Cambridge City Council and South Cambridgeshire District Council

Infrastructure Delivery Study 2015

Final Report

On behalf of

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Report Title: Cambridge City Council and South Cambridgeshire District Council Infrastructure Delivery Study 2015

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EXECUTIVE SUMMARY

1. Peter Brett Associates LLP (PBA) was commissioned by Cambridge City Council and South Cambridgeshire District Council to update their infrastructure evidence base in the light of comments received from the Inspectors examining both the Cambridge and South Cambridge Local Plans and various changes that have taken place since the previous work was undertaken in 2012 and 2013.

2. The scope of this study was to assess the infrastructure requirements, costs and known funding relating to planned growth, particularly the strategic sites, and identify any phasing issues that might affect the proposed growth and advise on the future delivery of infrastructure needed to support the planned growth.

3. The National Planning Policy Framework (NPPF) places considerable emphasis on local authorities to undertake infrastructure planning, joint working, viability and delivery as part of the plan preparation process. The Framework distinguishes between deliverable and developable sites, and acknowledges that in the medium to longer term there will be greater uncertainty, but seeks to ensure the planned growth for the short term should have a realistic prospect of delivery.

4. There have been a considerable number of recent planning consents and delivery is taking place on the ground, particularly around the fringe sites of Cambridge, Cambourne and Northstowe. This consented growth has been accompanied by site specific and strategic transport infrastructure investment.

5. There is an estimated £2.085 billion worth of investment planned in major transport infrastructure that will support the planned growth. This includes investment in major strategic transport infrastructure including the North Cambridge train station (Cambridge Science Park) by 2016, cost estimate £44m, the A14 Cambridge to Huntingdon improvement by 2019 and a number of high profile schemes. These strategic sub regional schemes have been removed from the IDS, as they are being funded and delivered at a sub regional or national level

6. The focus of the IDS has been to assess whether the planned growth is deliverable, i.e. there are no technical or licensing issues, that might prevent or significantly delay delivery and that infrastructure needed to support the planned growth can be met. Based on our developer surgeries with the strategic site promoters and meetings with the utilities providers, it is clear that demand is high, and the delivery of the strategic sites will meet with known identified capacity upgrades to infrastructure. This is understood by the site promoters and local authorities. To aid the timely delivery of utilities infrastructure, we recommend that a Utilities Forum should be set up. We also recommend that the IDS should be kept a live document and supported with a strong delivery mechanism.

7. In terms of the infrastructure requirements, costs and funding. Our assessment identified the following:

    i. The strategic sites can meet their own site specific infrastructure requirements and there is scope for these sites to contribute towards the cost of strategic transport corridor improvements relevant to their planned growth. More work is needed in refining the costs, thresholds and approach to funding. Studies have been commissioned and joint working with the site promoters has commenced. This will be the forum to work through a strong delivery strategy for finalising the approach to funding the strategic transport infrastructure costs, possible re- prioritisation of City Deal funding and focusing on ‘a focused essential’ infrastructure list.

    ii. The non strategic sites in South Cambs and Cambridge City Council demonstrate a ‘funding gap’ to support a CIL charging schedule. These sites should be able to support essential infrastructure but there will be no room for complacency in terms of agreeing to unrealistic costs. Service providers should be required to identify elements of mainstream funding or other innovative funding.

1 Introduction

1.1.1 Peter Brett Associates (PBA) LLP has been commissioned by Cambridge City Council and South Cambridgeshire District Council to update their infrastructure evidence base in the light of comments received from the Inspector and various changes that have taken place since the previous work was undertaken.

1.2 Background

1.2.1 Cambridge City Council and South Cambridgeshire District Council submitted their Local Plans for Examination in March 2014. The Local Plans were accompanied by:

- Cambridge City and South Cambridgeshire Infrastructure Delivery Study (Peter Brett Associates 2012) (RD/T/010) (IDS 2012)
- Cambridge City and South Cambridgeshire Infrastructure Delivery Study Update (Peter Brett Associates 2013) (RD/T/020); (IDS 2013)

1.2.2 As part of the Examination process, the Inspectors had previously indicated that they would write to the Councils if they had concerns about the submitted Local Plans. They have written to advise the Councils that having held hearing sessions on issues relating to overall housing need, the development strategy, Green Belt, transport, infrastructure and housing delivery, they have identified some issues they consider need to be addressed at an early stage. The Inspectors' Letter (dated 20 May 2015) raises issues to be addressed in respect of infrastructure funding and delivery.

1.3 How this study differs from the previous IDS reports

1.3.1 The scope of this study has been to refresh the infrastructure evidence base, but with a particular focus on the strategic sites allocated in the new plans in view of matters set out in the Inspectors' letter.

1.3.2 This study has been informed by direct engagement with and inputs from the various strategic site promoters to inform the strategic site assessments (for further information see paragraph 1.41 below).

1.3.3 This study has been developed in parallel with the updated viability assessment work for the Local Plans undertaken by Dixon Searle. This viability assessment provides an input into the IDS study, which in turn helps to inform the options for developer funding for infrastructure.

1.3.4 To avoid doubling counting the cost of utilities infrastructure, the cost allowance for utilities infrastructure is treated as a developer enabling input in the viability assessment and is thus not duplicated in this IDS. The approach to utilities infrastructure in this study has been to alert if there are any phasing or capacity issues.

1.3.5 Some important changes have taken place since the IDS 2012 and the 2013 update were completed. In particular, this study differs from the previous IDS studies by taking account of the following:

- This study has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF) instead of the Planning Policy Statement 12 guidance which the previous studies referred to. The Framework distinguishes between deliverable and developable sites, and acknowledges that in the medium to longer term (beyond 5 years) there will be greater uncertainty, but seeks to ensure the planned growth for the short term (years 1 to 5) should have a realistic prospect of delivery. The National Planning Policy Framework (NPPF) places considerable emphasis on local authorities to consider infrastructure planning, joint working, viability and delivery as part

of the plan preparation process. Indeed the infrastructure assessment to inform the Plan strategy is an explicit requirement in the NPPF relating to the 'positively prepared' test of soundness of the Plan.

- The Transport Strategy for Cambridge and South Cambridgeshire and accompanying Action Plan, has been prepared in parallel with the Local Plans, forming part of the Local Transport Plan which was adopted in November 2014.

- Considerable development has already been consented at Northstowe and the Cambridge fringe sites. There has also been significant investment in new infrastructure accompanying the planned growth and at a strategic level with the approval of the Cambridge North train station, M11 junction works and funding for A14 improvements (at time of writing going through the DCO process).

- The Greater Cambridge authorities, working with partners[1], have secured funding through the Greater Cambridge City Deal, with the potential for up to £500m over a 15 year period towards transport infrastructure to support the delivery of growth. The City Deal Assembly and Executive Board have been established to oversee the delivery of the City Deal programme.

- Both Councils have prepared a Community Infrastructure Levy (CIL) to fund infrastructure and have submitted their charging schedules for examination. Further work on plan level viability assessment will inform the IDS assessment of developer funding.

- The focus of this study is on assessing the deliverability and developability of four major new strategic sites identified in the Local Plans (at land north of Cherry Hinton, Waterbeach new town, Bourn Airfield new settlement and Cambourne West). We also take account of the considerable consented and previously planned growth at the Cambridge Fringe and Northstowe.

- The assessment includes a review of the social and environmental infrastructure included in the 2013 assessment. The client team has updated much of the 2013 information in consultation with relevant service providers. The focus on utilities infrastructure is on potable water, foul water and electricity where they might be capacity and phasing issues.

