cambridge Airport's current status as a '*key site already identified*' (Para 5.2.1);
- listing the site explicitly as one of six spatial strategies being considered to accommodate Cambridge's much needed growth: 'Edge of Cambridge: outside Green Belt' (Para 5.3.2); and

[3] In the Cambridge Local Plan (2006) and South Cambridgeshire Core Strategy (2007).
[4] Adopted Cambridge Local Plan (2018) and South Cambridgeshire Local Plan (2018).

- confirming that Cambridge Airport is the only large site on the edge of Cambridge that is not in the Green Belt (Para 5.3.2).

2.13 The GCSPS published a suite of Evidence Base documents to support their draft Greater Cambridge Local Plan and these documents were considered at their Joint Local Planning Advisory Group meeting on 24th November 2020. These documents have informed a Development Strategy Options report prepared for the authorities which tests growth and spatial options for the Greater Cambridge Local Plan. The Development Strategy Options report identifies eight spatial options to be tested to inform the overall spatial strategy for the Local Plan; these are:

- **Option 1** – Densification of existing urban areas
- **Option 2** – Edge of Cambridge – Outside Green Belt
- **Option 3** – Edge of Cambridge – Green Belt
- **Option 4** – New Settlements
- **Option 5** – Villages
- **Option 6** – Public Transport Corridors
- **Option 7** – Integrating jobs and homes – southern cluster
- **Option 8** – Growth around public transport nodes – western cluster

2.14 Three growth levels – minimum, medium and maximum – were tested and applied to each of the spatial options. In testing the growth levels, the Development Strategy Options report acknowledges that *"a key aim for the Cambridgeshire and Peterborough Combined Authority is that economic output will double over the next 25 years, with an uplift in GVA from £22bn to over £40bn[5]."*

2.15 In terms of level of growth, findings in the Sustainability Appraisal recognise that the benefits that can be achieved through the maximum growth scenario are likely to include larger developments *"which are likely to have greater scope for providing new services and facilities and for being designed in a way that encourages healthy lifestyles and environmental enhancements.[6]"*

2.16 Development at Cambridge Airport is modelled in the medium and maximum growth levels in Option 1 and the Airport forms the principal component of Option 2 across all growth levels.

2.17 However, the Sustainability Appraisal indicates that many of the spatial options are unable by themselves to meet the full housing need and, therefore, require additional sources of supply to be added to make up a sufficient scale of development to be tested as a spatial option for the plan.[7] Option 1 cannot provide enough growth through densification of the existing urban areas alone and is modelled to include Cambridge Airport in medium and higher growth

[5] Paragraph 3.2.2 – Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)
[6] Paragraph 1.5 – Greater Cambridge Local Plan strategic spatial options assessment – Sustainability Appraisal (November 2020)
[7] Paragraph 4.2 – Greater Cambridge Local Plan strategic spatial options assessment – Sustainability Appraisal (November 2020)

scenarios to make up the shortfall. Option 2 depends on new residential development at Cambridge Airport for all growth levels, but this growth strategy artificially includes two dispersed new settlements to make up the additional requirement and meet the required level of growth. Option 3 is non-spatial and does not specify at this stage precisely where growth could be located within the Green Belt if this Option were pursued. Option 7 performs well in sustainability terms, testing mixed housing and employment, but is limited in scope as it only considers provision of growth at the south of Cambridge.

2.18 Options 1 and 2 are the only options for growth at Cambridge which are based on land outside the Green Belt but neither can supply sufficient capacity. Critically, therefore, the evidence base establishes beyond any doubt that forecast requirements cannot be met at Cambridge without the release of Green Belt land, even at 'medium' growth levels, which fall well short of the objective to double economic output.

2.19 The report finds, however, that Options 1, 2 and 3 are the most sustainable of the spatial options because of their concentration around Cambridge. This in large part due to the transport implications of the spatial options, as the Development Strategy Options report confirms: *"Transport carbon is the greatest source of carbon and shows by far the most significant variation across the spatial options.[8]"* Options 1, 2 and 3 rank highest in terms of levels of active travel, whereas the dispersal options show the highest car mode share and the most vehicle kilometres. The Local Plan evidence base confirms that the dispersal options, particularly around villages, generate three times more carbon emissions than options which locate growth in and around Cambridge, and that this difference is largely due to transport carbon emissions.[9]

2.20 The Sustainability Appraisal, published as part of the Evidence Base, echoes this conclusion by stating that *"Options 1 'Densification of existing urban areas', Option 2 'Edge of Cambridge – outside the Green Belt' and Option 3 'Edge of Cambridge – Green Belt' are the best performing options within the plan period. These options will provide growth in and around Cambridge, meaning they are likely to have good access to services, facilities and jobs, as well as supporting the city's economy. In addition, larger developments, such as North East Cambridge, Cambridge Airport and urban extensions are likely to provide new services, facilities and green infrastructure.[10]"*

2.21 The only challenge specifically identified in the Greater Cambridge Local Plan and its Evidence Base in relation to Cambridge East is *"whether safeguarded land at Cambridge Airport can be developed within the next 20 years…"[11].* Following its public commitment to relocate and extensive feasibility work to move ahead with its plans, Marshall's ability and commitment to relocate the airport business in the short to medium term are now very clear.

2.22 The land at Cambridge East, therefore, is widely accepted to be of particular strategic importance to the growth of Cambridge. Legitimate questions remain about the appropriate

[8] Paragraph 5.2.5 – Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)
[9] Pages 6 – 8 – Greater Cambridge Local Plan - Strategic spatial options appraisal: implications for carbon emissions (November 2020)
[10] Paragraph 5.9.4, Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)
[11] Paragraph 5.3.2 – Greater Cambridge Local Plan – The First Conversation

amount of development for the site and its physical form, the optimal land use mix, and the extent to which it would be appropriate to include the Green Belt land to the east of Airport Way as part of the site's redevelopment. These questions, among others, have been explored through the capacity testing exercise which Marshall has undertaken this year. The development options which have been tested are described and explained in the following sections of this report.

2.23 It is important, however, that the capacity testing exercise which has been undertaken is considered in the strategic context relevant to the growth of Cambridge. This wider context is explored in greater detail in the Strategic Case document which supports this submission, but the key points of particular relevance to planning decisions are considered below.

The Strategic Context for Growth

2.24 The importance of Cambridge to the UK economy is encapsulated in a quote from the CPIER: *"Cambridge is at a decisive moment in its history where it must choose whether it wants to once again reshape itself for growth, or let itself stagnate and potentially wither. We believe the latter would be disastrous for its people and the UK economy.*[12]*"*

2.25 Cambridge is uniquely important to the UK and it attracts globally significant businesses, research and investment through its combination of a globally renowned university, highly educated workforce and innovative, high value businesses.

2.26 Cambridge will be crucial to delivering Government growth objectives of raising productivity and fostering innovation. It is internationally recognised as an exceptional cluster of knowledge-based activity. The Government has committed to almost doubling public R&D spend from £12.8bn (2018) to £22bn by 2025 given its importance to the UK economy. Cambridge is already at the heart of the UK's research and development sector, in particular scientific R&D which makes up almost half the national R&D spend.

2.27 However, the growth of Cambridge has long been constrained by a combination of historic planning policy, a shortage of housing and a lack of transport connectivity. This has resulted in a highly segregated economy in Cambridge, which is now focussed on three main clusters – the science park cluster in the north, the biomedical cluster in the south and the City Centre. The clusters are poorly connected, with cross-city transport connections in particular being heavily compromised.

2.28 The historic lack of housing delivery, which is exacerbated by poor transport connectivity, has contributed to Cambridge becoming a less desirable and an unaffordable place to live. Cambridge's housing affordability ratio is the worst of any city outside of London, whilst commutes have become longer to compensate, and congestion has worsened.

2.29 As identified above, a key aim that the Cambridgeshire and Peterborough Combined Authority committed to through the Devolution Deal is to almost double Gross Value Added (GVA) for the area from £22bn to £40bn in the next 25 years. The Devolution Deal confirms *"Cambridgeshire and Peterborough local authorities, businesses, and universities have*

[12] Page 9 – Cambridgeshire and Peterborough Independent Economic Review (September 2018)

developed a bold vision for the future that will be enabled by this Devolution Deal. This includes…Delivering substantial economic growth – economic output will increase by nearly 100% over the next 25 years. Underpinned by a strong economic and productivity plan GVA will increase from £22bn to over £40bn.[13]" Through the Devolution Deal and the related City Deal, CCC and SCDC committed to delivering the growth that enables this aim to be achieved in exchange for government funding for infrastructure.

2.30 The Cambridgeshire and Peterborough Independent Economic Review (CPIER) undertaken for the Combined Authority sets out three scenarios for growth to achieve the doubling GVA target; each is a combination of employment growth and productivity growth. The lower the employment jobs forecast – the higher the productivity increase required to meet the growth target. The central scenario is the one that CPIER refers to as the 'most reasonable'. This requires productivity growth of 0.8% per year and the CPIER recognises that this level of growth is likely to be challenging[14]. Even with this assumed growth in productivity, the CPEIR forecasts the need for 126,000 new jobs by 2041. Lower productivity growth would require more jobs. Delivering those jobs requires land allocations through the Joint Local Plan.

2.31 Productivity growth is identified as being best achieved through agglomeration – i.e. building on the synergies available In the Cambridge economy. Dispersal of growth away from Cambridge would see lower productivity growth and a consequent need for more land to be allocated for employment development to achieve the same level of growth.

2.32 The Greater Cambridge Local Plan evidence base documents, that were recently published in November 2020 for consideration at the Joint Local Planning Advisory Group, analyse three potential growth scenarios – minimum, medium and maximum. The Development Strategy Options report confirms that *"the minimum level of housing growth required under the government's standard method will not support the growth in jobs in the area that our economic evidence forecasts, which reflects the particular strengths of the Greater Cambridge economy.[15]"*

2.33 The Development Strategy Options report identifies that there are barriers / constraints to achieving the maximum growth option, but recognises that: *"these may not be absolute barriers to achieving the highest growth levels tested, but rather that they cannot be achieved through 'business as usual'. Significant strategic interventions would be needed in both instances to have confidence that these currently unprecedented levels of growth are achievable.[16]"*

2.34 However, the maximum growth option is not ambitious enough to meet the doubling of GVA that the GCSPS has committed to as it only seeks to provide 79,000 of the additional 126,000 new jobs needed by 2041. To avoid setting out with insufficient ambition (and deliberately planning not to meet the growth requirement signed up to by the authorities) the Local Plan should rise to the challenge of delivering Cambridge's economic potential in the national

[13] Page 3 – Cambridgeshire and Peterborough Devolution Deal (March 2017)
[14] Page 35 – Cambridgeshire and Peterborough Independent Economic Review (September 2018)
[15] Page 6 – Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)
[16] Page 7 – Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)

interest and to make good on the commitments made by the authorities to double the economy over 25 years.

2.35 Cambridge's future growth is not guaranteed and should not be take for granted at a local or national level. It needs to be consciously planned by supporting high-quality development in the right place. The full capacity potential of Cambridge East site offers an opportunity to deliver a significant proportion of the employment and housing growth needed to achieve the GVA target in a highly productive and sustainable location. In principle, it is an opportunity that must be taken and should be optimised. The growth scenarios that have been developed and tested in this report illustrate how that can be achieved.

3 Development Scenarios

3.1 Marshall fully endorses and embraces the four Big Themes that the Councils have identified as priorities for the emerging Greater Cambridge Local Plan:

- Climate Change
- Biodiversity & Green Spaces
- Wellbeing & Social Inclusion
- Great Places

3.2 As is apparent from Marshall's Sustainability Vision Statement, Marshall shares the Councils' commitment to an exceptional standard of sustainable development. Marshall is committed to embedding these themes at the heart of the development of Cambridge East. Understanding how the themes and Vision can be achieved has been a central focus of the design and testing of options for the site.

3.3 In discussion with the Councils, Marshall and its consultant team have developed four different potential growth scenarios for Cambridge East. These scenarios have evolved to illustrate and test the scales of opportunity that can be achieved at Cambridge East through the use of a range of variables, such as the number and type of residential units, the scale of employment ambition, the inclusion or exclusion of land east of Airport Way, different transport solutions, the proportion of open space provision, and the mix of uses.

3.4 The starting point for each option was the land use mix allocated in the Cambridge East AAP – a residential led development limited to the airport footprint (this has been taken as Option A). Other options tested have grown from Marshall's belief that the site has a greater potential for a mixed use new urban quarter with a substantial employment component at its core. The intention has been to test the idea that the site's greatest contribution can be achieved by combining its residential potential with the opportunity to build on the Cambridge phenomenon for science and knowledge related higher value employment and create an exemplary mixed-use community. Reinforced by the highest standards of sustainability and design it may be possible to bring forward a truly world class development.

3.5 Consequently, the four scenarios that have been developed are:

- **Scenario A** – a scheme covering the Safeguarded Airport land which is compliant with the adopted Cambridge East Area Action Plan. This scheme includes high quality public transport (HQPT)[17] links as envisaged in the AAP, a relocated Park & Ride and dedicated transit corridor through the site. It does not require a dedicated off-site mass transit link

[17] High Quality Public Transport (HQPT) - surface, bus based rapid transit solutions which will operate in existing street corridors and will be supported by priority measures and alongside design features to reduce delays caused by passengers boarding or leaving buses, or purchasing fares.

connecting to Cambridge Station. It includes delivery of a Country Park to the east of Airport Way.

- **Scenario B** – a scheme covering the Safeguarded Airport land but which achieves a greater mix of uses than is envisaged in the AAP, including a significant increase in the provision of commercial development to enable and capitalise on the delivery of a research hub. This scheme is supported by comparable on-site transport infrastructure as Scenario A (including relocated Park & Ride and dedicated on-site segregated transport corridor), but with a dedicated off-site mass rapid transit link[18] connecting to Cambridge Station with further connections to Cambridge North.
- **Scenario C** – a scheme covering the Safeguarded Airport land and additional Green Belt land to the east of Airport Way, which enables the delivery of a significantly greater quantum of development than Scenarios A or B, including a greater mix of uses, notably more residential units, and a greater scale of commercial development. This scheme is supported by comparable on-site transport infrastructure as Scenario A (including relocated Park & Ride and segregated transit corridor), but with a dedicated off-site mass rapid transit link connecting to Cambridge Station with further connections to Cambridge North. It also provides a Green Infrastructure network which extends beyond the redline of the site to the east.
- **Scenario D** – a scheme which achieves the same amount of development as Scenario C but covering the Safeguarded Airport land only. This scheme is supported by comparable on-site transport infrastructure as Scenario A (including relocated Park & Ride and segregated transit corridor), but with a dedicated off-site mass rapid transit link connecting to Cambridge Station and further connections to Cambridge North. It is being tested to examine the potential to densify Option B.

[18] Mass rapid transit link – fully segregated high capacity transit solutions with the potential to be part of the CAM.