1.4 Research, developer engagement and consultations

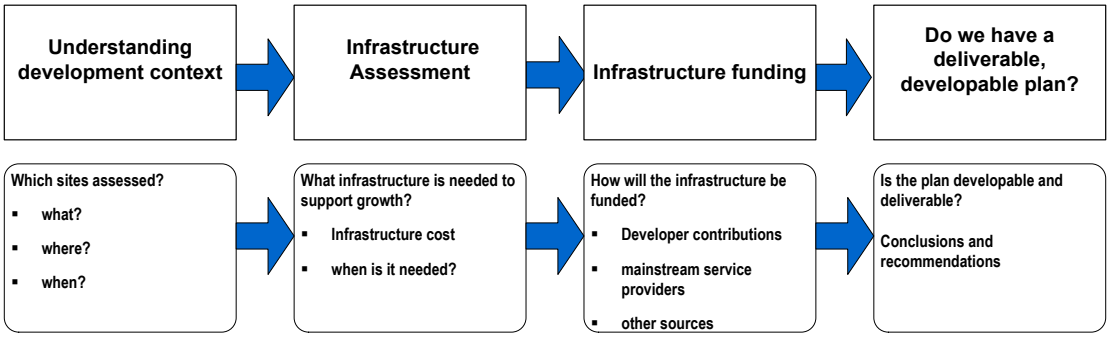
1.4.1 The bulk of our primary research informing this study was originally undertaken in 2012 and updated in 2013 by PBA. Since then, much of the IDS evidence has been kept up to date and the latest information provided by the County Council in July 2015 has informed this study. In addition, we have sought inputs from the strategic site promoters during a series of focused developer surgeries held in September and October 2015 and a number of interviews and consultations with infrastructure service providers (see Appendix A for a list of consultees and developer surgeries).

1.5 Study approach

1.5.1 Figure 1.1 illustrates the process adopted to assess the deliverability of the strategic sites.

[1] The Greater Cambridge City Deal partners are Cambridge City Council, Cambridgeshire County Council, South Cambridgeshire District Council, the Greater Cambridge Greater Peterborough Local Enterprise Partnership, and the University of Cambridge.

Figure 1.1 Study approach process diagram



PBA 2015

1.5.2 The study approach as illustrated in figure 1.1 is outlined below.

Understanding of the development context

1.5.3 The starting point of the study is to establish an understanding of the planned growth. This stage is important, because the amount and timing of development in the local plans will influence the amount of infrastructure required at a given point in time.

Infrastructure assessment

1.5.4 This section of the study sets out what infrastructure is required to support the unconsented planned growth. We look at how much that infrastructure costs, when it is needed, and how it might be funded.

Infrastructure funding mechanisms

1.5.5 This section investigates how infrastructure might be paid for. We investigate whether public sector mainstream funding might help pay for development, what developer funding mechanism will be used (e.g. S106, CIL or developer enabling investment) and any other funding sources, including the Greater Cambridge City Deal. We rely on external work commissioned by the Councils to inform the viability assessment of developer contributions.

Delivery recommendations

1.5.6 This section pulls together the findings from the infrastructure assessment to inform the conclusions and recommendations for the study.

1.6 National policy on infrastructure and delivery

Infrastructure planning is a strategic priority

1.6.1 Infrastructure planning needs to be part of the 'strategic priorities' for the Local Plan preparation. The NPPF requires authorities to demonstrate that infrastructure will be available to support development. The NPPF at paragraph 177 states:

'It is equally important to ensure that there is a reasonable prospect that planned infrastructure is deliverable in a timely fashion. To facilitate this, it is important that local planning authorities understand district-wide development costs at the time Local Plans are drawn up.'

1.6.2 It is within this context of the NPPF that we have assessed the infrastructure delivery of the strategic sites.

The importance of viability testing to ensure the Plan is deliverable

1.6.1 The NPPF requires a proportionate evidence base to be submitted to support the plan (para 158). In particular, the NPPF requires that Local Plans pay careful attention to viability to ensure that the plan is deliverable. With regards to this, paragraph 173 of the NPPF states:

'*The sites and the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing standards, infrastructure contributions or other requirements should when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable.'*

Deliverability and developability considerations of the Plan

1.6.2 Specifically in relation to housing, NPPF (para. 47) requires local planning authorities to:

- identify and update annually a supply of specific deliverable sites sufficient to provide five years' worth of housing against their housing requirements and
- identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15;

1.6.3 The NPPF uses the two concepts of 'deliverability' (which applies to residential sites in Years 0-5 of the plan) and 'developability' (which applies to year 6 onwards of the plan). The NPPF defines these two terms as part of paragraph 47 footnote 11 as follows:

- To be deliverable, '*sites should be available now, offer a suitable location for development now, and be achievable, with a realistic prospect that housing will be delivered on the site within five years and in particular that development of the site is viable.*' Paragraph 47 footnote 11
- To be developable, sites expected in Year 6 onwards should be able to demonstrate a '*reasonable prospect that the site is available and could be viably developed at the point envisaged'*. Paragraph 47 footnote 12

1.6.4 The NPPF advises that a more flexible approach may be taken to the sites coming forward in the period after the first five years.

1.6.5 The National Planning Practice Guidance (NPPG) provides further guidance on viability and delivery aspects of plan making. In respect of delivering land for housing development the NPPG sets out what should be considered deliverable and developable. In particular it states that assessments should identify:

- The potential type and quantity of development that could be delivered on each site/broad location;
- Reasonable estimate of build out rates;
- How any barriers to delivery could be overcome and when;
- An indicative trajectory of anticipated development and consideration of associated risks.

1.6.6 Based on the preliminary conclusions of the Inspectors examining the Local Plans, we consider it is also important for this study to demonstrate that a strong plan is in place to support the delivery of strategic infrastructure needed to support the longer term planned growth.

Community Infrastructure Levy and strategic sites

1.6.7 The Community Infrastructure Levy (CIL) is a planning charge that became available to local authorities on 6 April 2010. The levy allows local authorities in England and Wales to raise contributions from development to help pay for infrastructure that is needed to support planned development. Local authorities who wish to charge the levy must produce a draft charging schedule setting out CIL rates for their areas.

1.6.8 The impact of higher development costs sometimes associated with strategic sites is recognised by the CIL guidance; this states that a charging authority should take development costs into account when setting its levy rates, particularly those likely to be incurred on strategic sites or brownfield land. A realistic understanding of site specific requirements for strategic sites is essential to the proper assessment of viability and charge setting. The submitted South Cambridgeshire CIL includes a zero rate for a number of specific large scale strategic sites.

1.6.9 The purpose of CIL is to enable the charging authority to carry out a wide range of infrastructure projects. CIL is not expected to pay for all infrastructure requirements but could make a significant contribution. However, development specific planning obligations (commonly known as S106) to make development acceptable will continue with the introduction of CIL. In order to ensure that planning obligations and CIL operate in a complementary way, CIL Regulations 122 and 123 place limits on the use of planning obligations. Our assessment of the infrastructure has taken account of the latest legislation relating to developer contributions.

1.6.10 Each Council is proposing a CIL to fund part of the cost of infrastructure requirements. The role of the infrastructure evidence for CIL is to demonstrate that there is a funding gap, whereas for the Local Plan the role is to demonstrate that the Plan is deliverable (i.e. there are no insurmountable show stoppers), and there is a strong plan in place to enable the delivery of strategic infrastructure needed to support the delivery of longer term planned growth.

1.6.11 The viability assessment to inform CIL and S106 developer contributions is being undertaken by Dixon Searle Partnership, their assessment will be used to inform the scale of developer contributions available to support infrastructure costs for this study. This is referred to in the rest of this report as the Viability Study.

PART 1 GROWTH PLANS

This stage is important, because the amount and timing of development in the area will influence the amount of infrastructure required at a given point in time.

2 PLAN GROWTH NEEDING SUPPORTING INFRASTRUCTURE

2.1 Introduction

2.1.1 This section outlines the development plan context and sets out the planned growth and the wider policy influences that inform the infrastructure assessment.

2.2 Development context

2.2.1 The existing Cambridge Local Plan (2006) and South Cambridgeshire Local Development Framework (adopted between 2007 and 2010) introduced a step change in levels of planned growth, unmatched since the interwar years.

2.2.2 Greater Cambridge is a major driver of economic growth, linked closely to the Universities, and creating the Cambridge Phenomenon. This brings with it a demand for both housing and employment land. Major employment growth has taken place on the northern and western fringes of the city, in the station area (CB1) and on the Cambridge Biomedical Campus around Addenbrooke's Hospital, where around 10,500 new high value jobs are being created. The high tech and biotech sectors remain strong and employment growth is continuing at major research parks and campuses on the outer edges of the green belt around Cambridge. This growth is based in high value jobs, which in turn has generated a demand for homes.

2.2.3 Through the last round of plan making, the Cambridge Local Plan 2006 and the South Cambridgeshire Local Development Framework 2007-2010 released significant land from the Cambridge Green Belt. Major housing growth was planned at a number of urban extensions on the fringes of the city, and a number of these sites are now coming forward. A new town was also identified at Northstowe situated north west of Cambridge. The first phase of this site is now under construction.

2.2.4 The new Local Plans must identify further growth to meet the needs up to 2031. The Submitted Local Plans identified further growth in the urban area of Cambridge, some limited new development on the edge of Cambridge, two new settlements, north of Waterbeach and at Bourn Airfield and a major extension to the previously established new village of Cambourne. Modifications to both Local Plans are proposed to allocate a larger site at Land north of Cherry Hinton than in the submitted plans. The growth at new settlements in particular requires efficient movement to access areas of employment in and around Cambridge.

2.3 This study is assessing unconsented planned growth

2.3.1 Being clear about the planned growth being assessed is important, because the amount and timing of development in the area will influence the amount of infrastructure required at a given point in time.

This study considers the infrastructure requirements to meet the needs of unconsented planned growth

2.3.2 To avoid double counting, this study looks at infrastructure for growth without planning permission ('unconsented growth'). This is because we make the assumption that if jobs and homes already have permission, then sufficient infrastructure to cope with new demand must be already in place or contributions secured. If it was not, then planning permission could not have been granted. Any other approach would risk double-counting infrastructure requirements, and therefore arriving at an artificially high infrastructure requirement for growth in the area.

2.3.3 Whilst this study does not formally cost infrastructure delivered or secured as part of consented growth plans, we remain aware of it, because planned infrastructure may absorb or provide additional capacity.

2.3.4 The proposed planned growth which is yet to receive planning permission will require investment in infrastructure to deliver the sustainable communities and jobs which are planned. The main infrastructure requirements are identified and tested in this report.

2.4 Planned housing growth in the Local Plans

2.4.1 Cambridge City Council and South Cambridgeshire District Council are each preparing Local Plans, which will cover the period 2011 to 2031. The Plans (as proposed to be modified) make provision for 14,000 new homes in Cambridge and 19,500 homes in South Cambridgeshire, with the development strategy for Greater Cambridge focusing jobs and homes in and close to Cambridge. The sustainable development sequence maximises use of land within and on the edge of Cambridge compatible with protecting the Green Belt setting of the historic city and then in new settlements linked to Cambridge by sustainable transport corridors and finally in the larger and more sustainable villages.

2.4.2 The planned growth and phasing strategy included in the latest housing trajectories (November 2015) is set out in table 2.1 below

Table 2.1 Planned housing trajectory from 2015 to 2031 and beyond the plan period after 2031

Planned Growth (residential)	2015 – 2020	2020 – 2025	2025 – 2031	Beyond plan period	Maximum annual delivery rate
Cambridge Urban Area - allocations without planning permission					
Allocations without planning permission (Cambridge)	42	884	940	0	
Orchard Park (parcels K1, L2 & Com4) (South Cambridgeshire)	53	0	0	0	
Cambridge Fringe Sites - allocations without planning permission					
Land North of Worts' Causeway (Cambridge)	140	60	0	0	Maximum annual delivery of 80 dwellings.
Land South of Worts' Causeway (Cambridge)	154	76	0	0	Maximum annual delivery of 77 dwellings.
Darwin Green 2 & 3 (South Cambridgeshire)	0	675	325	0	Maximum annual delivery of 150 dwellings.
Cambridge East – WING (South Cambridgeshire)	225	700	375	0	Maximum annual delivery of 140 dwellings.

Cambridge East – North of Cherry Hinton (Cambridge[2])	386	394	0	0	Maximum annual delivery of 180 dwellings.
Cambridge East – North of Cherry Hinton (South Cambridgeshire)	214	206	0	0	Maximum annual delivery of 147 dwellings.
New Settlements – allocations without planning permission					
Northstowe - phase 3 and later phases (South Cambridgeshire)	0	0	0	5,000	
Waterbeach new town (South Cambridgeshire)	0	550	1,500	6,950	Maximum annual delivery of 250 dwellings.
Bourn Airfield new settlement (South Cambridgeshire)	0	460	900	2,140	Maximum annual delivery of 150 dwellings.
Rural Area – allocations without planning permission					
Cambourne West (South Cambridgeshire)	200	750	250	0	Maximum annual delivery of 150 dwellings.
Allocations at Villages (South Cambridgeshire)	814	270	0	0	
Windfall Allowance					
Windfall Allowance (Cambridge)	154	615	742	0	Maximum annual delivery of 124 dwellings per annum.
Windfall Allowance (South Cambridgeshire)	250	1,000	1,200	0	Maximum annual delivery of 200 dwellings.

Source: South Cambridgeshire District Council and Cambridge City Council[3]

2.4.3 The tables reflect the policies and trajectories identified in the Local Plans (including modifications proposed in response to the Inspectors' Initial Conclusions). It is noted that in some cases, promoters are considering different site capacities through planning applications (for example at time of writing there is a live application for a larger site at Cambourne West). Whilst both Councils take a cautious approach to their trajectories, the South Cambridgeshire housing trajectory in particular also takes a precautionary approach on the timing of new settlements and Cambourne West compared with the views of the site promoters. If the sites come forward earlier than anticipated in the trajectory, the planning application process will assess any issues around timing of development and associated infrastructure requirements.

[2] Approval for 57 residential units for Cambridge East – Land at Coldham's Lane has been included in the total under the category Sites with Planning Permission (Cambridge).

[3] updated housing trajectories as of October 2015 (based on starts in 2015/2016 and estimate completions from 2011 to 2015)

2.4.4 Based on the above housing trajectory, the IDS study findings for the infrastructure assessment have been informed by the following spatial locations:

- The strategic sites are land north of Cherry Hinton (as proposed to be modified), Waterbeach new town, Bourn Airfield new settlement, Cambourne West.
- The fringe sites surrounding Cambridge which straddle the local authority boundaries of Cambridge City Council and South Cambridge District Council.
- The Cambridge Urban Areas (CUA) of North, East, South, West/Central and Station Area.
- The rural settlements of South Cambridgeshire District Council.

2.5 Planned employment growth in the Local Plans

2.5.1 The Local Plans identify targets for the growth of an additional 22,100 jobs for Cambridge City and 22,000 for South Cambridgeshire. Over 127 ha (net) of employment land will help to support these additional jobs at the following locations:

Cambridge

- Station Area West and Clifton Road,
- West Cambridge,
- Cambridge Biomedical Campus (including Addenbrooke's Hospital); and
- Land adjoining Peterhouse Technology Park.

Cross border sites

- North West Cambridge; and
- Cambridge Northern Fringe East.

South Cambridgeshire

- Northstowe;
- Cambridge Science Park;
- Land adjoining Peterhouse Technology Park;
- Waterbeach new town;
- Bourn Airfield new settlement; and
- Cambourne West

2.5.2 Most of the employment sites listed above have already been consented or are part of the planned strategic housing sites being considered as part of this study. As such the infrastructure requirements relating to the employment growth, which is mainly related to transport and utilities, has already been considered as part of the consented schemes or forms part of the strategic site assessments.

2.5.3 Provisional proposed modifications to the South Cambridgeshire Local Plan identify a further employment development opportunity south of the Cambridge Biomedical Campus, subject to

further investigations of surface water flooding, for which ongoing discussions with utility providers and Cambridgeshire County Council will continue.

2.5.4 Both Plans support employment-led mixed use development at Cambridge Northern Fringe East. The development potential of the area is being significantly enhanced by the opening of the new Cambridge Science Park Station in 2016. This will link up with the wider transport network, including the Cambridge to Huntingdon Busway. This large area of land has a wide range of issues, including minerals, waste and transport. These issues will need to be addressed to deliver the comprehensive development envisaged. The Councils have started preparation of the AAP, in close cooperation with Cambridgeshire County Council, with Issues and Options consultation undertaken in December 2014. This process will involve evidence gathering, stakeholder and wider community engagement, and maximising the opportunities of this important resource. The site is not relied upon to meet the development needs to 2031, but will provide added flexibility.

PART 2 INFRASTRUCTURE ASSESSMENT

In this part of the report, we set out what infrastructure is required to support unconsented planned growth. We look at how much that infrastructure costs, when it is needed, and how it might be funded.

We begin by setting our approach to the infrastructure assessment and then proceed to outline the infrastructure assessments by theme and strategic sites.

3 APPROACH TO INFRASTRUCTURE ASSESSMENT

3.1.1 Whilst this study does not take account of consented growth, we remain aware of it, because planned infrastructure may provide additional capacity that can be used. With strategic infrastructure we also remain aware of any deficit in existing capacity as any new growth will exacerbate an existing problem.