3.6 Figure 3.1 below summarises the footprint and mix of land uses included within each scenario.

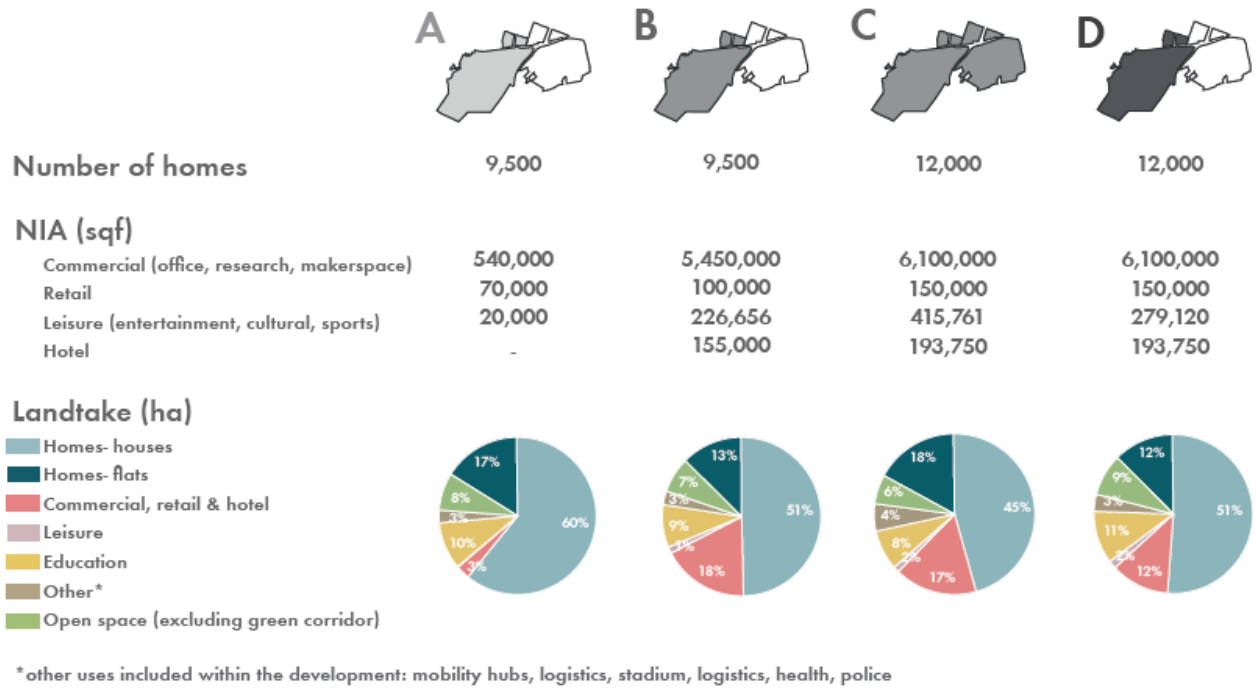

Figure 3-1 Summary of Footprint and Land Uses for each Scenario

3.7 Table 3.1 provides a comparison of the key characteristics and mix of uses for each scenario. Allies & Morrison's Capacity Analysis and Options Appraisal provides a more detailed breakdown of the mix of uses and land-take.

Table 3-1 Breakdown of the Key Characteristics of each Scenario

Land Use / Key Characteristic	Scenario A	Scenario B	Scenario C	Scenario D
Total Site Area	189 hectares	189 hectares	316 hectares	189 hectares
Housing	9,500 units	9,500 units	12,000 units	12,000 units
Ratio of Flats: Houses	60:40	65:35	65:35	70:30
Housing density (dph)	78	94	82	138
Commercial (NIA)	540,000 sqf	5,450,000 sqf	6,100,000 sqf	6,100,000 sqf
Retail (NIA)	70,000 sqf	100,000 sqf	150,000 sqf	150,000 qsf
Leisure (NIA)	20,000 sqf	226,656 sqf	415,761 sqf	279,120 sqf
Hotel (NIA)	-	155,000 sqf	193,750 sqf	193,750 sqf
Research Hub (NIA)	40,000 sqf	350,000 sqf	500,000 sqf	500,000 sqf
Schools	14.30 hectares	11.00 hectares	14.30 hectares	14.30 hectares
Colleges	-	1.25 hectares	2.00 hectares	1.25 hectares
Housing to employment ratio (floor area)	92% housing, 8% employment	59% housing, 41% employment	57% housing, 43% employment	57% housing, 43% employment
Off-site Rapid Transit Link	No	Yes	Yes	Yes
Total Area of Open Space	78.38 hectares	70.84 hectares	89.48 hectares	89.48 hectares

3.8 A consultant team has been instructed by Marshall to assist in developing the four development scenarios and provide technical advice to shape the proposals. The objective of the capacity exercise was to optimise all four scenarios as far as possible and then to test their performance. Background technical work and engagement with relevant stakeholders has been undertaken to support this submission on matters relating to transport, carbon and environmental sustainability, biodiversity, height, socio-economics, Masterplanning, planning and viability.

3.9 The reports which are to be read in conjunction with this Planning Appraisal are:

- Schedule of Uses for Scenarios A, B, C and D – Allies & Morrison
- Capacity Analysis and Options Appraisal – Allies & Morrison
- Summary Masterplan Framework for each Scenario – Allies & Morrison
- Transport Strategy Report – Stantec
- Transit Link Delivery Report – Steer
- Options Environmental Report – Logika
- Sustainability Assessment and Comparison of Scenarios – HOK
- Strategic Case – Quod
- Market Overview and Financial Summary – Bidwells
- Heights Study – Montagu Evans

Planning Analysis

3.10 The technical team worked with Marshall to develop the vision and objectives for the site and develop environmental design principles which should be common to all development scenarios. This work informed the development of the quanta and mix of uses for each development scenario, which was tested spatially to understand the resultant scale and massing for each scenario. The work undertaken to develop these scenarios, in discussion with the Councils, has built on the Sustainability Vision Statement (February 2020) that was submitted as part of Marshall's response to the Greater Cambridge Local Plan – First Conversation consultation.

3.11 All four scenarios have been developed for testing purposes in line with the latest policy requirements and therefore include:

- provision of 40% affordable housing;
- achieving a 20% biodiversity net gain;
- achieving net zero carbon development;
- meeting open space requirements; and
- provision of sufficient floorspace on-site for education and healthcare uses, in line with policy and the specific needs of the local area.

3.12 The masterplans for all four development scenarios have evolved in accordance with guidance from the Heights Study, which has been prepared to identify the key sensitive views

surrounding the Cambridge East site and to test how development could be designed to respect the landscape on the edge of the city.

3.13 The Heights Study finds that intermediate heights of 2 – 6 storeys are capable of being assimilated into the wider landscape across the whole of the site. Taller buildings of 7 – 15 storeys may also be accommodated in the central and western sections of the site. The Heights Study analyses the site's sensitivity, with its conclusions illustrated in Figure 3.2 below.

3.14 What Figure 3.2 illustrates is that buildings of 7 – 15 storeys could be accommodated in the least sensitive areas to the west of the site, where no sensitive views would be impacted (as indicated by the purple shading). In particular, the existing hangar buildings are currently identified as visually detracting from longer views and the development of Cambridge East provides an opportunity to remove these negative landmarks and replace them with a positive development with a carefully scaled height profile which creates an appropriate eastern edge of Cambridge.

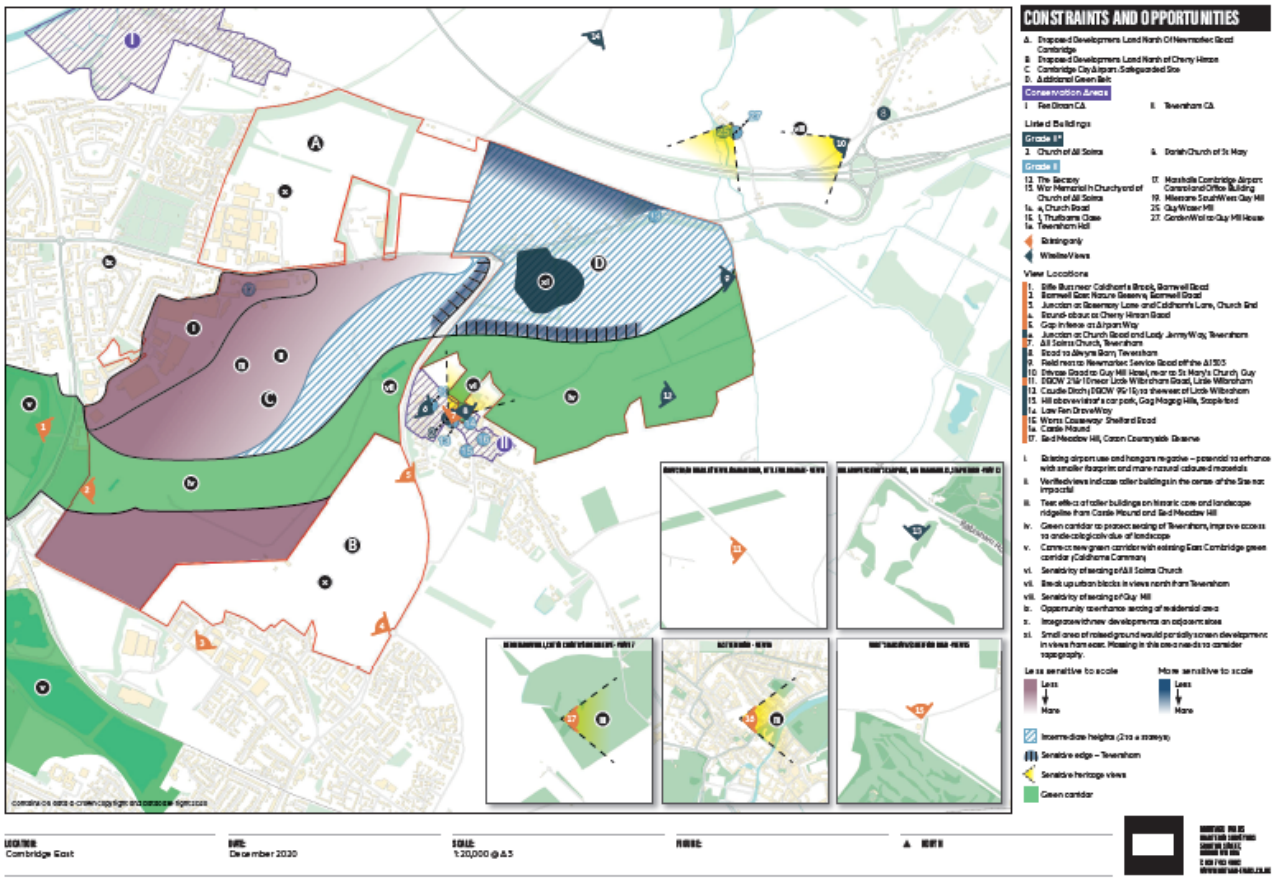

Figure 3-2 Constraints and Opportunities Plan (extract from Heights Study – Montagu Evans)

3.15 The Constraints and Opportunities Plan identifies sensitive edges that will need careful design with appropriate scales of buildings and landscaping. Sensitive treatment of these boundaries, together with a green corridor through the centre of the development would soften the impact of the development in sensitive views from the east and would protect the setting of Teversham.

3.16 With the exception of Scenario D, all other scenarios have been able to achieve average heights across the site of 6 storeys or less, which accord with the findings of the Heights Study.

3.17 Allies and Morrison's Capacity Analysis and Options Appraisal identifies how the scenarios have responded to the conclusions of the Heights Study. Larger buildings have been placed centrally and replace the profile of the existing hangars. Lower massing will be located on the northern edge of the green corridor to soften views from Teversham church towards the raised land to the north.

3.18 Views from the east would be softened and enhanced by a landscape buffer including tree screening. Massing along the eastern edge of the site will decrease as the development steps down towards the fenland landscape.

3.19 Massing is proposed along the frontage to Newmarket Road in recognition that this is a key gateway to Cambridge and to provide an appropriate sense of arrival.

3.20 These height and massing principles have been applied across the four scenarios in order to ensure that any development at Cambridge East responds to its context and respects landscape views, whilst also respecting and integrating with its neighbours within the city.

3.21 The four development scenarios were informed and assessed by the technical team to optimise each option and then tested to draw conclusions about how each scheme would perform against the vision, environmental principles and wider policy requirements.

4 Testing the Scenarios

4.1 In this section we describe the four Scenarios and set out a high-level summary of the results that have been derived by testing those options. The work draws on the detailed topic-based assessments set out in the supporting documents. More detail on each of the Scenarios for development is shown in the Capacity Analysis and Options Appraisal.

Scenario A

4.2 Scenario A has been developed to illustrate and test the scale of the opportunity supported by existing land use policy. As set out above, the Airport land was removed from the Green Belt through a previous Local Plan and is currently safeguarded for longer-term development. The Cambridge East AAP is still an active part of the development plan for both Councils and this scenario has evolved to reflect the policies and the land use mix contained within the AAP.

4.3 The Cambridge East AAP, which was adopted in 2008 under the previous Local Plans for CCC and SCDC, outlines a vision and set of overall development principles to guide the development of Cambridge East. Some of the key requirements from the AAP include:

- 10,000 – 12,000 new homes (1,500 – 2,000 in 'Phase 1 north of Newmarket Road);
- 75 dwellings per hectare average density across the site;
- Provision for 4,000 – 5,000 new jobs (net) (1,000 jobs per hectare);
- A new District Centre in the middle of the site, north of the green corridor, providing a range of shops, services and facilities;
- New local centres throughout the site, the exact number will be determined through a local centres strategy;
- Planning permission subject to sufficient highways capacity available in the A14 corridor;
- High Quality Public Transport services to be provided on specific routes; and
- A Country Park proposed on land east of Airport Way.

4.4 In line with the vision of the adopted AAP, Scenario A is a residential led quarter. Non-residential uses are provided at a scale appropriate to support the housing, as suggested by the AAP, within district and neighbourhood centres. The result is a scheme which would provide a series of connected residential neighbourhoods at the edge of Cambridge.

4.5 In relation to the distribution of density, the AAP states that a range of densities should be provided following a design-led approach, with higher densities around District and Local Centres and lower densities on sensitive outer edges. Overall, the AAP requires the development to aim *to "achieve an average net housing density in the order of 75 dwellings per hectare[19]".* Scenario A provides the lowest density of all Scenarios, at approximately 78 dwellings per hectares, consistent with the requirements of the AAP. The AAP does not specify

[19] Policy CE/7(Cambridge East Housing) – Cambridge East Area Action Plan (2008)

particular heights across the site but achieving the required density results in average heights of 2-4 storeys for houses, 5 storeys for flats and 5 storeys for commercial buildings.

4.6 The AAP sets out the requirements for alternative modes of transport at Cambridge East, including public transport. The policy confirms that High Quality Public Transport (HQPT) will be required, including enhanced links to the north, south and centre of the City. This is expected to mean using Newmarket Road as the principal route, but the AAP suggests that a second route may also be required and calls on options to be investigated in the longer term, including the potential for a guided bus link, possibly across Coldhams Common (paragraphs D.6.13-18). The AAP sets out a need to enhance bus priority considerably but stops short of requiring a rapid transit link to be provided.

4.7 In accordance with the AAP, Scenario A has been tested with significantly enhanced bus and active travel connectivity but without an off-site transit link. Figure 4.1 is an extract from Stantec's Transport Strategy document, and it illustrates the assumed Transport Strategy that has been developed and tested for this Scenario.

4.8 As identified above, the Transport Strategy for Scenario A does not include the off-site mass rapid transit link connection that is proposed for Scenarios B, C and D. The transport analysis shows that the scale and mix of growth within Scenario A would not require or support the mass transit link connecting the site with Cambridge Station nor would it be able to offer a significant S106 contribution towards the delivery of such a link. Scenario A is supported, however, by high quality bus based public transport (HQPT) links, a relocated Park & Ride and dedicated transit corridor through the site, as shown below.

4.9 The result of this, and the absence of the off-site mass rapid transit link, is that the transport strategy supporting this Scenario has comparably less impact on wider travel patterns in the city than the transport strategies for Scenarios B, C and D. Scenario A's transport strategy is sufficient to enable the development of Scenario A but does not represent and kind of game-changing enhancement in connectivity for the east of Cambridge.

4.10 Scenario A is dominated by residential activity, without the benefit of the full range of services and employment inherent in the other options. It achieves poorer standards of self-containment and its community relies on out-commuting, generating less sustainable travel patterns compared to Scenarios B, C and D, with higher car trips and vehicle kilometres.

4.11 The transport analysis shows that Scenario A is the least sustainable from a transport perspective of the four options and would not maximise the opportunity offered by the site, with it only being able to support on-road high quality surface public transport links. Investment in public transport services and active modes would enable the development to be consented and to operate within the capacity of the transport network. However, its transport strategy is largely self-serving, able to mitigate impacts but without stimulating a transformation in movement in the east of the City.

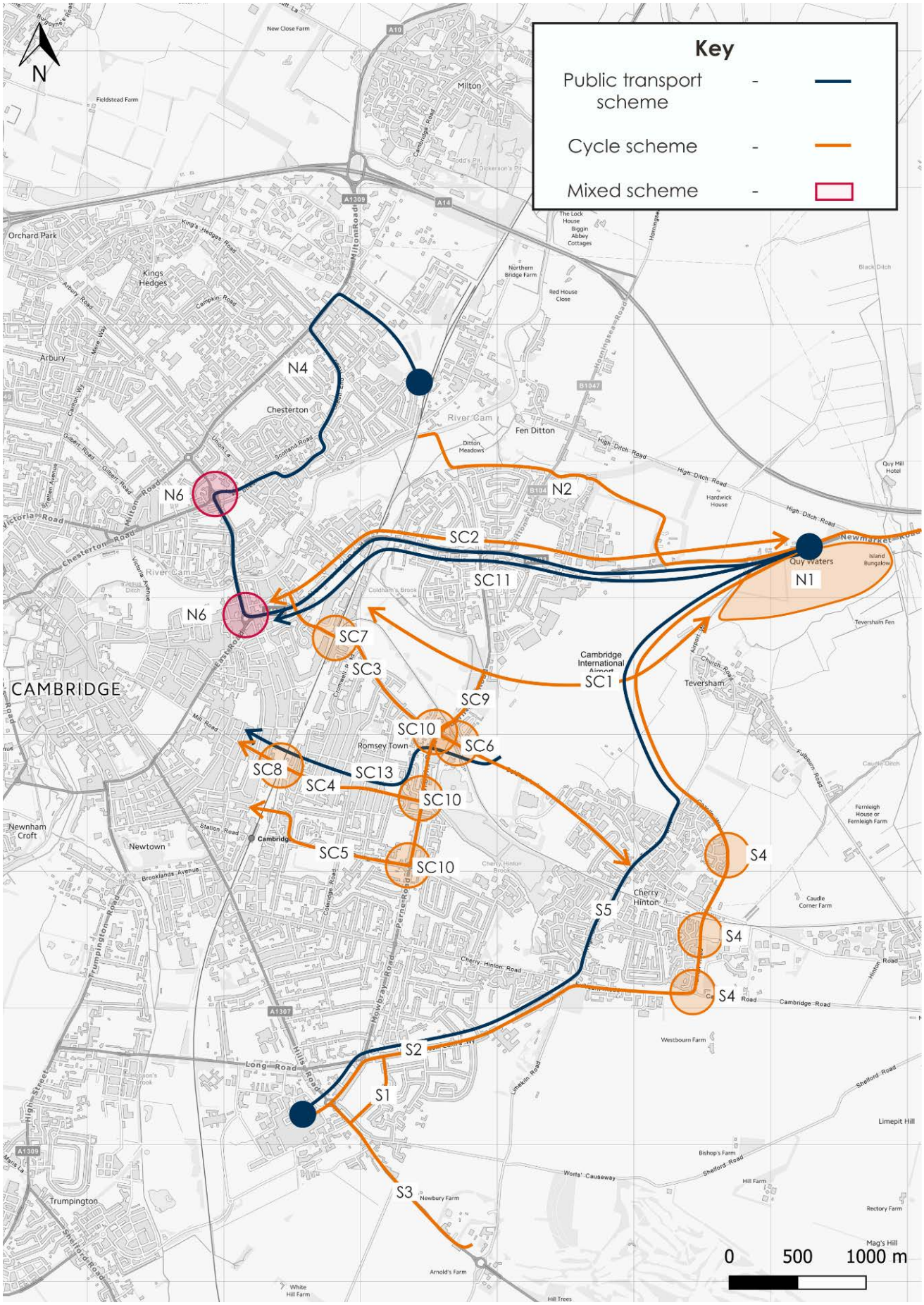

Figure 4-1 Transport Strategy assumed for Scenario A (extract from Stantec Report)

4.12 Were the CAM[20] to be developed, the site would be very well served but the limited mix and density of development means that it would not optimise the site's potential and the transport analysis identifies that the passenger capacity of the CAM would not be taken up – essentially the CAM investment would be wasted or under-used. In that important respect, and by missing the opportunity to bring forward development that could contribute to and support mass transit investment of the type so clearly needed to address current transport issues, Scenario A would not make best use of the Airport site. Given the scarcity of suitable development land in Cambridge and the importance of optimising and harnessing development to help resolve the chronic challenges facing the city, Scenario A is not the right future for the site.

4.13 In terms of landscaping and Green Infrastructure, all scenarios will be providing the policy compliant amount of open space as a minimum. Scenario A includes a green corridor running through the site from Coldhams Common to north of Teversham, to reflect the AAP requirement for a Country Park east of Airport Way. A strong buffer would be created, but only in the area of the Country Park and this buffer would not extend as far east as that shown in Scenario C. The Country Park would be a major benefit of the development, but other options do more to link Cambridge with its countryside.

4.14 Green penetration is shown throughout the development in Scenario A; however, the provision of less commercial space and a greater ratio of houses (as opposed to flats) would create more private and less publicly managed open space with lower bio-diversity potential than would be achieved in Scenarios B, C & D.

4.15 It is anticipated that all options should achieve at least 20% biodiversity net gain. This is supported by the extension of Barnwell East Nature Reserve (common to all Scenarios). Because no off-site land is required to achieve biodiversity net gain, however, Scenario A would not generate green infrastructure enhancements beyond the redline boundary.

4.16 The environmental analysis shows that Scenario A generates the least carbon of all four scenarios, as a consequence of it providing the least development. However, Scenario A leaves the greatest shortfall of housing and employment to be met elsewhere, in less sustainable locations. This will ultimately lead to more dispersed growth and a consequently less carbon efficient outcome.

4.17 Scenario A's relative lack of employment limits its ability to internalise trips. It also means that Scenario A contributes least to the employment needs of east Cambridge. As the Strategic Case makes clear, Scenario A would not even generate enough entry level jobs to meet the outstanding requirements from claimants in the east of the City, let alone contribute towards wider strategic growth requirements.[21]

4.18 In viability terms, the Market Overview and Financial Summary makes clear that Scenario A is handicapped by its very substantial reliance on income only from residential sales to repay

[20] CAM – Cambridge Autonomous Metro – CAM is a proposed high-quality transport network that will connect and interchange with other transport networks across Cambridge to connect towns, villages, major employment sites and the city centre. The aim of the CAM is to cut congestion and tackle air quality issues by reducing car use, and it will improve the environment by using zero emission vehicles. The CAM is being progressed by the Combined Authority (CPCA)
[21] Paragraph 8.29 – Strategic Case (Quod)

substantial up-front infrastructure and relocation costs. There is a limit to the number of residential units that can be absorbed by the market over time, even for the very best schemes and Scenario A would not command the value or absorption rate premium expected in the other Scenarios from their diversity of uses and enhanced transport connectivity. Land sales from other uses – specifically commercial – are critical to the cashflow necessary to recoup the early investment and the analysis shows that Scenario A would take so long to achieve a positive return that it would be effectively "un-investable".

4.19 In summary, Scenario A does not deliver on Marshall's aspiration to create a vibrant piece of city where people can live, work and visit. It also fails to align with the CPIER or targets to double GVA as it provides for relatively limited job growth (c. 4,000 jobs) on a scarce, high quality site and it fails to achieve the transformation in the economy, fortunes or accessibility of the east of the City possible through other Scenarios. Its costs and single income stream also mean that it is undeliverable.

Scenario B

4.20 Scenario B has been developed to test how a greater mix of uses could be delivered on the Safeguarded Airport land. Scenario B provides the same number of homes as Scenario A, but offers a very significant increase in non-residential uses, creating the opportunity to develop a mixed-use community built around an economic hub. Most significantly, the substantial increase in commercial floorspace provides the opportunity and intent to create a successful high productivity commercial hub capable of attracting new and growing knowledge-based businesses from around the world to add to the Cambridge phenomenon. The Scenario provides space for a new university presence or a research hub at the centre of a new 'knowledge cluster'. Unlike other 'mono-use' employment clusters, the opportunity is taken to create a fully integrated, mixed use community and to harness the energy of both the employment and the residential uses to support a range of uses which can both serve the new community but also enable place making of the highest quality.

4.21 Scenario B is higher in density than Scenarios A or C, with average heights of 2-4 storeys for houses, 6 storeys for flats and 6 storeys for commercial buildings.

4.22 Scenarios B, C and D each incorporate comparable on-site transport infrastructure to Scenario A (including relocated Park & Ride and dedicated on-site segregated transport corridor) but assume a dedicated off-site mass rapid transit link connecting to Cambridge Station, through the heart of the site, to a relocated Park & Ride facility and new transport hub east of Airport Way. As with all scenarios, in order to create the opportunity for early delivery of some phases of the scheme, it is possible to locate the transport corridor through the site, to the south and east of the runway, such that the airport could continue to operate during construction and operation of the transport corridor if required in the short term (until the airport use relocates).

4.23 Higher density elements of the development, such as commercial uses, would be located around the transport corridor, with greatest density concentrated at transport hubs. As a result, the rapid mass transit link is a core feature of Scenarios B, C and D, acting as a backbone for the scheme and guiding the location of the denser aspects of the development around stops or stations. This results in the anticipated location of the primary commercial hub towards the centre of the site to the south of the existing runway, in line with an anticipated rapid mass transit link stop, in Scenario B.

4.24 In Scenarios A, B and D, the relocated Park & Ride, which forms the eastern terminus of the transport corridor through the site and new mass rapid transit link (in Scenarios B and D), is proposed to be located remotely from the development within the Green Belt to the east of Airport Way. This relocation of the existing Park & Ride is consistent with proposals for the Eastern Gateway being consulted on by the GCP and has the benefit of moving the Park & Ride as far east on Newmarket Road as practical to intercept traffic entering the City. It also offers the opportunity to create a new transport hub, combined with a depot for the transit link and a highly accessible location around which complementary uses can be clustered. This opportunity is not secured, however, in Scenarios A, B or D where development sits remotely from the new hub to the west of Airport Way.

4.25 The transport analysis shows that, whilst there are inevitably more trips associated with a greater quantum of development, trip saving is achieved through internalisation. Co-locating mutually supportive uses, for example jobs, homes and services, reduces the need to travel beyond the site and encourages the use of active and sustainable travel modes. The co-location of jobs and homes enables internalisation, as does the provision of a rich mix of uses which enables 'local living'.

4.26 The transport analysis of Scenario B demonstrates the efficiency of the internalisation effect. Scenario B provides the same number of homes as Scenario A and approximately seven times as many jobs, but it results in only twice the number of external trips (i.e. to destinations outside of Cambridge East) as Scenario A. This demonstrates the economies of scale for transport if optimum use is made of sites.

4.27 Scenarios B, C and D generate higher absolute trip volumes than Scenario A, primarily due to the significantly greater job provision within the site. The schemes generate and depend on connectivity, particularly across the City but analysis shows that cross-city travel is currently constrained by congestion and by the absence of sufficient public transport connections. Active travel connections offer significant potential for non-car trips given the proximity of Cambridge East to the city centre, but further investment is needed in high quality off-road links.

4.28 The transport strategy for Scenarios B, C and D builds on that proposed for Scenario A, but the scale of public transport intervention is more substantial.

4.29 The challenge of achieving high capacity, cross-city connectivity is being addressed by the authorities and should ultimately be met by CAM, which Marshall strongly supports. However, Marshall has commissioned work to consider how interim and complementary measures could be devised. Additionally, that work has considered how a high-quality link could be provided between the site and Cambridge Rail Station either as a first phase of the CAM or as a standalone link. This is not intended in any way as a competitive proposal to the CAM, which remains the preferred strategy. Marshall is aware, however, that the emerging Local Plan may need to allocate land without being able to treat the CAM as a commitment and, therefore, it is necessary to demonstrate that the site can be separately served and developed.

4.30 The proposed transport strategy for Scenarios B, C and D includes a tunnelled link to Cambridge Station (consistent with CAM connectivity principles) and an off-road surface connection between Cambridge East and Cambridge North, supplemented by improved bus services and active travel corridors. The transport strategy for Scenarios B, C and D is shown illustratively in Figure 4.2.

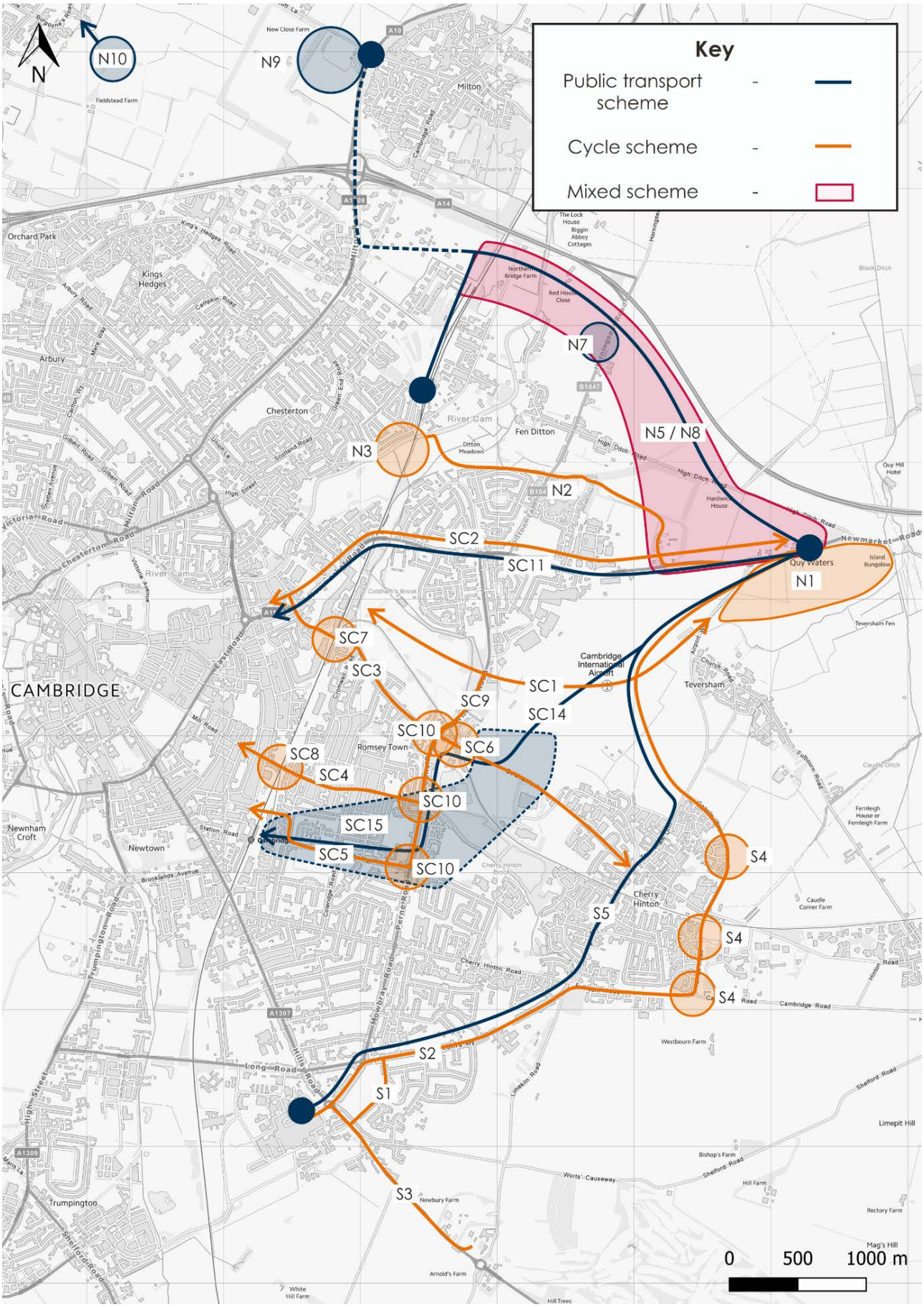

Figure 4-2 Transport Strategy assumed for Scenarios B, C and D (extract from Stantec Report)

4.31 Were the CAM to be delayed or even not delivered, the rapid mass transit link, together with the proposed connection to Cambridge North provides effectively a 'CAM lite' solution to Cambridge's cross city connectivity. By connecting to both rail stations and the transport links for which they are a focus, Cambridge East would connect to the north of Cambridge and to communities to the north and west as well as to the city centre and (via enhanced bus travel or via the city centre) to the south, Addenbrookes and the biomedical campus. Connectivity and travel options for the east of Cambridge would be transformed and a number of the wider benefits that would be achieved by the CAM would be brought forward. Table 4.1 provides a relative summary of the directional benefits of the transport strategies proposed for the four development scenarios in comparison to the CAM; it also provides an indication of the relative scale of car-based trip making that could potentially be diverted or saved to generate headroom on the highway network for growth at Cambridge East.