3.2 Distinguishing between primary and secondary infrastructure

3.2.1 We distinguish between two main categories of infrastructure - primary and secondary infrastructure. It is important to be clear about the distinction between these two categories because the approach to their assessment will vary. Thus to avoid any double counting and over complication of analysis at this stage we make a clear distinction of what we include in the assessment of each category from the outset. In this study, we defined these as follows.

- **Primary infrastructure** is infrastructure required to accompany development in order to allow new households and jobs to function within a wider community. This infrastructure will be largely used by the community living and working in the development but others would not be excluded from using these facilities such as schools, health facilities, parks, and community centres.

- **Secondary infrastructure** is infrastructure intended to create accessible, serviced and developable sites. Developers usually factor both 'plot externals' and 'site enabling or 'site abnormal' costs' into their viability assessment of the site. The plot externals allowance, which typically includes infrastructure costs relevant to the site development within the red line boundary, such as internal access roads, drainage, SUDS, sewers, gas, electricity, and telecoms. This category will also include some open space and play spaces, plot landscaping, footpath and cycleways within the site. These costs are required to prepare the site for development and it is assumed these costs will be borne by the developer to create saleable parcels of land. In addition, depending on the site location and nature of the site, there will be site enabling or site abnormal costs also related to creating serviced plots but would typically be in excess of what could be absorbed within a typical plot externals budget given the scale or complexity of the project and specific infrastructure items. Examples of plot abnormal include unusually high infrastructure costs (such as creating new main roads to remote sites, any unusually extensive connections to utilities services), burying pylons or remediating land.

3.2.2 In respect of Secondary infrastructure, assumptions relating to opening allowance to reflect the generic costs of secondary infrastructure will be incorporated in the Dixon Searle viability assessment.

3.3 Planning Act definition of infrastructure

3.3.1 The 2008 Planning Act section 216 (2) provides an inclusive list of infrastructure to include the following:

- roads and other transport facilities;
- flood defences;
- schools and other educational facilities;
- medical facilities;
- sporting and recreational facilities; and

- open spaces

3.3.2 As this list is 'inclusive', the Act effectively gives a very broad definition of infrastructure, covering all generally understood meanings of the term and certainly those things listed. The Planning Act 2008 and subsequent CIL regulations are deliberately drafted to give local authorities as much discretion as possible over deciding what is included in their definition of infrastructure.

3.3.3 In the case of this 2015 assessment, given the depth of previous assessment undertaken during 2012 and 2013 update and the tight timescales to undertake this study, a pragmatic approach has been adopted. The primary infrastructure included as part of this study includes the following:

- Transport
- Education
- Leisure, play and sport
- Green infrastructure
- Community facilities and libraries
- Health
- Emergency services
- Waste
- Utilities (electricity, gas, water and sewerage)

3.4 Guiding principles to assessing infrastructure requirements

3.4.1 This section provides an explanation of the study's approach to assessing infrastructure requirements.

This work focuses on the infrastructure requirements of future unconsented growth

3.4.2 This infrastructure assessment will focus on the infrastructure requirements of housing and jobs growth from 2011 to 2031. The assessment focuses on infrastructure requirements of unconsented growth, as those sites with planning permission have already been subject to negotiated developer contributions or an assessment of capacity in existing infrastructure.

Consented sites excluded from this assessment

3.4.3 For the category of sites which have planning permission (outline and full), sites with resolution to grant planning permission, and some which have both a planning permission and a signed S106 agreement but have not yet been developed, it has been assumed that service providers (many of whom are statutory consultees to the planning process) have already taken account of this approved growth in their estimations for infrastructure requirements. It is assumed that infrastructure requirements of this category of growth will be taken account of through a) existing surplus infrastructure capacity and b) signed or forthcoming Section 106 agreements. A section on consented sites is provided to reflect the infrastructure that will be provided to support the urban extensions to Cambridge and Northstowe strategic site consented schemes. These will form part of the five year supply. However these are not part of the IDS schedule.

Transport is treated in a special category due to the cumulative effect of impacts

3.4.4 A slightly different approach is used to assessing transport requirements. We take account of schemes intended to address existing deficiencies and planned growth in the IDS as often it is difficult to disaggregate the two. Incremental S106 agreements on undeveloped sites with planning permission can often mitigate very local transport impacts of growth but can fail to capture the cumulative impacts of growth on strategic transport infrastructure[4]. To deal with transport requirements, the assessment has included all requirements (growth related and existing deficit).

The study assessment is based on published data and service provider inputs

3.4.5 The Infrastructure Delivery Schedule has been updated by Cambridgeshire County Council and provided the basis for informing this assessment. This has been supplemented by interviews with service providers and direct requests from the client team to service providers to update the IDS information held (see Appendix A).

3.4.6 Greater attention has been paid to the transport assessment as in our experience this is usually the area of highest cost and can impact on phasing and delivery. Inputs from the 2014 Transport Strategy for Cambridge and South Cambridgeshire and the supporting Action Plan, information from the City Deal assessments, meetings and direct input into this report have been provided by the Cambridgeshire County Council Transport team. This document will continue to be updated and refined.

3.4.7 The assessment has relied on service providers' calculation of population projections to inform future infrastructure requirement estimates. Understandably these will need to be monitored to ensure the projections reflect actual requirements. Where possible, this assessment has used service providers' own estimates of the cost of their infrastructure requirements based on their knowledge of delivery and recent examples. These cost estimates are based on current prices. Appendix B provides a summary of the broad assumptions adopted to arrive at some of the infrastructure assessment.

Infrastructure relating to growth 'beyond plan' has been excluded from the assessment

3.4.8 A number of sites, including Waterbeach new town, Bourn Airfield new settlement and Northstowe Phase 3 have elements of growth that relate to beyond the plan period. The approach in terms of the IDS infrastructure assessment has been to exclude any items directly related to growth beyond the plan period. However, some strategic transport infrastructure to support this longer term planned growth will need to take place during the plan period and has been factored into the IDS schedules.

The study has aimed to avoid a "wish list" approach to infrastructure requirements

3.4.9 It is not desirable to load an infrastructure assessment with a gold-plated "wish list" of perceived needs. The NPPF is clear about ensuring a balance is struck between infrastructure requirements and the need to ensure deliverable plans:

'*The ....plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened....*' NPPF paragraph 173.

3.4.10 A pragmatic approach has been adopted that balances deliverability with providing sufficient infrastructure to ensure that sustainable growth is properly catered for. It has not been the purpose of this study to negotiate with service providers in order to strip unrealistic infrastructure requirements out of their plans, but inevitably there will greater clarity on

[4] This is less of a problem with infrastructure such as schools or primary care, because growth impacts are generally confined within catchment areas.

infrastructure that is required to make development acceptable at the planning application stage. However, in consultation with the client team, the following infrastructure items have been removed or approach amended for the 2015 IDS:

- Removal of the regeneration project known as the Fens Waterway link opening 105km of waterways at an estimated cost of £83m has been removed.[5]
- Costs and funding information relating to utilities infrastructure has been removed, and this is instead being treated as part the viability assessment cost considerations.
- Schemes fully funded by Highways England, Network Rail, the County Council or other public bodies have been removed from the IDS schedule. These accounted for some very high cost elements in the previous IDS assessments. Instead Section 4 lists the current known schemes estimated at £2.085 billion investment.

3.5 When is infrastructure required?

3.5.1 Where available, we have used the site promoters and service provider inputs to inform the assessment of when infrastructure might be required to support different sites and phases of development. We caution that this is not always an exact science. This very much depends on actual take up, economic cycles, the scale of 'pain or stress' that might be considered acceptable, technological change and so on. In some instances, more detailed assessments maybe needed closer to delivery timescales to inform thresholds levels for when capacity will be reached.

3.6 What are the infrastructure priorities?

3.6.1 It is our objective to prioritise which infrastructure projects are most important in allowing planned growth to take place in a sustainable and well planned way. Please note that this prioritisation process does not intend to sequence infrastructure investments in time order or any other economic priorities that might be used for the City Deal assessment. Ultimately, it will be necessary to prioritise both within theme areas (say, prioritising the most important transport projects) and also between theme areas (say, deciding to invest in community facilities, rather than transport).