Area outside Cambridge	Relative scale of trip banking potential		
	Scenario A	**Scenario B, C, D**	**CAM**
North	✓	✓✓	✓✓✓✓
North-east (i.e. A10)		✓✓✓	✓✓✓✓
East	✓	✓✓✓	✓✓✓✓
South		✓	✓✓✓✓
West		✓	✓✓✓✓
North-west (i.e. A14)		✓✓✓	✓✓✓✓

Table 4-1 Estimated relative headroom created by transport infrastructure (Indexed to A)

4.32 Scenario B results in more sustainable overall travel patterns than Scenario A, generating fewer car work trips, fewer car kilometres and more public transport trips and kilometres travelled. However, it does not perform as well as Scenarios C and D, which generate the most sustainable travel patterns of all Scenarios.

4.33 Like all Scenarios, Scenario B provides a Green Corridor connecting Coldham's Common through the site to the village of Teversham and to the countryside beyond, to the east of Airport Way. The Green Corridor presents an opportunity to deliver connectivity for walkers and cyclists not only through the Cambridge East site, but all the way into the heart of Cambridge by linking up with the existing a network of green spaces that run through the city.

4.34 It is anticipated that Scenario B can achieve at least 20% biodiversity net gain on-site. This is supported by the extension of Barnwell East Nature Reserve (common to all Scenarios). Because no off-site land is required to achieve additional biodiversity net gain, however, Scenario B would not result in green infrastructure enhancements beyond the airport boundary. For Scenario B, enhancements are planned up to where the existing footpath to the east of the site crosses Newmarket Road, but this would mark the extent of offsite additional access provision.

4.35 Compared with Scenarios A and D, Scenario B provides a higher proportion of the site as communal green space, which offers greater bio-diversity benefits than private gardens. It is outperformed, however, by Scenario C which provides the highest proportion of community green space.

4.36 Like all Scenarios, Scenario B has been designed to achieve Net Zero Carbon through a combination of minimising embodied and operational carbon, renewable energy sources, and carbon off-setting.

4.37 The Market Overview and Market Summary report explains that Scenario B would be viable and deliverable in its own right, as long as the public sector provides the transit link to the city centre. Scenario B would be unlikely to generate any significant surplus to help fund the transit link.

Scenario C

4.38 Scenario C has been developed to test the potential scale of opportunity that is available at Cambridge East if the proposals were to make full use of land in Marshall's ownership, both on the Safeguarded Airport land and on land to the east of Airport Way, in combination with land owned by the County Council. This scheme achieves an increased number of residential units (12,000 homes) and it also provides the greatest mix and quantum of non-residential uses, including commercial, university and research hub, hotel, leisure, entertainment, culture and sport provision. Notably, Scenario C includes provision for a new stadium to facilitate the relocation of Cambridge United Football Club, which no other Scenarios include.

4.39 Scenario C has the space to support a larger anchor research hub (at 500,000 sq ft), which is of a scale to be truly world class and which would support and stimulate the development of greater knowledge-based employment.

4.40 Scenario C also offers the opportunity to host and support an iconic cultural anchor, which would respond to the relative lack of such a facility in Cambridge given the constraints on the historic city centre. The relative importance of cultural anchors to competitive cities is explained in the Strategic Case report.

4.41 As a result, Scenario C provides the opportunity to create a truly vibrant and connected development which adds to and extends Cambridge. Undertaken well, planning on this scale, in this location, Cambridge East can create a remarkable addition to the economy and the traditions of Cambridge.

4.42 The larger site area enables the delivery of the greatest amount of development in lower density form than Scenarios B and D, with the lowest average heights of Scenarios B - D at 4 storeys for residential buildings and average heights of 5 storeys for commercial buildings. Scenario C sits more comfortably within the site's height parameters. With a slightly lower density than Scenario B, Scenario C offers more opportunity for public realm and green infrastructure and may generate more opportunities to orientate buildings sustainably to optimise daylight and reduce over-shadowing.

4.43 As with Scenario B, development is supported by a new off-site mass rapid transit link, connecting Cambridge Station to a new Park & Ride and transport hub east of Airport Way,

near the Quy roundabout. Development in Scenario C would extend out eastwards to meet with the transport hub, making this an integral part of the scheme, rather than its isolated position in Scenarios B and D.

4.44 Scenario C would generate greater patronage for the mass rapid transit link, bringing forward its operational breakeven point and adding to its sustainable, economic use.

4.45 Scenario C takes the principles of trip internalisation demonstrated in Scenario B to the next level, achieving growth that is disproportionate to the associated trip generation when compared with Scenarios A or B. Scenario C provides a third (+2,500) more homes and over eight and a half times more jobs than Scenario A, but results in only two and a half times more trips.

4.46 As a result of the rich mix of uses, Scenario C achieves a more effective balance of trip internalisation than Scenario B.

4.47 Scenario C results in the most sustainable overall travel patterns compared with the other Scenarios, with fewest car work trips, lowest car kilometres and highest public transport trips and kilometres travelled when considering all journeys across the Cambridge and South Cambridgeshire area.

4.48 Transport analysis shows that the scale of job growth in Scenario C results in more sustainable travel behaviours for work trips than if the same growth was to be spread elsewhere across the Cambridge area.

4.49 The Green Infrastructure strategy for Scenario C builds on the proposals for Scenarios A, B and D, extending further beyond the site to the east and north. Significant additional off-site land is expected to be required for Scenario C in order to achieve 20% biodiversity net gain and to deliver on Marshall's commitment to a net zero carbon development (which requires off-setting). This presents an opportunity to grow the green benefits of Scenario C beyond the airport boundary and into the Cambridgeshire countryside, largely to the north and east of the site. As a result, Scenario C includes the most extensive Green Infrastructure benefits of all Scenarios and is aligned to the wider objectives of key stakeholders in the area to positively enhance nature and recreation to serve the population of the area.

4.50 For Scenario C, the need for additional off-site land to achieve biodiversity net gain introduces the potential for additional off-site benefits, including improved walking and cycling connectivity. For example, there is an opportunity to create an enhanced active travel link providing a more direct route from Airport Way to the underpass of the A14, and then north of the A14, towards the area of the Wicken Fen Vision.

4.51 Scenario C provides the greatest opportunity to increase groundwater levels in a water-scarce area by capturing and treating harvested greywater to recharge the aquifer to the benefit of the wider environment. This water capture and recycling strategy enables Scenario C to support the reinstatement of Teversham Fen, which would provide multiple benefits, including biodiversity enhancements, carbon storage, and management of surface water runoff. Scenario C would also create an increased and enhanced buffer between the development and the Wilbraham Fen, helping to restore and protect the ecological integrity of the Fenland.

4.52 Like all Scenarios, Scenario C has been designed to achieve Net Zero Carbon through a combination of minimising embodied and operational carbon, renewable energy sources, and carbon off-setting. As set out in the Environmental and Sustainability Report prepared by Logika, early Net Zero carbon target models show that Scenario C will result in approximately 17% less carbon emissions per user (e.g. residents, daily commuters etc.) over the lifecycle of the project than Scenario A, which has fewer users and which is the worst performing Scenario in carbon terms. Scenario C emissions are broadly similar to those for Scenarios B and D on a per user basis but overall has carbon benefits by achieving greater development close to Cambridge. To meet growth requirements, the other Scenarios would require the authorities to plan more development away from Cambridge in less sustainable locations.

4.53 Due to its scale, density and mix of land uses, Scenario C would support the creation of a large-scale district heating system which presents the opportunity to not only lower operational emissions of Cambridge East, but to reduce emissions of the surrounding communities also.

4.54 All Scenarios present opportunities to consider carbon sequestration locally, which could in turn deliver additional environmental benefits. For example, fenland restoration could both sequester carbon and increase biodiversity. As it is the largest scale of development, Scenario C will demand higher levels of offsetting and will also require some offsite provision of biodiversity enhancement. In turn, Scenario C presents the greatest opportunity to achieve localised environmental benefits such as habitat creation, fenland restoration and forestation. All other Scenarios would follow a similar approach to carbon sequestration but would deliver these environmental benefits at a smaller scale.

4.55 Scenario C is deliverable. Of all the Scenarios, it is the most viable and the Scenario most able to make a significant financial contribution to the transit link. It would also generate the greatest rates income, which again would help to generate funding opportunities for infrastructure (see Section 6 further below).

Scenario D

4.56 Scenario D has been developed to illustrate the same scale of development that can be achieved at Scenario C, but only on the Safeguarded Airport land, to test whether the benefits of Scenario C could be achieved through denser development on the safeguarded land. To do so it is assumed to replicate as far as practical the land use mix and floorspace of Scenario C. As with Scenarios B and C, it is supported by a new transit link, connecting Cambridge Station to a new Park & Ride and transport hub east of Airport Way, near the Quy roundabout. Scenario D would inevitably create by far the highest density of all four scenarios presented (see earlier Table 3.1).

4.57 It is not feasible to accommodate precisely the same type and amount of development within the smaller site, however, which results in some notable differences in development quantum and mix from Scenario C, such as:

- The housing mix necessarily includes a much higher proportion of flats (70:30 flats:houses) than in Scenario C to enable the delivery of the same number of homes and a more constrained site;
- No provision of a new stadium;

- A notable reduction in the amount of sports provision;
- A reduction in the amount of entertainment provision; and
- A smaller site for the provision of a new university or research hub.

4.58 Scenario D results in the highest density of all development scenarios considered, with average heights of 9 storeys for residential buildings and 10 storeys for commercial buildings.

4.59 In Scenarios B and D, the relocated Park & Ride, which forms the eastern terminus of the new mass rapid transit link, is located within the Green Belt to the east of Airport Way, remote from the proposed development.

4.60 Whilst Scenarios C and D have different densities due to their different site areas, the overall land-use mix produces similar effects in transport terms. The transport considerations for Scenario C are, therefore, in principle, similar to Scenario D.

4.61 Scenario D presents the same Green Corridor benefits as Scenario B, with green infrastructure enhancements stopping at the existing footpath to the east of Airport Way and at least 20% biodiversity net gain achieved on-site.

4.62 Like all Scenarios, Scenario D has been designed to achieve Net Zero Carbon through a combination of minimising embodied and operational carbon, renewable energy sources, and carbon off-setting.

4.63 Whilst the site is considered able physically to accommodate a greater density of development than proposed in Scenario C, including taller buildings, the Cambridge market is not anticipated to support a scheme almost entirely reliant on apartments.

4.64 The Market Overview and Financial Summary Report makes clear that the mix of flats would severely slow delivery rates or suppress values to such an extent that the Scenario would be seriously compromised and undeliverable.

Conclusion

4.65 All four scenarios outlined above have been developed to give each the best chance of success and ensure their deliverability as far as possible. However, each of the four scenarios presents different opportunities and constraints. Table 4.2 outlines the key planning considerations of each of the four scenarios tested.

4.66 Scenario A has been developed in accordance with current local planning policy and the specific requirements of the Cambridge East Area Action Plan. Scenario A achieves the requirements of the AAP; however, it has become evident through this capacity testing exercise that the scale of growth envisaged in the AAP, particularly in relation to employment growth, is no longer consistent with the growth requirements for Cambridge. Scenario A provides very limited job growth (c. 4,000 jobs) and would therefore be inconsistent with the Councils' ambition to double Cambridge's GVA (annual GVA of £0.3bn) as identified in the Devolution Deal and committed in the Growth Ambition Statement (November 2018). It would not meet the employment requirements apparent in the east of the City. Scenario A would also not provide the critical mass required for transformational wider public transport investment

and would therefore not be able to deliver the mass rapid transit link which unlocks benefits across Cambridge and represents an overdue rebalancing of investment in the city. If the CAM (or equivalent) was developed, Scenario A would under-use the potential of the site. Despite these economic and spatial shortcomings, Scenario A does not outperform the alternative Scenarios in environmental terms. Consequently, Scenario A represents an underdevelopment of the site and a missed opportunity to achieve a mixed and vibrant piece of city, to establish the most sustainable pattern of development for Cambridge, and to capture and spread the benefits of development to Cambridge and the surrounding area.

4.67 Scenario B provides a greater mix and quantum of uses than Scenario A and performs relatively well against transport and environmental considerations. It begins to deliver a truly mixed development capable of providing a mixed and vibrant piece of city with homes and jobs sustainably co-located and a mass rapid transit link connecting the development with the rest of Cambridge. Scenario B's transport strategy would support the wider transport benefits that are created through the inclusion of the mass rapid transit link, which would begin to rebalance Cambridge through infrastructure investment and the creation of a high productivity cluster at the east of the city. However, Scenario B provides significantly fewer homes and less non-residential floorspace than Scenarios C and D, failing to maximise the full potential for growth that this site offers. Scenario B provides higher density and less green space than Scenario C. Scenario B could be a successful scheme, but it would fall short of delivering the growth that Cambridge needs and would not optimise the rare opportunity which is embodied in Scenario C.

4.68 Scenario C rises to Cambridge's challenges by fulfilling the true scale of the opportunity presented at Cambridge East. Overall Scenario C performs best of the four scenarios tested, as set out in Table 4.2. The additional land to the east of Airport Way allows Scenario C to deliver multiple benefits which simply cannot be achieved on the smaller site of the alternative Scenarios. It provides the greatest number of new homes (along with Scenario D), a preferred mix of new homes, the lowest average heights across the site, more green space and the greatest mix and balance of non-residential uses. Its scale allows the research hub and the cultural offer to be planned at a world class scale. Scenario C would deliver the most significant employment growth of the four scenarios tested, providing in the region of 38,000 jobs and annual GVA of £4.1bn by 2055. This scale of development would create a significant ability to attract global occupiers to Cambridge East; Scenario C is the only Scenario which is genuinely compatible with the Councils' commitment to double GVA in Cambridge.

4.69 It is recognised that Scenario C generate the most carbon emissions in absolute terms, however when compared against the scale of development proposed it performs well, with lower carbon emissions per user (e.g. residents, daily commuters etc.) and a focus of development in a highly sustainable location.

4.70 Scenario C's transport strategy would include the mass rapid transit link, which provides the wider transport infrastructure benefits to Cambridge, and the transport hub (which forms the eastern terminus of the rapid transit link) would be integrated and would directly serve the development, rather than being isolated and under-used in the Green Belt as it would be in Scenarios A, B and D. Scenario C would not only deliver a comprehensive Green Infrastructure strategy to connect the site with the city and the countryside, similar to the other Scenarios, but it would expand upon the green infrastructure strategy by localising the benefits of

biodiversity net gain and carbon off-setting to achieve a connected green network that extends well beyond the boundary of the site and provides wide reaching sustainability benefits.

4.71 Scenario D would deliver a similar quantum of development to Scenario C and so has a number of comparable benefits. There are key differences, however, including that Scenario D is more heavily flatted than Scenario C. The level of flat provision in Scenario D could not be supported by the market and Scenario D is therefore unlikely to be deliverable.

4.72 As a consequence of containing the development within a smaller site area than Scenario C, the development is the highest density and has the greatest average building heights of the four scenarios tested (up to 15 storeys maximum height at the primary commercial centre). These building heights may be acceptable in landscape terms, but the density of the development has negative implications for the opportunity to provide green space so generously throughout the development and may create challenges in integrating taler buildings with the site's lower neighbours. Scenario D would take longer to deliver as the density of the scheme and the higher proportion of flats would mean it is not fully built out until 2060.

4.73 Overall, taking into consideration the many factors that have been assessed through this capacity testing exercise, Scenario C performs best on balance and offers the most sustainable option for development.

4.74 The following section considers the case for Green Belt release to the east of the City which would facilitate the delivery of the scale of the opportunity and the benefits of Scenario C, which are summarised in Table 4.2.

Table 4-2 Summary of Key Planning Considerations

	Scenario A	Scenario B	Scenario C	Scenario D
Mix of Uses	Not compatible with landowner aspirations for the site. Under development of the only large site on the edge of Cambridge outside the Green Belt. Smallest provision of commercial, retail, leisure and infrastructure floorspace of the 4 scenarios. Fails to align with the CPIER or targets to double GVA as it provides for relatively limited job growth (c. 4,000 jobs and £0.3bn annual GVA)	Vibrant, connected, mixed-use place with a relatively urban feel. Provides the same number of homes as Scenario A, but offers a very significant increase in non-residential uses, creating the opportunity to develop a mixed-use community built around an economic hub. Significant employment growth (c. 28,000 jobs and £2.8bn annual GVA) which would help to achieve the doubling GVA target and growth objectives in Cambridge.	Provides for the greatest mix and quantum of development in line with landowner aspirations for the site. Benefits significantly better than A and B and slightly better than D since this scenario allows for a world class research hub, stadium, transport hub, and iconic cultural space. Maximises the scale of opportunity. Very significant employment growth (c. 38,000 jobs and £4.1bn annual GVA) which would go further than all other scenarios in helping to achieve the doubling GVA target and growth objectives in Cambridge.	Same balance of housing and employment floorspace as Scenario C but condensed over a smaller site area. Similar economic benefits to Scenario C, albeit benefits would be slightly reduced because this scenario allows for smaller research hub, no stadium, no transport hub, and less cultural space.
Density / Heights	Highest proportion of houses, relative to flats, of all 4 scenarios and so consequently has the lowest density.	Higher proportion of flats than Scenario A. Scenario B is higher in density than Scenarios A or C, with average heights of 6 storeys for flats and 6 storeys for commercial buildings.	Same proportion of flats / houses as Scenario B. The density of this scheme is lower than Scenarios B and D, creating opportunities for amenity and green space. Heights across the scheme are the lowest of the 4 scenarios at an average of 4 storeys for flats and 5 storeys for commercial.	Highest proportion of flats, relative to houses and so consequently has the highest density of all 4 scenarios. To fit the quantity of development from Scenario C on to the airport land means heights are greatest in Scenario D at averages of 9 storeys for flats and 10 storeys for commercial.

Containment	Lack of mixed use leads to poor containment	Increased mix of uses over Scenario A, so performs better in terms of containment, although does not perform as well as Scenarios C and D which provide a greater quantum and variety of uses.	Wide mix of uses leads to good containment and a lesser need for people to travel beyond the site to seek employment / commercial / leisure opportunities.	Similar benefits to Scenario C, albeit benefits are slightly reduced because this scenario allows for smaller research hub, no stadium, no transport hub, and less entertainment space.
Green Infrastructure	Provides a continuous green corridor from Coldhams Common to Teversham Fen as a result of the Country Park. A buffer would be created, but only in the area of the Country Park and not extending further east as in Scenario C. Green penetration of the development - albeit less commercial space and more houses (as opposed to flats) may make this more difficult when compared to B & D. Biodiversity net gain 10% and 20% can be achieved in Marshall land only.	Scenario B provides a Green Corridor connecting Coldham's Common through the site to the village of Teversham and to the countryside beyond, to the east of Airport Way. Biodiversity net gain 10% and 20% can be achieved in Marshall land only. Scenario B would not result in green infrastructure enhancements beyond the airport boundary. Compared with Scenarios A and D, Scenario B provides a higher proportion of the site as communal green space. It is outperformed, however, by Scenario C.	Only scenario which fully links East Cambridgeshire to the City and makes best use of the asset through the quanta proposed. C builds on the proposals for Scenarios A, B and D, extending further beyond the site to the east and north. Scenario C includes the most extensive Green Infrastructure benefits of all Scenarios. Provides the highest proportion of community green space. Scenario C is likely to require further Biodiversity Net Gain to be achieved outside of the site. Need for large scale offsite habitat enhancement or creation. Focus would be to achieve this locally and there are significant opportunities to support the ambitions of other biodiversity strategies.	Scenario D presents the same Green Corridor benefits as Scenario B, with green infrastructure enhancements stopping at the existing footpath to the east of Airport Way. Biodiversity net gain 10% and 20% can be achieved in Marshall land only. Provides opportunity to use higher buildings to create more area at ground level for green space.

Green Belt	Relocated P&R proposed in the Green Belt, but no further development proposed on Green Belt land.	Relocated P&R and transport hub proposed in the Green Belt, but no further development proposed on Green Belt land.	Requires the release of land to the east of Airport Way to allow full scale of the opportunity to be achieved. Development would extend east of Airport Way and join up with the relocated P&R / transport hub, meaning it is not isolated and can directly serve the scheme.	Relocated P&R and transport hub proposed in the Green Belt, but no further development proposed on Green Belt land.
Transport	Scheme includes high quality public transport (HQPT) links, a relocated Park & Ride and dedicated transit corridor through the site, which would accommodate the site's transport needs. Does not create critical mass required for transformational wider public transport investment, so does not include an off-site transit link.	Comparable on-site transport infrastructure as Scenario A but includes a dedicated off-site mass rapid transit link. Provides a number of benefits beyond the site and as a result of a more holistic network being delivered would result in benefits across the Greater Cambridge area.	Comparable on-site transport infrastructure as Scenario A but includes a dedicated off-site mass rapid transit link. Provides a number of benefits beyond the site and as a result of a more holistic network being delivered would result in benefits across the Greater Cambridge area. Benefits are particularly apparent for C which can spread the cost but also generate greater and more balanced patronage.	Comparable on-site transport infrastructure as Scenario A but includes a dedicated off-site mass rapid transit link. Provides a number of benefits beyond the site and as a result of a more holistic network being delivered would result in benefits across the Greater Cambridge area.
Net Zero Carbon	Generates the least carbon of all 4 scenarios, as a consequence of it providing the least development. However, Scenario A leaves the greatest shortfall of housing and employment to be met elsewhere, in less sustainable locations. This will ultimately lead to more dispersed growth and a consequently less carbon neutral	Second lowest emissions due to smaller built footprint than Scenarios C and D, but higher percentage of non-domestic buildings than Scenario A.	Generates the highest emissions, primarily due to most built area and higher percentage of non-domestic buildings compared to Scenario A and B. Creates a built environment that has least amount of whole life emissions per person before offsetting.	Third highest carbon emissions primarily due to second most built area and higher percentage of non-domestic buildings compared to Scenario A and B.

	strategy.			
Viability	Scenario A would take so long to achieve a positive return that it would be effectively "un-investable".	Viable and deliverable in its own right. Unlikely to generate any significant surplus to help fund the transit link.	Most viable and the scenario most able to make a significant financial contribution to the transit link.	Mix of flats would severely slow delivery rates or suppress values to such an extent that this scenario would be seriously compromised and undeliverable.

5 Case for Green Belt Release

5.1 As identified in Section 3 above, the delivery of Scenario C and its associated wider infrastructure benefits is dependent upon the release of land to the east of Airport Way from its current Green Belt policy designation through the new Greater Cambridge Local Plan. This section considers the case for releasing Green Belt land to the east of Airport Way, the exceptional circumstances for releasing land from the Green Belt and how development at Cambridge East could respect the landscape sensitivities to the east of the City, enhance adjoining Green Belt and form a new edge to the City.

Principles

5.2 If Green Belt land is to be released around Cambridge in order to meet its needs for growth, there are policy tests within the National Planning Policy Framework (NPPF) that need to be met through the preparation of the draft Greater Cambridge Local Plan.

5.3 It is clear from paragraph 136 of the NPPF that: *"Once established, Green Belt boundaries should only be altered where exceptional circumstances are fully evidenced and justified, through the preparation or updating of plans. Strategic policies should establish the need for any changes to Green Belt boundaries, having regard to their intended permanence in the long term, so they can endure beyond the plan period."*

5.4 Land should only be released from the Green Belt in exceptional circumstances and local planning authorities must be able to demonstrate that it has examined fully all other reasonable options for meeting its identified need for development before seeking to release Green Belt[22]. If those circumstances are met, however, the release of land from the Green Belt to meet development needs is consistent with national policy.

5.5 The NPPF is clear that Green Belt locations can be reviewed in response to the need for sustainable development where sufficient brownfield options are not available.[23] Paragraph 138 of the NPPF states:

> *"When drawing up or reviewing Green Belt boundaries, the* ***need to promote sustainable patterns of development should be taken into account.*** *Strategic policymaking authorities should consider the consequences for sustainable development of channelling development towards urban areas inside the Green Belt boundary, towards towns and villages inset within the Green Belt or towards locations beyond the outer Green Belt boundary.* ***Where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/or is well-served by public transport."*** (emphasis added)

[22] Paragraph 137 – National Planning Policy Framework
[23] Paragraph 138 – National Planning Policy Framework

5.6 In their Joint Local Planning Advisory Committee Report of 24th November 2020, the GCSPS recognise that *"The Green Belt restricts growth on the edge of Cambridge, a location that the evidence indicates has sustainability advantages in terms of access to jobs and services and reducing trips by the private car that could help mitigate our climate impacts.[24]"*

5.7 Moreover, the Committee Report presenting the evidence base confirms that the Housing Delivery Study Interim Findings has tested the opportunities and challenges of each spatial option and concludes that *"Options that mix short-medium term sources of supply (smaller sites in urban areas and villages) with longer-term sources (new settlements, urban extensions and Green Belt release) are better-able to deliver across the plan period."*

5.8 The latest evidence base documents published for the Greater Cambridge Local Plan indicate that Option 1 (densification) and Option 2 (land outside of the Green Belt) do not have the capacity to meet even the lowest levels of the draft Greater Cambridge Local Plan requirements and therefore require additional sources of supply. The Sustainability Appraisal confirms that the Cambridge Urban Area (i.e land outside the Green Belt) is *"unlikely to be able to deliver significant volumes of new homes.[25]"*

5.9 As identified in Section 2, there is a need for these growth requirements to be increased if the GCSPS are to meet their commitment of doubling GVA as outlined in the Devolution Deal.

5.10 This therefore creates a choice for the GCSPS between a strategy that disperses growth across the City / District or one that releases selected areas of Green Belt land around the edge of Cambridge. The Sustainability Appraisal is clear that the options to disperse development away from the City score poorly in sustainability terms compared with options which consolidate growth around the existing built-up area.

5.11 The Sustainability Appraisal confirms that Options 1, 2, 3 *"perform well"* against the sustainability objectives and 'Big Themes' in the draft Greater Cambridge Local Plan. Option 5 (Dispersal – Villages) performs least well of all options and would not be consistent with the Councils' own stated objectives.

5.12 Equally, the committee report confirms that*: "Developments which would create a significant critical mass to fund and deliver new or enhanced infrastructure are more likely to be able to achieve delivery than dispersed options."* That infrastructure, of course, can further enhance connectivity and sustainability.

5.13 Having set sustainability and carbon objectives at the head of the agenda for the new joint Local Plan, it is clear that significant weight has to be attached to the conclusions from the evidence base that the most sustainable outcomes are achieved by focusing development at and adjacent to Cambridge and that land within the built-up area or currently excluded from the Green Belt will not be sufficient to meet development needs. Green Belt release in principle is necessary.

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[24] Paragraph 25 – Joint Local Planning Advisory Group Committee Report (24 November 2020)
[25] Page 146 – Greater Cambridge Local Plan strategic spatial options assessment – Sustainability Appraisal (November 2020)

5.14 Option 3, which looks at development on the edge of Cambridge within the Green Belt, is not site specific but achieves good scores in relation to its sustainability as an option for growth. Additionally, the analysis identifies:

- **Green Infrastructure** – Option 3 scores positively against this objective – Option 3 "*provides an opportunity for urban extensions to cater for GI deficits in neighbouring urban areas. There are also opportunities associated with the requirement of the NPPF for the release of Green Belt sites to positively enhance the remaining Green Belt*." (Para 5.3.6)
- **Wellbeing and social inclusion** – Conclusions for Options 1, 2 and 3 confirm *"Growth focussed in or around urban areas, particularly Cambridge as the largest settlement, has the greatest potential to provide more people with access by a range of sustainable modes of travel. These options could be more inclusive to more people as Cambridge has the broadest range of services and facilities, and the focus for many jobs."* (Para 5.4.8)
- **Housing Delivery** – all spatial options are identified as having pros and cons. Conclusions on housing delivery confirm *"Options that mix short-medium term sources of supply (smaller sites in urban areas and villages) with longer-term sources (new settlements, urban extensions and Green Belt release) are better-able to deliver across the plan period."* (Para 5.6.23)
- **Viability** – Option 3 is ranked as one of the best performing options in terms of viability as *"North East Cambridge, Cambridge Airport and urban extensions are likely to provide new services, facilities and green infrastructure."* (Para 5.9.4). Option 5 (Dispersal - Villages) performs least well.

5.15 As identified above, Option 3 is non-spatial, meaning that many conclusions in relation to this option are based on a general assumption applied to all Green Belt sites. However, Option 2 does consider the merits of development at Cambridge Airport. In terms of the environmental opportunities that could occur and the constraints that currently exist in developing Cambridge Airport, the Sustainability Appraisal which forms part of the Local Plan evidence base identifies the following:

- Given the scale of the site, there are opportunities for big green infrastructure interventions;
- Recreational pressure to important ecological sites will need to be managed;
- Development could enhance landscape character and distinctiveness of the Airport site although views in and out of city could be affected;
- Water recycling and new blue-green infrastructure may be easier to implement across larger sites, such as Cambridge Airport; and
- There is much opportunity to manage flood risk through SuDS and to reuse rainwater that falls on the site.

5.16 In view of the above, in principle it is clear that the GCSPS will need to release Green Belt land on the edge of Cambridge in order to meet its full objectively assessed housing and employment needs in the most sustainable locations.

5.17 In principle, the land at Cambridge East is the most sustainable option.

Location

5.18 As part of the evidence base to support the drafting of previous Development Plan documents within Cambridge, a number of Green Belt studies have been prepared or commissioned by the Councils. These various studies sought to establish whether there were any specific areas of land around Cambridge that could be released from the Green Belt and allocated for development to meet identified needs, without causing significant harm to Green Belt purposes.

5.19 For the purposes of this Planning Appraisal, the following studies are relevant:

- Cambridge Green Belt Study (2002) – prepared by Landscape Design Associates
- Appraisal of the Inner Green Belt (2012) – prepared by Cambridge City Council
- Joint Inner Green Belt Boundary Study (2012) – prepared by Cambridge City Council and South Cambridge District Council
- Cambridge Inner Green Belt Boundary Study (2015) – prepared by LDA Design.