3.6.2 There is no definitively right answer here. Whilst these final decisions rest with elected representatives and informed by their officers, this study starts to provide a professional input to assist the process of making these decisions. We have categorised different infrastructure spending into the following levels of priority, in the expectation that subsequent work, outside our brief, will review the choices made.

3.6.3 The following categorisation has been adopted for this study:

- **Critical enabling** this category would apply to infrastructure which would be required as a direct result of the proposed growth and would have to be implemented if the development was to go ahead (for instance utilities, sewerage, drinking water, site access)
- **Essential mitigation** this category includes all infrastructure that we believe is necessary to mitigate the impacts arising from the development. The usual examples of essential mitigation are projects which mitigate impacts from trips or population associated with a development, including school places, health requirements and public transport (service) projects.

[5] The client team have agreed that the Fens Waterway link project is an 'aspirational project' and the only reference to it is in the Cambridgeshire County Council Green Infrastructure Strategy. The Fens Waterway area is outside the study area.

- **Desirable** this defines all projects that are deemed to be of benefit but would not prevent, on balance, the development from occurring or from being acceptable if they were not taken forward.

3.6.4 The final decisions on future spending priorities and classification will rest with the Councils; this study provides a starting point to inform the process.

3.7 Categories of infrastructure outside our scope

3.7.1 The following categories of infrastructure are excluded from this study:

- Nationally provided infrastructure is outside our scope (e.g. courts, prisons).
- Privately owned "infrastructure" is outside our scope (e.g. petrol stations, pubs, post offices). However, the previous IDS included cemeteries, faith based community building and GP services and these have been retained in the IDS. Generally, costs that are borne by the private sector are excluded from this assessment.
- Care homes. These are excluded from infrastructure costs. Whilst there maybe an aspiration to support their delivery, care homes are part of a quasi-private market in older peoples' residential care. Social care budgets pay for some places, whereas others are privately purchased.

3.7.2 We have excluded the following categories of health care from the study:

- Acute health care (generally hospital) and community/cottage hospitals. We do not cover these types of provision in this report. The reason is that the 'development of an area' is unlikely to be of a scale that would require a major alteration or configuration of acute care services. Incremental change is more likely as the build-out is delivered. Note that in common with a number of state infrastructure providers, acute care provision funding should follow population growth.
- Pharmacies and Optometrists. The NHS does not financially support the initial provision or ongoing costs of pharmaceutical and optometric premises. This is a private sector function and is therefore excluded from our study.
- Dental Premises. Dentists are contracted by the NHS to provide an agreed level of units of dental activity. For this they receive an income. Running costs are charged against this income.

3.8 Caveats to this study

3.8.1 There are a number of important points which must be borne in mind when using this document.

- It is important to note that the assessment undertaken relates to infrastructure requirements for the purposes of local plan and at a level of detail appropriate for that strategic level. As plans are developed further, then specific development based infrastructure assessments will be carried out that will identify more accurately the actual infrastructure needs and costs based on greater detail and understanding of requirements and capacity at that point in time. It is therefore certain that as more detail emerges further refined assessments will supersede the requirements, costs and funding assessments made at this stage.
- Infrastructure planning is not static - any assessment is based on information available relating to capacity at a point in time and this will be continuously changing. As such, it will be important for the Councils to continue to maintain an ongoing dialogue with service providers, to proactively manage the delivery of planned growth.

- Infrastructure providers reserve the right to update the information provided. As might be expected, there are some gaps in knowledge and understanding of what is needed and how it might be paid for. Estimates will need to be refined.

- The service providers are at different stages in their planning processes. In many cases further work is needed to identify specific infrastructure requirements. Most service providers do not plan for infrastructure beyond three to five years ahead, and are not able to clearly forecast their precise requirements in (say) ten years' time. This means that long term infrastructure requirements can only be estimates based on current forecasts and will need to be updated regularly and will need to be treated with a degree of flexibility to reflect future changes.

- This study is for a longer term plan and service providers will be expected to identify mainstream funding sources to contribute towards the cost of infrastructure requirements. 'Double funding' via developer contributions must be avoided. Service providers are not to assume that because their infrastructure item is included in this study, it will necessarily be entirely funded via developer contributions.

- The estimates of infrastructure requirements, costs and funding provided here involve generalisation. It is not realistic or appropriate at the plan making stage to match resources, demand and location with the degree of precision necessary to reach perfectly reasoned conclusions on what infrastructure is required on any one given site or with any one service provider.

- This infrastructure assessment is not itself a policy document. Information included in the assessment does not override or amend the various agreed/adopted strategies, policies and commitments which local authorities and other infrastructure providers currently have in place.

- Further work after this study has been produced will be necessary to refine infrastructure priorities.

- Our assessment of potential developer contributions from potential future development in the area is based on input from a parallel viability study by Dixon Searle. Their viability appraisals are prepared with the objective of estimating potential overall levels of contributions that could be secured from development to help fund infrastructure.

- Although this work can be used as a guide, developers and Local Planning Authorities will not be able to solely rely on this work to negotiate individual Section 106 agreements. Our analysis is not at the level of detail that allows this function to be performed but is rather at a level appropriate for plan making.

- It will be important to allow sufficient flexibility around funding. In the case of the CIL or S106, for example, there may be changes to the way that these policies are used to pay for different infrastructure items that differ from this report.

- This report may make assumptions about how projects are funded. For example, it may assume that some projects are included as seeking CIL or S106. However, as projects proceed through the planning process, these projects may be sought as part of typical externals budgets, and thus receive no funding or offsetting allowance in viability calculations for S106 or affordable housing.

- Our analysis does not address whether a five year supply of housing is available. This is a matter to be determined separately.

- Public services, and hence the infrastructure required for delivery, are in a constant state of flux and are affected by changes in growth, population, and national policy. For example, the changes in the health service with the abolition of the Primary Care Trusts

and the introduction of new structures are having an impact on the type of health infrastructure requirements and how these are funded and delivered in the future.

- Technology changes too are likely to affect infrastructure requirements over the next few years in ways which may be difficult to predict. For instance, there may be greater delivery of services via the internet, thus reducing the space required for certain services. Similarly, greater recycling measures and efficiency saving means less infrastructure will be required for landfill, and delivery of onsite energy solutions could affect the infrastructure requirements of these facilities.

- In other service areas, joint use of community, education and health related buildings infrastructure will change the future delivery and cost of these services. Funding levels vary with economic trends and political decision.

4 TRANSPORT INFRASTRUCTURE

4.1 Introduction

4.1.1 This section sets out the transport infrastructure requirements, cost and funding stemming from planned growth. The requirements have been informed by the Transport Strategy for Cambridge and South Cambridgeshire and supporting Action Plan (March 2014), consultations with the transport lead officers at Cambridge County Council, strategic site promoters and the Councils.

4.2 The transport context

Transport plans are predicated on creating a modal shift from car to other forms of transport

4.2.1 The combination of new homes and jobs growth and background trend rises in transport demand places will add to the existing pressure on the transport network in the area, both at the strategic and local level. This growth will need to be accommodated by sustainable modes of transport, as parts of the network, particularly on the approaches to Cambridge frequently operate at or near capacity in peak periods.

4.2.2 There is now a detailed longer term transport strategy[6] in place to meet the needs of the area and accommodate the planned growth. The transport strategy is predicated on continuing to create a modal shift in transport patterns. It does not generally prioritise major increase in capacity for car trips, and reflects that the provision of additional road capacity along some of the major transport corridors would be difficult or impossible to match with additional capacity within the historic setting of Cambridge and the market towns. The focus is on creating sustainable transport movements, particularly cycling and high quality passenger transport (HQPT) to provide or enhance integrated high quality segregated bus, guided bus or rail options. In Cambridge the focus is to build on the cycling culture and high quality pedestrian routes.

4.3 The transport strategies

4.3.1 Cambridgeshire County Council has a number of transport strategies and plans that inform the infrastructure assessment, strategy and future requirements for the Cambridge and South Cambridgeshire area. The overarching strategy document is the third Local Transport Plan (LTP) which is a statutory document which sets out transport objectives, policies and strategy for the county. This is supported by a Strategic Environmental Assessment (SEA) and an Environmental Report.