5.20 Generally, the Green Belt studies acknowledge that all Green Belt land surrounding Cambridge is of value and significance to the setting of Cambridge and cannot be released without some harm to the Green Belt purposes set out in the NPPF. The 2015 study, prepared by LDA Design, confirms this by concluding: *"The assessment shows that all areas of land within the study area (with the exception of one small area, sub area 8.2) are important to Green Belt purposes but the reasons differ from one area to another.[26]"*

5.21 It is understood that the Cambridge Green Belt Study (2002) was commissioned to address the differing views of CCC and SCDC on the extent of development that could be allowed on the east side of the City. CCC considered that development should take place on land currently occupied by Cambridge Airport, but also east of Airport Way around the villages of Teversham and Fulbourn. SCDC accepted the principle of development on the airport site but considered that development east of Airport Way would be harmful to the setting and special character of Cambridge.

5.22 The study concluded that land east of Airport Way around Teversham, Fulbourn and east of Cherry Hinton was important to the setting and special character of Cambridge. Therefore, at that time, the decision was taken to remove land from the Green Belt up to Airport Way. The Cambridge East site was allocated through the Structure Plan and subsequently the Local Plan, Core Strategy and Cambridge East AAP all reflect this boundary.

5.23 Since the Green Belt study was commissioned in 2002, a number of other studies and reports have been prepared to consider whether any further parcels of land could be released from the Green Belt to assist in meeting the City's growth targets and aims.

[26] Paragraph 0.6.1, Page 4 – Cambridge Inner Green Belt Boundary Study (2015) – prepared by LDA Design

5.24 In May 2012, CCC undertook an Appraisal of the inner Green Belt boundary to assess the contribution made by land immediately adjacent to Cambridge to the principles and function of the Green Belt. Figure 5.1 shows the Green Belt zones assessed that are relevant to Cambridge East: Numbers 2 and 3.

5.25 Zone 2 (Land between the A14 and Newmarket Road and between the River Cam and the A14/Quy junction) includes land north of Cambridge Airport) and Zone 3 (Land South of Newmarket Road, North of Fulbourn Village and Centred around Teversham) lies east of the site and east of Airport Way.

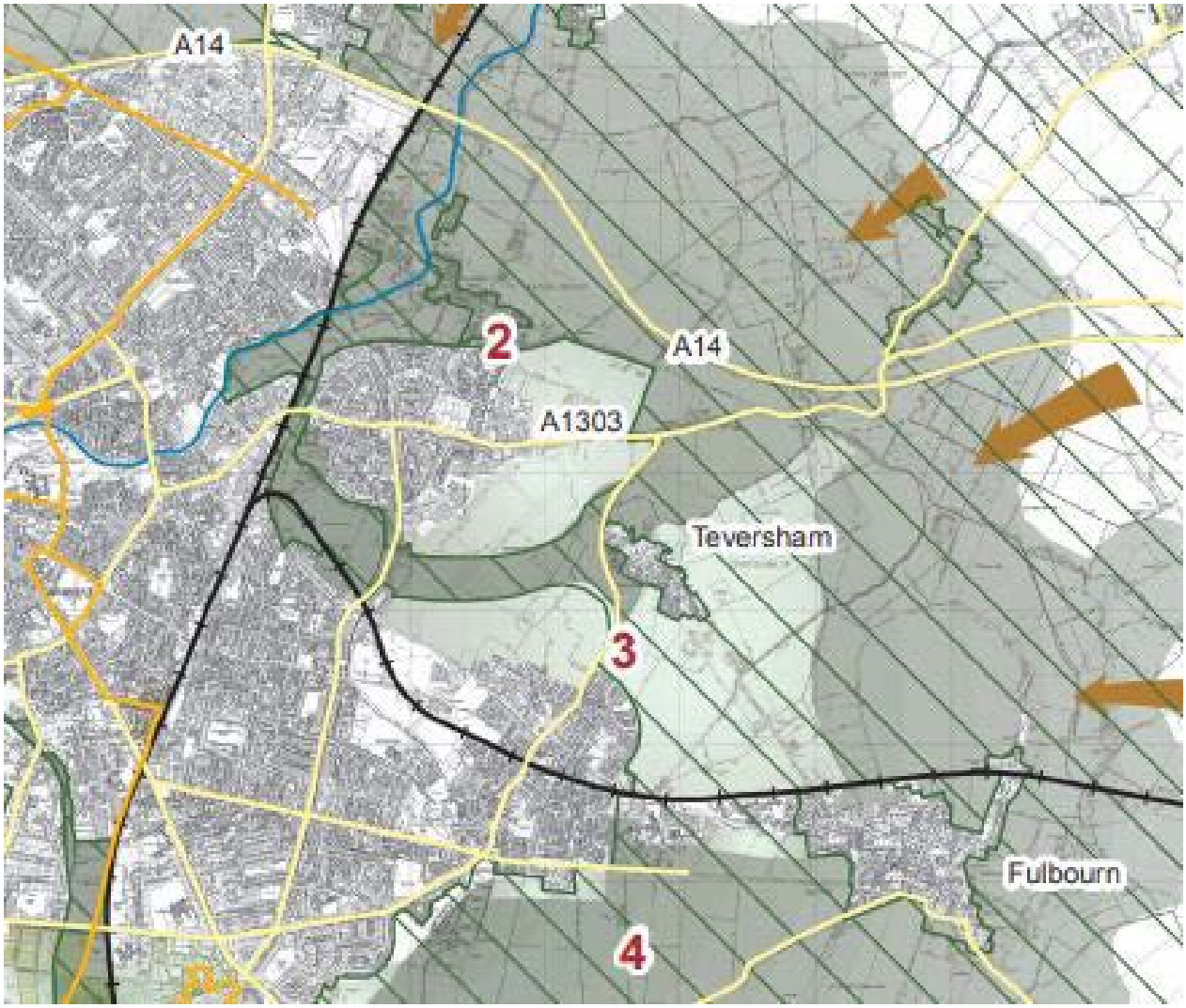

Figure 5-1 Extract from CCC Appraisal of the Inner Green Belt (2012) showing Cambridge Airport in the context of the Green Belt land parcels assessed by the study.

5.26 Key findings for Zone 2 were as follows:

- *Areas in this Zone ranged from negligible to medium / high in terms of importance to the setting of the City – the lower category being closer to Newmarket Road.*
- *Land south of the A14 is flat and holds no important views of the City. Appropriate development close to the existing urban edge would not harm the setting.*

- *The Cam corridor and the rural strip of land south of Fen Ditton prevent coalescence between the village and Cambridge. The river corridor is a defining character to Cambridge.*
- *The effect of developing this are will be to move the urban edge closer to the A14 and bring developed land closer in view of a major transport route. The strip of land between the A14 and the developed edge will increase in importance to the setting of the City / Green Belt.*
- *It is recommended that the strip of land immediately south of the A14 be used as a landscape buffer zone to protect the setting of the City and make any development more pleasant to inhabit.*

5.27 Key findings for Zone 3 were as follows:

- *Areas ranged from between low and high for importance to Green Belt because of their openness and because some areas prevented the merging of Cambridge and Teversham.*
- *Were airport land to be developed with appropriate proposals the impact to the setting of the City would be negligible.*
- *Impact on the other purposes of Green Belt, such as coalescence with Teversham, have been avoided by the retention of a substantial green corridor.*
- *The land north, east and south of Teversham village is flat and open and crisscrossed with power and other communication lines and is typical of a fen edge landscape. On a comparative basis with other areas of city edge, it has a negligible contribution to the setting of the City.*

5.28 The study concluded that the areas where the City is viewed from higher ground where the urban edge is close to the city centre are more sensitive and cannot accommodate change easily. Areas of the City that have level views and where the edge has mixed foreground can accommodate change more easily.

5.29 The Joint Inner Green Belt Boundary study, which was produced by both Cambridge City Council and South Cambridge District Council in 2012, assessed the relative 'Significance of Development on Green Belt' parcels around the edge of Cambridge. Figure 5.2 summarises the outcomes of the assessment.

5.30 The plan shows that all Green Belt parcels that were assessed have some, and varying, degrees of significance and value to the Green Belt and its purposes. The plan shows that the majority of Green Belt land adjoining the existing built-up areas to the south and west of the city, and some parcels to the north, are considered of 'Very High' significance of development on Green Belt. However, some parcels of land to the east of the City are judged to be of lesser significance to the Green Belt, ranging from 'High' significance through to 'Low' significance as one moves further east from Cambridge Airport.

5.31 This Joint Inner Green Belt Boundary study applied a Significance Matrix which it explains was developed to allow for *"many landscape and visual factors to be taken into account simultaneously and in as consistent a manner as possible. It allowed comparisons and judgements of the likely impact of development to be made bearing in mind the ability of*

different local landscape areas to accept change without detriment to the setting and character of Cambridge. The Significance Matrix compares sensitivity of setting, character and separation (along its horizontal axis) against the likely magnitude of the impact of any development (along its vertical axis).[27]"

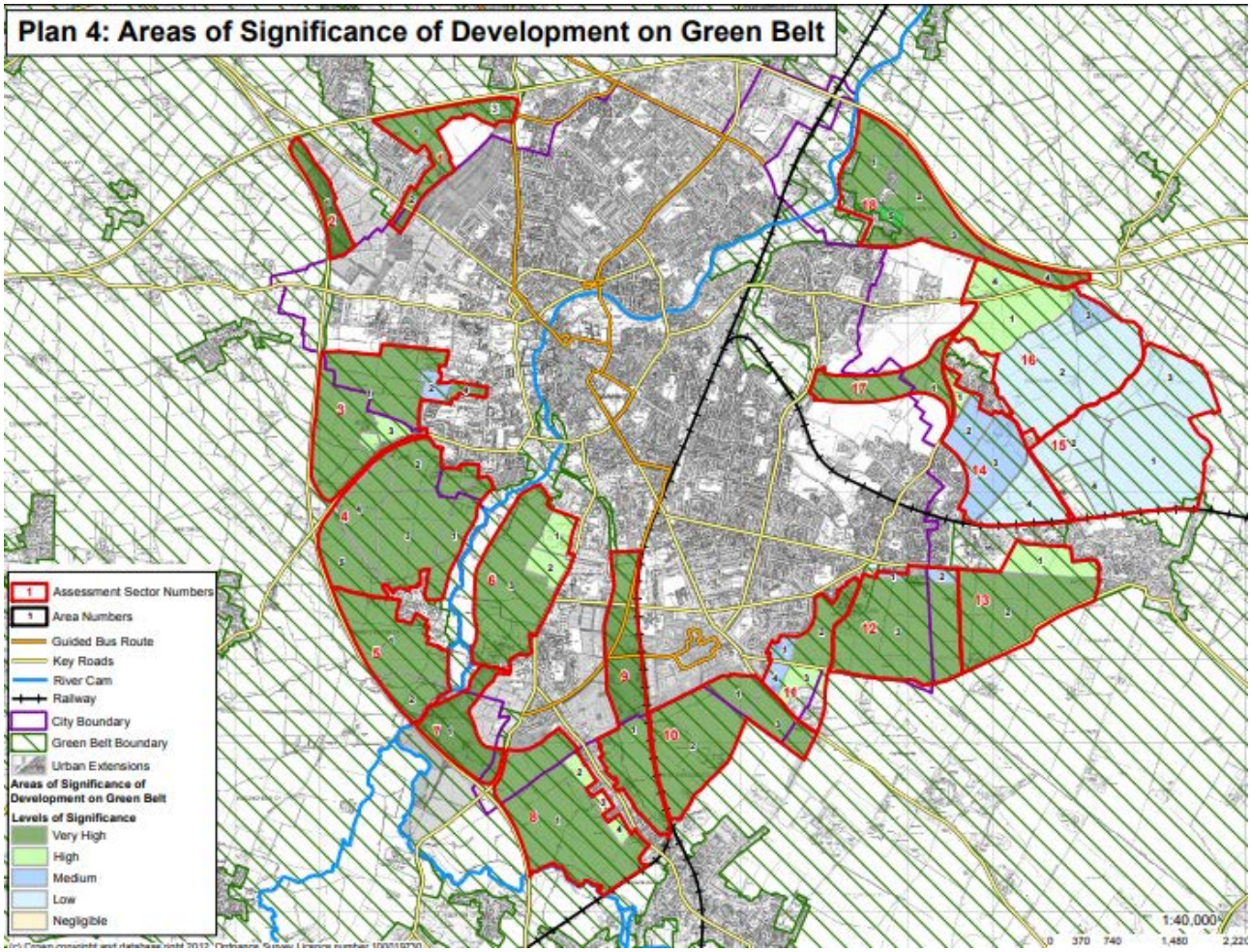

Figure 5-2 Areas of Significance of Development on Green Belt – Source: Joint Inner Green Belt Boundary Study (2012)

5.32 Cambridge East Scenario C would require the release of parcels 16 (1) and (4). These two parcels are specifically assessed as being of 'High' significance to the Green Belt. Some specific scores to note, however, from this assessment in these areas are:

- *'Importance to Setting – Medium'*
- *'Importance to Character – Low'*
- *'Importance to Physical Separation, Distribution, Setting, Scale and Character of Green Belt Villages – Low'.*

5.33 The Green Belt studies / assessments that have been prepared since 2002 all recognise that land to the east of Airport Way has landscape value and is important to the setting of

[27] Section 5.7, Page 3 – Joint Inner Green Belt Boundary Study – prepared by Cambridge City Council and South Cambridge District Council

Cambridge. This is true, however, of all Green Belt land around Cambridge. What the studies appear to indicate is that releasing land to the east of the city would have a lesser impact in Green Belt terms than directing development towards more sensitive edges of the City.

5.34 Any Green Belt release and development on the edge of Cambridge, however, is highly sensitive and must be approached with care and caution. The NPPF directs that Green Belt release should only be considered where exceptional circumstances exist. It is recognised that there are some careful considerations that would need to be observed if Green Belt is released in this area for development, including (for instance) the setting and identity of Teversham village and the protection of views to and from the wider Fen landscape.

Exceptional Circumstances

5.35 The analysis in this report has demonstrated that the need for growth in and around Cambridge, in principle, provides the exceptional circumstances which justify the release of Green Belt land on the edge of Cambridge. The success of Cambridge is currently being threatened and constraints to growth are leading to rising costs, particularly in relation to housing and city centre commercial rents. More development is necessary to meet existing and forecast requirements.

5.36 There are clear sustainability benefits to developing on the east of Cambridge, where development can:

- Add to and be integrated with the built-up area – as Cambridge East is likely to be developed at least to the extent of the Airport, a unique opportunity arises to plan the urban extension east of Airport Way to ensure maximum integration and synergy.
- Transport and sustainable connections – the development of Cambridge East requires and would assist in the delivery of a transit link. It creates a node for sustainable growth, which is a unique opportunity that no other peripheral site is able to provide.

5.37 To date, growth around Cambridge has not benefited everyone equally. The east of Cambridge is predominantly residential, which is reflected in higher levels of deprivation and unemployment. Cambridge needs to improve in delivering inclusive growth that generates benefits and opportunities for people in the more deprived areas and for those with lower qualifications. Cambridge East provides an opportunity to provide employment space to address the inequalities and unlock transport infrastructure to catalyse growth in the area. This is best achieved by maximising the scale of the opportunity that Cambridge East presents through Scenario C.

5.38 The proposals for Cambridge East will provide skilled jobs for entry via academic or vocational routes. From the construction phase through to the development's occupation by a mix of global and local businesses, there will be significant opportunities for local residents to gain skills and employment. Although all Scenarios present a significant opportunity for local people, Scenario C maximises the opportunity by delivering the largest quantum of development. The scale of the proposals and their delivery over many years will ensure that the opportunities are sustained and help to overcome barriers to training and employment. The Skills Charter included in the Strategic Case, which supports this submission, sets out Marshall's emerging thinking on how Cambridge East will transform the lives of local residents.

5.39 The land at Cambridge Airport clearly presents a major opportunity to make a significant contribution to meeting Cambridge's need for new homes and jobs in its own right.

5.40 It is critical, however, that this opportunity is optimised to make the most of the single most sustainable location for development in the greater Cambridge area. To that end, the limited extension of the development site to include land to the east, as proposed through Scenario C, would provide the critical land mass that unlocks the full scale of the opportunity for sustainable growth at Cambridge East.

5.41 These circumstances are reinforced by the benefits that would be achieved from development of Scenario C rather than limiting Cambridge East to the development of Scenario B.

Green Belt enhancement

5.42 Paragraph 138 of the NPPF states that *"where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/**or is well-served by public transport.** They should also set out ways in which the impact of removing land from the Green Belt **can be offset through compensatory improvements to the environmental quality and accessibility of remaining Green Belt land.**[28]"*

5.43 Therefore, it is clear that, where the release of Green Belt land is required, local authorities should look to direct development to brownfield land or land well-served by public transport in the first instance. The development should then seek to offset the harm caused to the Green Belt by providing compensatory improvements to other land that remains in the Green Belt.

5.44 The Council's Development Strategy Options Report recognises that a location on the edge of Cambridge within the Green Belt *"provides an opportunity for urban extensions to cater for GI deficits in neighbouring urban areas. There are also opportunities associated with the requirement of the NPPF for the release of Green Belt sites to positively enhance the remaining Green Belt.*[29]*"*

5.45 Scenario C has been planned to enhance the function and quality of the Green Belt. Development at Cambridge East can protect the setting of Teversham and preserve key landscape feature and views through the sensitive design of the development and its green infrastructure strategy. The masterplan for Scenario C has been developed to limit its impacts on the Green Belt and provide a Green Infrastructure strategy that enhances the environmental quality and accessibility of land to the east of Airport Way.

5.46 The Heights Study (prepared by Montagu Evans) that has been prepared as part of this submission recognises that, at present, land to the east of Airport Way has limited public access and is of limited visual interest, aside from its openness. There are only public two footpaths to the east of the site; however, neither of these footpaths provide a connection from to site to the off-site Fens. Access to the Fens can currently only be achieved by walking beside a busy 'A' road. The Heights Study concludes that the continuous green corridor in Scenario

[28] Paragraph 138 – National Planning Policy Framework
[29] Paragraph 5.3.6 – Greater Cambridge Local Plan: Development Strategy Options – Summary Report (November 2020)

C that extends in an easterly direction towards the Fens could provide a net landscape benefit by improving the visual quality, accessibility, ecology and amenity value of land east of Airport Way.[30]

5.47 In addition, land to the east of Airport Way is currently limited in terms of its biodiversity value and the development of Scenario C would provide an opportunity to provide a net biodiversity gain across the site.

5.48 Figure 5.3 has been extracted from the Options Environmental Report, prepared by Logika in support of this submission. It illustrates the Green Infrastructure strategy that has been included in Scenario C to enhance the landscape setting on the eastern edge of Cambridge. Scenario C allows for a significant continuous green corridor that connects the City to the countryside, via a high-quality green link, which would be accessible to the public via active travel modes. The green corridor spans through the existing Airport site, linking the new development with Coldhams Common to the west, and continues east of Airport Way to the Cambridge Fens.

Figure 5-3 Extract from the Options Environmental Report (prepared by Logika)

5.49 The Cambridge East AAP specifically requires any development at Cambridge East to *"pay proper regard to the need to maintain the penetration of the countryside into the heart of the City provided by the Teversham green corridor which links with Coldham's Common.[31]"* In accordance with the requirements of the AAP, Scenario C is able to provide a continuous green

[30] Paragraph 1.28 – Heights Study (December 2020) – prepared by Montagu Evans
[31] Paragraph B.1 – Cambridge East Area Action Plan

corridor that acts as a buffer to Teversham, ensuring that it does not merge with the Cambridge East development and it retains its landscape setting.

5.50 The green corridor forms only part of a wider Green Infrastructure strategy that seeks to connect new development at Cambridge East with the landscape to the east of the City. Other key elements of the Green Infrastructure Strategy for Scenario C include:

- An enhanced biodiversity resource including reinstatement of Teversham Fen, a key part of the Cambridge Nature Network Strategy;
- A buffer and enhanced barrier to Little Wilbraham Fen SSSI to support the reduction of unwanted visitor pressure on this important biodiversity resource, another ambition of the Nature Network Strategy;
- An innovative water strategy that puts rainwater and grey water once cleaned naturally, into the local depleted groundwater reserves and can enable the restoration of Teversham Fen;
- Areas of development that are designed to encourage active travel and with green infrastructure including street trees, SuDS, pocket parks and children's playspace at their heart;
- Tree planting to screen and soften views to the new development from the footpath immediately to the east;
- Scenario C benefits from the opportunity provided by the requirement to support additional offsite gain;
- A significant area of outdoor space including formal open space and sports facilities, and accessible natural space for walking, cycling etc; and
- Extension of Barnwell East Nature Reserve.

5.51 Releasing Green Belt land to the east of Cambridge could facilitate the development of a localised carbon sequestration strategy that allows new/enhanced habitats to be created to sequester carbon, which in turn would create new biodiversity rich areas, and provide opportunities for new accessible natural open space. With the requirements Cambridge East has for offsite Biodiversity Net Gain, it has the potential to fund the considerable extension of connectivity of the green corridor as far even as the Wicken Fen Vision area. Figure 5.4 shows the wider potential for carbon sequestration.

5.52 A strategy could also contribute to fen reinstatement such as at the Great Fen Project or undertake woodland planting in the County contributing to Cambridgeshire ambitions to 'double nature' and increase tree cover substantially.[32] This could be a major benefit to the Green Belt and its purposes and a genuine enhancement of the Green Belt east of Cambridge.

5.53 Cambridge Airport currently acts a sterile edge to the city and a barrier between the City and its rural hinterland. Development in this location, extending east towards Quy can bring green infrastructure improvements which transform that relationship and truly connect Cambridge with its fenland countryside. The policy requirements to compensate for Green Belt loss and

[32] Doubling Nature: A Vision for the Natural Future of Cambridgeshire & Peterborough in 2050 (2019) – prepared by Natural Cambridgeshire

to meet carbon and biodiversity targets combine to create a strategic opportunity for exceptional connectivity and integration between city and countryside, with multiple sustainability benefits.

Figure 5-4 Wider potential for Carbon Sequestration (prepared by Logika)

5.54 In order to soften the boundary of the development in views to and from the east of the City, Scenario C has sought to provide a development that incorporates appropriately graduated heights. A Heights Study was commissioned as part of the work to inform the development of the Masterplan Options and to give careful consideration to how development of all scenarios, and specifically Scenario C, can be designed to respond to important views to and from Cambridge and protect areas of particular landscape sensitivity.

5.55 The existing hangar buildings are currently identified in the Heights Study and previous Local Plan evidence base documents as visually detracting from longer views. The development of Cambridge East provides an opportunity to remove these negative landmarks and replace them with a positive development with a carefully scaled height profile which creates an appropriate eastern edge of Cambridge.

5.56 The Heights Study identifies sensitive edges across the site that need careful design with appropriate scales of buildings and landscaping. Findings from the Heights Study conclude that if Scenario C is developed with certain parameters, the visual impact on surrounding receptors (people, character areas and heritage assets) can be managed acceptably through detailed design. Intermediate heights of 2 – 6 storeys are considered capable of assimilation with the wider landscape across the whole site. Scenario C maintains average heights of 4 storeys for flats and 5 storeys for commercial buildings, meaning it accords with the general

conclusion from the Heights Study that development of that scale would not be visible from sensitive views.

5.57 Scenario C provides the space to factor in a landscape buffer and tree screening to soften and enhance views from the east. In addition, massing along the eastern edge of the site will decrease towards the natural landscape to the east in recognition of this sensitive edge.

5.58 The Heights Study also identifies the opportunity to provide a substantial net landscape benefit (visual quality, access, ecology and amenity more generally) through Scenario C, given the generally poor levels of access currently present and the limited visual interest of the existing area.

6 Deliverability of Cambridge East

6.1 The only challenge identified in the draft Greater Cambridge Local Plan – The First Conversation document in relation to the delivery of Cambridge East is *"whether safeguarded land at Cambridge Airport can be developed within the next 20 years…"* (Para 5.3.2).

6.2 In May 2019, Marshall announced its intention to relocate from Cambridge Airport, freeing up the site for development by 2030.

6.3 Since then, substantial progress has been made on plans to relocate the Marshall Aerospace & Defence Group (MADG) and, in October 2020, Marshall reaffirmed that commitment, and submitted evidence to the Greater Cambridge Planning Service demonstrating that there are no impediments to relocation. The evidence is built around a signed Option Agreement secured with Cranfield University. Central Bedfordshire Council have expressed a strong desire to welcome MADG to Cranfield. The Option Agreement confirms that there is no commercial, planning, technical or regulatory impediment to a move to Cranfield.

6.4 Marshall's company announcement of 6 October 2020 confirms:

> *Marshall of Cambridge has today confirmed that, as part of the ongoing work to find a new home for its Aerospace and Defence business, it has signed an Option Agreement for a 150-year lease on a parcel of land on Cranfield University's proposed Air Park development.*
>
> *Marshall Aerospace and Defence Group Chief Executive, Gary Moynehan, explains: "Whilst it is important to note that the signing of the Option Agreement does not represent a final decision to relocate Marshall Aerospace and Defence Group to Cranfield, we are pleased to have reached an agreement which provides us with a credible relocation option.*
>
> *"We are very excited by Cranfield's ambitions to create a Global Research Airport and are already collaborating closely with them on a number of R&D projects. As such, the signing of this Option Agreement represents a further strengthening of a valuable relationship that I am sure will deliver significant benefits to all parties over the years ahead, irrespective of where we ultimately make our new home.*
>
> *"However, there are still a wide number of factors that we need to take into account before making any definitive decision about the best location or locations for the MADG business when we ultimately relocate by 2030."*

6.5 The business is still formally considering both Cranfield and Wyton as possible relocation sites, although discussions are significantly more progressed at Cranfield. However, the certainty of one relocation option and the potential for another reinforces the lack of impediment to the relocation of the business and the availability of the airport for development.

6.6 Examination of the masterplan layout for Option C also identifies how the transit link can be located to the east of the existing operational runway to enable the development of Cambridge

East to be accelerated if appropriate before the actual relocation of the business. The inclusion of the land to the east of Airport Way in Option C means that a meaningful start to the development of Cambridge East can be achieved before the relocation of the business.

Mass Rapid Transit Link

6.7 The proposed public transport interventions are fundamental elements of all four scenarios. The delivery of a transport corridor through the site is consistent across the scenarios, with the key difference between Scenario A and Scenarios B, C and D being the inclusion of the mass rapid transit link connecting the site directly to Cambridge Station.

6.8 The deliverability of the mass rapid transit link and the transport hub east of Airport Way, is planned as part of the CAM proposals, which are promoted in the Local Transport Plan. Additionally, the GCP is consulting on transport enhancements for the east of the city in the Eastern Access Study, including a dedicated transport link through the centre of the Cambridge East site, with enhanced connectivity to Cambridge Station. The acceptance and the commitment from the authorities to bring forward major public transport interventions to serve the east of the City is clearly material to the expectation that transport improvements will be supported to enable the delivery of Cambridge East.

6.9 The Local Plan is not yet able to rely on those specific schemes, however, and Marshall has consequently set out to test and demonstrate the ability (if necessary) for alternative transport investment to come forward to facilitate Cambridge East and, at the same time, enhance the sustainable connectivity of the east of the City as a whole.

6.10 In those circumstances, the necessary scale and quality of infrastructure is only likely to be feasible through achieving the critical mass and scale of growth proposed for Scenarios B, C and D. Scenario A would require significant investment in active modes and bus-based connectivity but would not require or support more transformational infrastructure.

6.11 Steer has prepared a Cambridge East Transit Deliverability Study in support of this submission, which explores and provides assurance on the feasibility and deliverability of the mass rapid transit link.

6.12 The Cambridge East Transit Deliverability Study builds upon preliminary assessments of alternative alignments and technologies to meet the requirement for a transit link, which were carried out by Steer through their ‘Connecting New East Cambridge – a Preliminary Study’. These assessments were carried out alongside work that was underway by the Combined Authority to develop the CAM (Cambridge Autonomous Metro) project.

6.13 The work demonstrates that a transit link is deliverable as part of or separately from the CAM, although the CAM is the preferred comprehensive solution for the City. The transit link has been developed with the aim that, in due course, it could form part of the CAM network as a potential first phase. The planned transit route developed for Cambridge East mirrors one of

the principal routes identified in the wider CAM network envisaged by the Combined Authority.[33]

6.14 The transit link is also consistent with the off-road transport corridor emerging as a recommendation of the GCP Eastern Access study. A link through the Airport Site is illustrated in all three of the Phase 2 (longer-term) options to improve access to the City from an easterly direction.

6.15 The Steer report concludes that the proposed transit link would best be met by a transit system that operates across the development site, from a multi-modal interchange at its eastern limit, across the development site on the surface with several intermediate stops before using tunnelling to pass underneath the established urban fabric between the airport and Cambridge city centre, terminating at Cambridge station, where a high-quality interchange would be provided.

6.16 Key findings from Steer's deliverability study conclude:

- **Tunnelling** – Based on existing borehole evidence, the preferred tunnel alignment is likely to be constructed though the medium of Gault Clay, a highly suitable medium for bored tunnelling methods of construction. The main worksite can be located on the development site itself. The design of the tunnelling has been refined and includes provision for emergency egress and ventilation needs.
- **Cambridge Station** – Newly built (2020) stabling sidings stop short of the area where the below-ground level transit platforms would be built. Plans for Cambridge station envisage that a new island platform and a second footbridge will need to be provided. The transit link will provide direct access to the station from the east on foot as well as by transit, which is not currently available. It will trigger the need for a subway which will help address the challenge of accommodating additional passenger flows at the station and provide step-free interchange between the transit and national rail services.
- **Extendibility into a wider CAM network** – A design is outlined which would allow subsequent extensions westwards to be built to an underground city centre station and beyond to Cambourne as part of a wider CAM network without the need to close the transit station.
- **Alternatives** – Alignments for interim part-tunnelled or surface alternatives have been identified. There are also alternative tunnel alignments which can be considered, along with the option that would see the tunnelled route emerge to the surface to an on-surface transit terminus adjacent to Cambridge Station, as an interim or potentially short-term outcome. The tunnelled route is not therefore dependent on any specific alignment, nor on the need to build an underground station, at least not in the short to medium term whilst Cambridge East is developing.
- **Operations** – The planned transit service frequencies, operating speeds and journey times and fleet size requirements have been reviewed and confirmed as deliverable, as has the suitability of an initial single-track section through the planned tunnel to

[33] Page 10 – Cambridgeshire and Peterborough Local Transport Plan: Cambridgeshire Autonomous Metro (CAM) Sub-Strategy

Cambridge station. Demand studies show how the operation of the route would breakeven and then create an operating surplus, particularly for Scenario C.

- **Securing powers & funding** – A number of built-out or under-construction transit lines respond to major land use developments in the UK. Their powers have been secured by statutory planning authorities following initial planning work funded by developers. Funding sources have typically been based on multiple public sector grant regimes and private sector contributions. The planned transit line for Cambridge East should meet DfT funding criteria that include a need to avoid an operating subsidy after an initial build-up period. Funding is likely to utilise the successor arrangement to HIF amongst other bespoke mechanisms which recognise the additional value at Cambridge East generated by economic as well as housing development.