4.3.2 The LTP demonstrates how County Council policies and plans for transport will contribute towards the County Council's vision – creating communities where people want to live and work, now and in the future. It is a flexible and dynamic document that is updated and refreshed to reflect changes in the wider local and national policy context, council priorities and local consultation, as required. The LTP sets out how the County Council will help to address existing transport related problems and meet the transport needs of the large-scale development planned for the county. It does this through various transport related policies primarily aimed at ensuring that the capacity of the transport network, both now and in the future, is maximised by giving as many people in Cambridgeshire as possible the ability to choose sustainable modes of travel over the private car. It also discusses funding sources and strategies and sets out how the Councils can deliver the various scheme proposals set out.

The adopted Local Transport Plan provides the overarching strategy

[6] Transport Strategy for Cambridge and South Cambridgeshire March 2014 – Transport Strategy and High Level Programme

4.3.3 The Cambridgeshire Local Transport Plan (LTP) 2011 – 2031 is a statutory document, which was adopted in November 2014 following consultation. This sets out Cambridgeshire County Council's overarching transport objectives, policies and strategy. There is a suite of strategy documents that sits underneath the umbrella of the LTP.

4.3.4 These documents begin to list more specific infrastructure requirements, along with cost estimates for the schemes identified to deliver the growth proposals. Included in this suite of documents is the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) (prepared in parallel with the Local Plans) and the Long Term Transport Strategy (LTTS). These documents are all available here: http://www.cambridgeshire.gov.uk/info/20006/travel_roads_and_parking/66/transport_plans_and_policies

Sources of information informing the transport requirements and costs

4.3.5 The transport infrastructure requirements for this study have been provided by Cambridgeshire County Council. The following four main sources of information have informed the study inputs:

- Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) – Transport Strategy and High Level Programme (March 2014) – the TSCSC was prepared in parallel with the Local Plans
- Cambridgeshire Local Transport Plan 2011-2031 Long Term Transport Strategy[7]. Abbreviated in this report as the LTP3: LTTS. The LTTS was updated taking account of the TSCSC. Extracts relevant to this study have been reproduced at Appendix B of this report.
- City Deal report - Appendix C of the report dated 12th January 2015 titled '2015-2020 prioritised infrastructure investment programme' presented to the Greater Cambridge City Deal Joint Assembly. Extracts relevant to this study have been reproduced at Appendix B of this report.
- Some cost revisions have been provided by the Transport Team at Cambridgeshire County Council to reflect more recent information to inform this study dated September 2015.

4.3.6 There was some discussion on whether we might adopt some inputs from the most recently available cost information relating to the Madingley Road / A428 Cambourne to Cambridge Corridor study by Atkins (June 2015). It was decided that it was not suitable to use these costs as the scheme options have not been decided on. This is subject to public consultation at the time of writing this study.

4.4 Transport requirements, costs and phasing

4.4.1 The LTP3: LTTS[8] includes within it a section titled 'Action Plan' and this identifies schemes necessary to deliver the transport strategies from the period 2014 to 2031. The Action Plan is separated out into schemes that are already planned for public sector delivery, schemes required to directly support the delivery of major development allocations in the emerging Local Plans to 2031 and additional schemes that are not currently programmed but are necessary to provide new capacity or address existing deficiencies on the transport network.

4.4.2 The tables accompanying the Action Plan in the LTTS identify the infrastructure requirements, delivery timescales, indicative costs, and where appropriate identify which elements of the transport requirements are to be directly funded by developer.

[7] Cambridgeshire Local Transport Plan 2011-2031 Long Term Transport Strategy November 2014

[8] Cambridgeshire Local Transport Plan 2011-2031 Long Term Transport Strategy November 2014

4.4.3 The requirements, indicative costs and delivery timeframes included in this Action Plan forms the main basis for cost inputs for this study, though, in some cases, where more recent information is available this has been provided by Cambridgeshire County Council Transport team for example reflecting further work by the City Deal (see above).

4.5 National and major local transport infrastructure requirements

4.5.1 The LTP3: LTTS includes schemes that are planned for public sector delivery by 2021. The LTTS does not in general prioritise major increases in car capacity, however, the schemes listed below at 4.5.2 are part of the strategic and primary route network that requires capacity management measures for longer distance trips.

4.5.2 There is an estimated £2.085 billion worth of investment planned in major transport infrastructure that will support planned growth.

4.5.3 This includes an estimated at £2.085billion[9] investment in major strategic transport infrastructure relating to Highways England, Network Rail, the Local Transport Body and Cambridgeshire County Council funded schemes. The following schemes are intended to be implemented by 2021:

- A14 Cambridge to Huntingdon improvement by 2019 at a cost of up to £1.5b[10]
- A14 junctions 31 to 32 capacity improvements completed 2014 at a cost of £15.7m
- A428 Caxton Gibbet to Black Cat dualling between 2018-2021, with a cost estimate of £250 - £500m
- M11 junction 8 (Stansted Airport) to Junction 14 (Girton) technology improvements, between 2018 – 2021 with a cost estimated at less than £25m
- North Cambridge train station (Cambridge Science Park) by 2016, cost estimate £44m

4.5.4 These schemes are fully funded by the public sector and have not been included in the IDS schedule.

4.6 Transport infrastructure requirements for the major developments

4.6.1 Section B of the LTP3: LTTS [11] Action Plan sets out the schemes required to directly support the delivery of major development allocations in the current and emerging Local Plans. These reflect the schemes identified in the Transport Strategy for Cambridge and South Cambridgeshire. The transport requirements most relevant to this study are identified in the Action Plan as Waterbeach Barracks, Bourn Airfield, and West Cambourne. In the case of the Cambridge area, measures have been set out to address the impacts of growth across the city as a whole.

4.6.2 The text accompanying section B of the LTP3: LTTS Action Plan makes clear which elements are to be directly funded by the developer and clarifies that the 'presence of an intervention in

[9] Based on figure 4.2 of the Cambridgeshire LTP 2011 – 2031:Long Term Transport Strategy July 2015 – extract included in Appendix B of this study

[10] Highways England has secured up to £1.5billion of funding from government to support the delivery of A14 Huntingdon to Cambridge Scheme. This vital upgrade will relieve congestion, unlock growth and help to connect communities. The Development Consent Order (DCO) for the A14 Cambridge to Huntingdon improvement scheme was accepted for examination by the Planning Inspectorate (PINS) in January 2015 and we are now in a six month examination period, with the Planning Inspectorate (PINS) having now issued the examination timetable. Further information can be found here: http://www.highways.gov.uk/roads/road-projects/a14-cambridge-to-huntingdon-improvement-scheme/.

[11] Based on figure 4.3 of the Cambridgeshire LTP 2011-2031: Long Term Transport Strategy July 2015 – extract included in Appendix B of this study

a group linked to a particular development does not by default mean there is an expectation that the development in question will part or fully fund the intervention'.

4.6.3 The transport requirements set out for the major development locations also form part of the planning policy requirements contained in the Local Plan.[12]

4.6.4 We summarise the transport requirements, costs and phasing of the major sites at the end of this section after considering the role of the transport corridors and further work currently underway to refine the transport costs.

4.7 The strategic transport corridors and transport hub

4.7.1 The transport strategy is predicated on creating a modal shift from car to non car modes of travel. The transport strategy is closely aligned to the planned growth and is aimed at creating strong radial and orbital connective between surrounding settlements and employment areas within Cambridge. This is based around the delivery of seven 'main' transport corridors into Cambridge from South Cambridgeshire, and a Cambridge city wide 'hub'.