  Funding is overdue for transport investment in the east of the city and the scale of funding that would be necessary is not inconsistent with the levels of funding already committed by government and the Cambridge authorities for other quadrants of the city.

- **Technology choices** – to illustrate feasibility, the transit scheme has been illustrated using well-established parameters for light rail transit (LRT) systems. These are likely to be more onerous and are (usually) costlier than busway-style technologies. The costs and design parameters for the CAM system are not yet known. Marshall's assessment is (intentionally) conservative. In practice, multiple options are available, and the starting assumption is that the link would be delivered as an early phase of the CAM.

- **Interface with the Masterplan** – To reach the surface station located at the south end of the development site from the planned transit tunnel designed with the standard clearances to avoid risk of settlement of the land-fill site would require adoption of an 8% grade. This is consistent with other schemes such as Croydon Tramlink and the Sheffield Supertram. A 6% grade would require the station to be relocated slightly further north, which can be readily accommodated given the scale of the Cambridge East land.[34]

6.17 Steer's report confirms that the deliverability of a transit link to support development at Cambridge East is physically and operationally feasible. Further work will continue to develop the details around the transit link as proposals at Cambridge East progress.

Funding the transit link

6.18 The Local Plan Evidence Base is clear that national investment will be needed to unlock the growth that Cambridge needs. The *Development Strategy Options - Summary Report* states that growth *'is likely to require government support both financially to invest in regional scale infrastructure, or through structural interventions, to drive forward growth at these higher levels'* (Para 7.2.3). That funding is already planned in principle – both for the CAM and the interventions necessary to deliver the conclusions of the Eastern Access Study. Those schemes are not specific to Cambridge East; they seek to enhance the connectivity of the city as a whole.

6.19 A by-product of enhanced transport infrastructure in the east of the city will be unlocking the growth inherent in Cambridge East. In this respect, the potential availability and development of Cambridge East would be of major benefit. As compared with investments already made in

[34] Section 12 – Cambridge East Transit Deliverability Study (December 2020)

enhanced infrastructure to the west, south and north, the provision of a transit link to the east would enable major growth. In addition to existing forms of government funding through the City and Devolution deals, the development of Cambridge East creates the opportunity to attract funding from Homes England, whilst the forecast rates income generated (estimated at £60 million pa) creates further opportunities for a bespoke funding package of the type that has worked successfully elsewhere.

6.20 It is reasonable to anticipate support from national Government to enable enhanced connectivity in Cambridge and to facilitate the delivery of Cambridge East. Cambridge East aligns with national Government, Homes England and City Deal objectives for accelerating housing delivery, and the proposed transit link fulfils the objectives of the CAM. The scheme is of a similar scale and importance to national Government as other schemes that have received public funding for major infrastructure costs, such as Brent Cross and the Northern Line Extension, which unlocked development at Nine Elms in London.

6.21 The transport required to unlock the proposed development in Scenarios B, C or D would provide much wider benefits than its direct service to Cambridge East – it would help to unlock other sites in the east of the city and beyond. It would provide transport connectivity to, and between, the existing cluster of economic activity in the city centre, the science park to the north and the bio-medical cluster to the south of Cambridge. The benefits of the proposed transit link will be felt across the city and region and contribute substantially to the objectives of local and national Government.

6.22 The east of Cambridge is predominantly residential, with relatively limited employment space provision. Historically, this has resulted in an uneven pattern of investment, with the eastern side of the city losing out on infrastructure investment to areas of the city which benefit from higher numbers of jobs and are greater economic contributors. Delivering the transit link through Cambridge East would begin to correct this historical imbalance, both through the direct investment and enhanced connectivity to/from the east of Cambridge and by unlocking employment space in the east of the city which is critical to attracting future infrastructure investment.

6.23 Planning for infrastructure, commercial space and homes together allows for a strategic approach to planned growth. The provision of employment space and homes will contribute to the viability of a transit scheme by providing significant patronage for the new link. Commercial space will provide significant business rates revenue which could contribute to infrastructure funding. At the same time, the provision of transport infrastructure will make Cambridge East a more attractive place to live and for businesses to locate, thereby facilitating the economic and social benefits that delivering the site brings.

6.24 There is a very strong case for government investment in the east of Cambridge and every reason to consider that it would be forthcoming. The proposals align with Government growth objectives for delivery of homes and promotion of a high productive employment cluster in a sustainable location. Consideration of different funding approaches is set out in more detail in the Strategic Case which supports this submission.

Viability of the Development

6.25 Bidwells and Savills have developed financial models of the development Scenarios A, B, C, and D to explore the deliverability of each and to establish the extent to which each could contribute towards the provision of strategic transport infrastructure to serve the eastern side of the city.

6.26 The cash flow analysis of the models, as shown in Bidwells' *Market Overview and Financial Summary* report, is very helpful in explaining their individual viability. The table below sets out the forecast 'break even dates' for the different Scenarios, or the point in time at which the investment in the scheme begins to generate a return (i.e. the expenditure on the scheme in the form of equity and loans starts to be paid back out of land receipts).

	Scenario A	***Scenario B***	***Scenario C***	***Scenario D***
Break Even Date	2060+	2043	2041	2048

6.27 The table shows that Scenarios B and C reach the breakeven point earliest, in 2041-2043. This length of investment is feasible, but it requires a landowner with a significantly long-term view and the financial capacity to commit to it. Scenarios A and D extend those breakeven points by a further 5 - 22 years and are therefore not investable propositions.

6.28 Scenario A has such a long breakeven point because of its substantial reliance on income only from residential sales. Land sales from other uses – specifically commercial – are critical to the cashflow and, on an infrastructure-heavy scheme like Cambridge East, need to take place in tandem with the residential land sales so that cash is secured at a sufficient rate to sustain and recoup the infrastructure investment. There are insufficient non-residential uses in Option A to achieve this.

6.29 Scenario D relies on a very high proportion of flats (70%) as part of the overall housing mix, which is considered incompatible with market demand in Cambridge. It is expected that the market will not be able to absorb this number of flats at a rate which would achieve a breakeven point for the scheme sufficient to attract investment.

6.30 Scenarios A and D are therefore not investible opportunities.

6.31 The financial modelling has included an assessment of the likely contributions that each Scenario may need to make to planning / S106 contributions having regard to policy requirements for open space, education and transport requirements (as identified in the Transport Strategy report prepared by Stantec). These expected contributions are summarised in the table below. The overall indicative S106 package has been compared and benchmarked against other strategic schemes in Cambridgeshire and is comparable to the most ambitious schemes consented to date.

	Scenario A	Scenario B	Scenario C	Scenario D
CIL	Zero	Zero	Zero	Zero
Affordable Housing Headline %	40%	40%	40%	40%
Affordable Tenure Split (Social Affordable rent: shared ownership)[i]	50:50	50:50	50:50	50:50
Education	1x2FE Primary	2x2FE Primary	1x2FE Primary	1x2FE Primary
	2x5FE Secondary Assumed contribution: £98m	2x4FE Secondary Assumed contribution: £98m	2x5FE Secondary Assumed contribution: £98m	2x5FE Secondary Assumed contribution: £98m
Other (e.g. Health, Development, Community, art etc)	£14 m	£60 m	£115 m	£67 m
Transport funding[ii]	£66 m	£69 m	£184 m	£102 m
Total S106 Package	£178 m	£182 m	£397 m	£267 m

[i]The precise housing strategy and mix of tenures/typologies will be a very significant piece of work to be developed in collaboration with the councils

[ii] In all scenarios, it is assumed that the required transport infrastructure will have wider benefit to Cambridge and would be prompted by a suitable public sector promoter (e.g. CPCA, GCP or CCoC). The contribution each option can make has been calculated has been calculated as an output for the financial appraisals.

6.32 Scenario C assumes the most substantial funding contribution (~£400m) to the overall S106 package by a significant margin, with Scenario D assuming the next largest contribution (~£270m) and Scenarios A and B assuming the smallest contribution with less than half the contribution assumed for Scenario C (~£178m and ~£182m respectively).

6.33 Scenarios B and C are more attractive investment opportunities than either A or D. Scenario C, however, is commercially stronger than B demonstrating the potential to contribute a greater level of S106 funding than any other Scenario. Scenario C would constitute a very considerable investment for Cambridge. Scenario C has the potential not only to contribute meaningfully towards the delivery of the mass rapid transit link, but it would more effectively sustain investment in transport infrastructure over the medium and long term.

6.34 The findings and conclusions of the financial appraisal are set out in more detail within the Market Overview and Financial Summary which supports this submission.

7 Summary and Conclusions

7.1 Cambridge East is the only large site on the edge of Cambridge that is not within the Green Belt and thus presents a unique, once in a generation, development opportunity.

7.2 Through the Devolution Deal (2017) the Councils have committed to doubling GVA and reconfirmed this commitment through the Growth Ambition Statement (2018). The Greater Cambridge Shared Planning Service is in the early stages of preparing a new Local Plan, which will shape the growth strategy for the wider Cambridge area. Early indications from the Local Plan evidence base suggest that the Local Plan does not meet the Councils' commitment to double GVA, even through the maximum growth scenario that has been tested. Therefore, there is a risk that the Local Plan is underproviding for jobs growth, and consequently associated housing delivery. In addition, the Local Plan evidence base risks underestimating residential delivery rates.

7.3 Through the Greater Cambridge Spatial Options Assessment, the Local Plan evidence base tests how growth could be accommodated around the wider Cambridge area. The is evidence is clear that there are significant sustainability benefits for growth strategies that seek to provide development in and around Cambridge. Agglomerating new development around the existing built-up area of Cambridge is important for economic success and the delivery of high productivity jobs – both of which are key components if the Councils' are to achieve their commitment to double GVA.

7.4 Cambridge East, which has been removed from the Green Belt, is one of the few locations that can accommodate the scale of growth needed to meet the ambitious economic growth targets and simultaneously contribute to meeting the housing needs of local people. Cambridge East is the most suitable and sustainable location to deliver a significant proportion of Cambridge's future growth.

7.5 If the Councils are genuinely committed to doubling GVA and generating the economic success that makes Cambridge so important to the UK economy, the Councils' evidence base shows that the scale of growth required cannot reasonably be accommodated in the most sustainable and suitable locations without the release of Green Belt land. Green Belt and landscape studies that have been prepared to inform previous versions of the Local Plan indicate that release of Green Belt land to the east of Cambridge is potentially less harmful than in other locations on the edge of the City.

7.6 This Planning Appraisal, therefore, forms part of a wider submission, comprising a Capacity Analysis and Options Appraisal and suite of technical reports, which have all been prepared to report the findings of a site capacity testing exercise. This exercise tested four development scenarios which were developed in accordance with current and emerging policy to give each the best chance of success and ensure their deliverability as far as possible. The result is that each scenario presents a differing set of opportunities and constraints.

7.7 The results of the financial testing indicate that only two of the four scenarios tested are investable (Scenarios B and C). Scenario A provides a limited quantum and mix of uses and would take so long to achieve a positive return that it would be effectively "un-investable".

Scenario D is physically constrained and relies on a high proportion flats, which would severely slow delivery rates or suppress values and thus making the scheme undeliverable.

7.8 In the round, when all technical matters and the scale of growth required in Cambridge are considered, there is a clear preferred option in Scenario C. Scenario C is able to fulfil the true scale of the opportunity presented at Cambridge East. The additional land to the east of Airport Way allows Scenario C to deliver the greatest quantum and mix of development which generates multiple benefits which simply cannot be achieved on the smaller site of the alternative Scenarios.

7.9 Scenario C is the most sustainable of the options as it concentrates the greatest level of growth at a highly sustainable and productive location that is well integrated with Cambridge. This scale of development that Scenario C achieves means it is the only Scenario which is fully compatible with the Councils' commitment to double GVA in Cambridge. Given the scale of growth required, optimising growth at Cambridge East is essential, rather than dispersing growth remotely.

7.10 Development at Cambridge East, and in particular the scale and mix proposed through Scenario C, is a unique opportunity that would help the next Greater Cambridge Local Plan deliver the objectives it articulates through the four Big Themes.

7.11 Delivery of Scenario C, and the benefits that it enables, would be dependent upon the release of Green Belt land to the east of Airport Way, a case for which is set out in detail at Section 5 of this Appraisal. In principle, the Councils' evidence base establishes that the Local Plan will need to release land from the Green Belt adjacent to Cambridge. The opportunity the site presents must be taken and maximised, and there is a compelling case to secure the multiple benefits offered by Scenario C. Figure 7.1 illustrates the potential development of Scenario C.

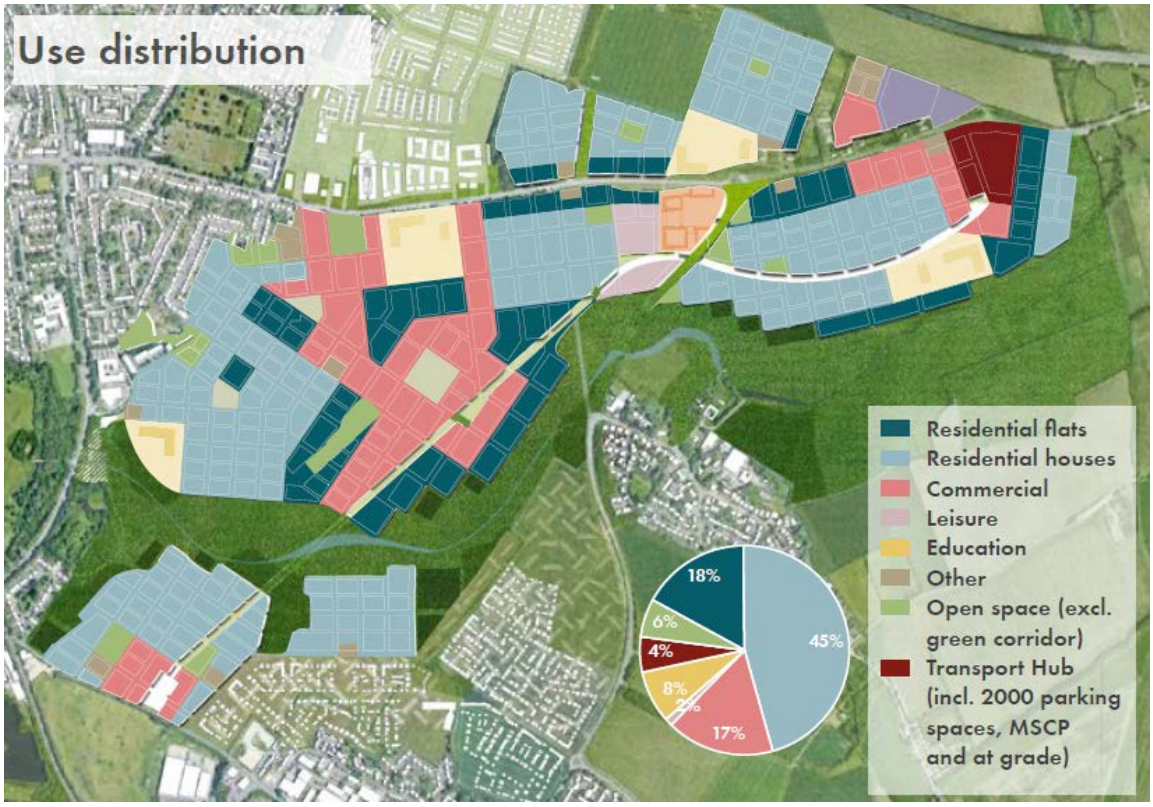

Figure 7-1 Illustrative Masterplan and Use Distribution at Scenario C


AECOM


Allies and Morrison


ARUP


BIDWELLS


Cambridgeshire
County Council


GummerLeathes


h+k


Kim Wilkie


Marshall


№6
DEVELOPMENTS


Quod


savills


Stantec


steer