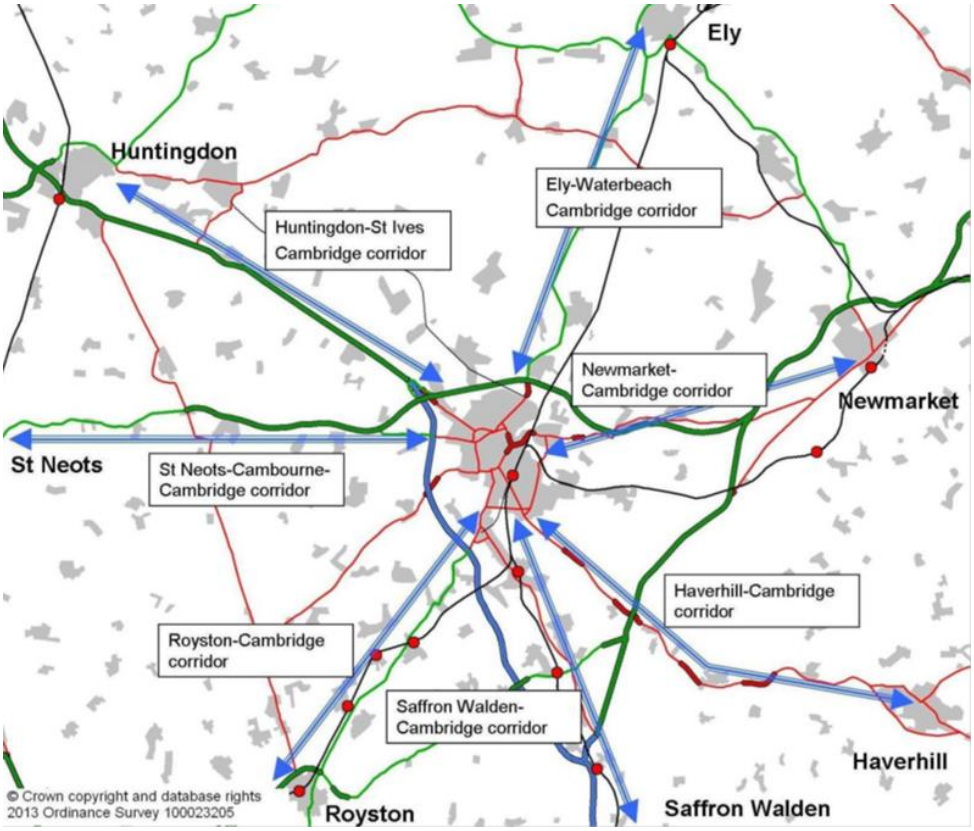
4.7.2 Together, these transport corridors and transport hub form the strategic framework of the transport strategy. All of these have varying levels of housing and employment growth proposed on them. As a result, the TSCSC has transport proposals for each corridor, which aim to help deliver the planned growth and also mitigate existing requirements.

4.7.3 Part B of the LTP3: LTTS Action Plan relating to the major developments has not been set out by transport corridors, but we have worked with the Cambridgeshire County Council Transport team to allocate the major development proposals to relevant transport corridors.

4.7.4 The transport corridors and hub are outlined below. Figure 4.1 shows the general location of the transport corridors. Details of the proposed interventions for the transport corridors and hub are included in Appendix B.

[12] Proposed Submission South Cambridgeshire Local Plan Policy SS/5 Waterbeach New Town (paragraph 6) and Policy SS/6 Bourn Airfield (paragraph 6) Policy SS/8 Cambourne West (paragraph 11);

Figure 4.1 The transport corridor programme areas



Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 - high level programme

Ely to Cambridge (A10N) corridor

4.7.5 The linear corridor around the A10 (north) and existing railway line linking Ely to the north (outside the study area) with the Cambridge boundary. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth of 9,000 dwellings at Waterbeach new town, and the consented urban extension of 4,000 dwellings at Ely (outside the study area), as well as two major employment sites at the Cambridge Research Park and the Cambridge Science Park and proposed intensification of these. Both Local Plans also support the delivery of an employment-led mixed use development at Cambridge Northern Fringe East[1]. This is subject to a separate Area Action Plan process which will be supported by appropriate infrastructure and viability work in order to demonstrate deliverability of the specific proposals developed through the Area Action Plan.

Newmarket to Cambridge (A1303) corridor

4.7.6 The linear corridor around the A1303 Newmarket Road and the existing railway line between Newmarket and Cambridge links the town of Newmarket (outside the study area) with the eastern Cambridge boundary. Relocation of the park & ride and additional bus priority measures are planned. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes the proposed land North of Cherry Hinton site and the Wing site. At the time of writing, a planning application for the Wing site is well advanced.

Haverhill to Cambridge (A1307) corridor

[1] Policy 14, RD/Sub/C/010 and Policy SS/4, RD/Sub/SC/010

4.7.7 The linear corridor around the A1307 links Haverhill (outside the study area) with the south-eastern Cambridge boundary, where the major development sites of the Cambridge Southern Fringe and Cambridge Biomedical Campus (Addenbrooke's) are situated, as well as a possible new employment site to the south of the Cambridge Biomedical Campus through a provisional modification to the South Cambridgeshire Local Plan. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes major employment sites at Cambridge Biomedical Campus, Granta Park and Babraham Research Campus, as well as the 4,000 dwellings proposed in Haverhill (outside the study area).

Saffron Walden to Cambridge (A1301) corridor

4.7.8 The linear corridor around the A1301 Shelford Road and the existing railway line between London Liverpool Street and Cambridge links Saffron Walden (outside the study area) with the south-eastern Cambridge boundary, where the major development sites of the Cambridge Southern Fringe and Cambridge Biomedical Campus (Addenbrooke's) are situated. The proposed mix of transport measures will be a key feature in supporting both the growth in the corridor.

Royston to Cambridge (A10S) corridor

4.7.9 The linear corridor around the A10 (south) and the existing railway line between London King's Cross and Cambridge links Royston (outside the study area) with the southern Cambridge boundary, where the major development sites of the Cambridge Southern Fringe and Cambridge Biomedical Campus (Addenbrooke's) are situated. Additional Park & Ride is proposed on the A10 at Hauxton.

St Neots to Cambridge (A428) corridor

4.7.10 The linear corridor around the A428 (west of Cambridge) links St Neots (outside the study area) with the western Cambridge boundary. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth at West Cambourne and Bourn Airfield new settlement as well as the consented development at St Neots, the major employment site at West Cambridge and the mixed use sites of North West Cambridge and the NIAB (Darwin Green) sites.

Alconbury/Huntingdon to Cambridge (A14) corridor

4.7.11 The linear corridor around the A14 and the existing Cambridgeshire Guided Busway links Alconbury, Huntingdon, St Ives (all outside the study area) and the new town of Northstowe with the north-western Cambridge boundary. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes major growth at Northstowe, which is to provide up to 10,000 new homes.

Cambridge wide area 'hub'

4.7.12 Though not a corridor itself, the Transport Strategy for Cambridge and South Cambridgeshire has separate proposals for Cambridge. Cambridge forms the 'hub' of the network with seven main corridors feeding into the city. Four of these are along railway lines (Royston, Saffron Walden, Newmarket and Ely), one is along the Busway (St Ives and Huntingdon) and the remaining two are along road corridors (St Neots and Haverhill). Cambridge is surrounded by a ring of villages and further out, a ring of market towns. As part of the City Deal, a City Centre Access study was being undertaken at the time of writing, which was identified as a priority for Phase 1 funding.

4.8 Summary of transport infrastructure requirements, costs and phasing

4.8.1 The table 4.1 includes the transport infrastructure requirements, phasing and costs identified in the IDS 2015 assessment by transport corridor. The information informing the transport

assessment has been provided by Cambridgeshire County Council based on various sources as described earlier in this section. Appendix D provides a summary of the schemes that have informed the infrastructure tables in this assessment.

4.8.2 Note that in some cases schemes may straddle more than one transport corridors and we have made a 'best estimate', though it is possible that some of these schemes maybe reallocated by the Transport Team at Cambridgeshire County Council at a future date.

4.8.3 They will be refined as detailed assessments informing the schemes progress towards delivery. Although the LTP, LTTS and more specifically the TSCSC set out the broad transport interventions required for each corridor, these should be treated as being at a 'high level stage of assessment' in terms of scheme design. As such the requirements and costs set out here must be treated as a snap shot in time. Further detail on the schemes and interventions will be developed over time as the Councils develop and refine the schemes through various processes and consultations. This could be through updates of the TSCSC Action Plan, the City Deal process or during the planning application process.

Table 4.1 Summary of transport infrastructure costs by transport corridors and Cambridge 'hub'

Transport corridors (essential)	Busway/bus	Cycleways	Highway	Park & ride	Public realm	Rail	Grand Total
Cambridge	£25,800,000	£55,830,000	£850,000		£33,011,500	£0	£115,491,500
Cambridge orbital	£106,440,000						£106,440,000
Cambridge radials	£27,300,000						£27,300,000
Ely/Cambridge corridor	£46,100,000	£14,400,000	£129,800,000	£11,500,000		£33,100,000	£234,900,000
Haverhill/Cambridge corridor	£36,000,000	£10,800,000		£7,200,000			£54,000,000
Newmarket/Cambridge corridor	£94,600,000			£17,300,000		£0	£111,900,000
Non transport corridor		£5,665,000					£5,665,000
Royston/Cambridge corridor	£15,800,000	£9,200,000	£21,600,000	£17,300,000		£0	£63,900,000
Saffron Walden/Cambridge corridor		£10,000,000					£10,000,000
St Neots/Cambridge corridor	£91,400,000	£23,400,000	£0	£11,500,000			£126,300,000
Grand Total	**£443,440,000**	**£129,295,000**	**£152,250,000**	**£64,800,000**	**£33,011,500**	**£33,100,000**	**£855,896,500**

Source: PBA 2015

4.8.4 Table 4.1 shows that the transport busway / bus routes represent the highest amount of identified strategic infrastructure costs with over 50% attributable to bus and busway type infrastructure. This is not surprising as the overall transport strategy is predicated on creating a modal shift from car to non car modes of transport.

Two corridors are especially important in helping to 'unlock' the delivery of major planned growth

4.8.5 **Ely to Cambridge (A10N) corridor** supports the Waterbeach new town, which during the plan period comprises of 2,050 dwellings and beyond the plan period it will support a further 7,000 units making a total of 9,000. The corridor also supports the consented urban extension of 4,000 dwellings at Ely (outside the study area), and links to the Cambridge Science Park and Cambridge Research Park and also Cambridge Northern Fringe East.

4.8.6 The single highest cost item identified in table 4.1 relates to the highway scheme along the Ely / Cambridge corridor. This relates to possible dualling of the A10. A decision on whether investment in this highway scheme is appropriate (given the overall focus of the transport strategy is predicated on a modal shift away from car use), will be decided in due course following the A10 corridor study commissioned in November 2015 and due to report in Spring 2016. The cost of this highway scheme contributes to making the cost of the Ely / Cambridge corridor the highest of all the corridors at approximately £235m.

4.8.7 **The St Neots to Cambridge (A428) corridor** supports Cambourne West and Bourn Airfield new settlement. The plan allocation for Cambourne West is 1,200 dwellings, though there is a current planning application for 2,350 dwellings. The Bourn Airfield new settlement has a provision of 1,360 dwellings during the plan period and a further 2,140 dwellings beyond the plan period. The corridor will also support consented development at St Neots (outside the study area), the major employment site at West Cambridge and the mixed use sites of North West Cambridge and the NIAB sites (also known as Darwin Green). The cost identified for this corridor in table 4.1 is approximately £126m.

4.9 Further work to inform the A428 and A10 transport corridors

4.9.1 Further work is underway to refine the options and requirements for the two transport corridors along the A428 and the A10 North. These are both at different stages.

The A428 corridor study options are at consultation stage

4.9.2 The identified requirements for the A428 corridor include a segregated bus link between the A428 to M11, a new A428 Park & Ride, Madingley Road bus priority, Bourn Airfield / Cambourne busway, wider Cambourne pedestrian / cycle networks, local impact mitigations, and junction improvements at the A428 / A1198 (Highways England scheme).

4.9.3 An options study for the transport measures for bus improvements between Cambourne and Cambridge on the St Neots to Cambridge corridor has been completed by Atkins[13]. A consultation to inform the preferred option went to public consultation in October 2015. Essentially this sets out three options each for two distinct elements of the route.

Works from Madingley Mulch roundabout to Cambridge city centre

4.9.4 Options 1A, 1B and 1C of the Atkins Study relate to works from Madingley Mulch roundabout to Cambridge city centre. The route works include a new Park & Ride, bus priority and signalisation. The cost of options 1A and 1B is similar at £18 to £20m. The cost of option 1C is at £67m, due to the cost of including a new bridge over the M11.

Works from Madingley Mulch roundabout to Cambourne

4.9.5 Options 2A, 2B and 2C of the Atkins Study relate to works from Madingley Mulch roundabout to Cambourne. The cost estimate for option 2A is nominal, 2B is £11m whilst 2C, which involves an off line bus route including through private land (part of identified developments) is estimated to cost £27.5m

4.9.6 The three Councils decided that it was not suitable to use the costs from the Atkins Study, as the scheme options were at consultation stage and options have not been decided. Instead, the costs from the City Deal report of £98m (see Appendix B of this report) dated January 2015 have been used for this IDS study.

The A10 corridor study options are being developed

4.9.7 Work has commenced on refining the delivery options for the Ely to Cambridge corridor (the A10 study). At time of writing (November 2015), a study has been commissioned jointly by the local authorities and various site promoters to refine infrastructure requirements and phasing related to the developments planned in the A10 corridor. A major element in terms of cost in this scheme is the requirement to undertake highway works along the A10 and A14 Milton Interchange.

4.9.8 The LTP3: LTTS identified the requirement to undertake A10 capacity improvements for general traffic between the northernmost access to the new town (Waterbeach) and the Milton Interchange of the A10 with the A14. It also identified additional capacity at the Milton Interchange for movement between the A10 and A14.

4.9.9 Early scheme estimates for this work were at £85m in the LTTS. These cost estimates were increased to approximately £130m as part of the City Deal prioritisation process[14] and these cost estimates have been adopted for this IDS study based on confirmation by the three Councils.

[13] Atkins A428 Study – http://www.gccitydeal.co.uk/citydeal/info/2/transport/1/transport/5

[14] City Deal report - Appendix C of the report dated 12th January 2015 titled '2015-2020

4.9.10 Getting a better understanding of the scheme requirements, and cost, in particular how to treat the highway works along the A10 will be an important assessment in refining the cost assessment for this corridor. Options and cost estimates stemming from the A10 study are expected in Spring 2016.

The corridor refinements could have a major impact on the transport costs that are currently included in the IDS

4.9.11 The range of costs identified in the above options demonstrates that the outcome of the further work, consultation and the preferred option identified for each corridor will have an important bearing on the scheme costs that have currently been adopted to inform this study.

4.9.12 At its lowest, the cost of the A428 corridor cost could be around £18m, whilst at its highest, the corridor costs could be around £95m. The cost currently included in the IDS is approximately £98m.

4.9.13 Similarly, as the overall transport strategy is not in general seeking to prioritise major increases in car capacity, and is instead about seeking to encourage a modal shift from car to non car modes of travel, then it is possible that a considerable element of the A10 dualling cost could be reduced. This could in turn reduce the scheme cost. This will be considered further by the A10(N) Corridor study.

4.10 Approach to prioritising the infrastructure requirements

4.10.1 Most of the growth related transport schemes that stem from the TSCSC / LTTS have been classed as essential mitigation measures. Some aspirational schemes which relate to 'nice to do' projects, which frequently relate to schemes to address existing problems (as part of LTP3:LTTS Action Plan section C and section D) with an indicative cost range have been classed as 'desirable'.

4.10.2 Whilst we have also classed the Cambridge City Centre public realm schemes (improving environments primarily for pedestrians and cyclists) as 'desirable' we acknowledge that these schemes are linked to specific opportunity areas and are also part of the strategy aimed at securing a modal shift from car to other means. Hence these public realm improvement measures, as well as all other assessments undertaken by PBA here, could be reclassified by the Local Authorities.

5 ALL OTHER INFRASTRUCTURE

5.1 Introduction

5.1.1 This section considers all other infrastructure items including education, health, leisure, play and sports, libraries, community facilities, household waste recycling.

5.2 How this study deals with all other infrastructure

5.2.1 The approach to all other infrastructure has been to undertake an update based on inputs provided by the service providers (see Appendix A). Infrastructure schemes that have already been delivered or are about to be delivered and relate to consented growth have been removed from the IDS. In informing the update, service providers were concerned to caution the fact that this information reflects a point in time and that the assessment will be constantly changing.

5.2.2 We have summarised the assumptions from the IDS 2012 study in Appendix C, which were also used for the 2013. Update, and where available these have been updated based on interviews that took place. The infrastructure assessment begins to inform the scale of non transport infrastructure requirements to support planned growth.

5.3 Summary of all other infrastructure requirements, costs and phasing

5.3.1 Table 5.1 provides the total infrastructure costs for the IDS of £1.2 billion. This table also identifies infrastructure by theme and timeframes for each local authority for the plan period and beyond. This includes all (essential and desirable) infrastructure for the plan period and post plan period.

Table 5.1 other infrastructure costs by infrastructure type and timeframe

Row Labels	2011-16	2016-21	2021-26	2026-31	2031-41	Grand Total
Cambridge Urban Area	**£7,486,936**	**£182,420,880**	**£208,333,553**	**£3,977,421**		**£402,218,790**
Community facilities	£1,310,811	£1,226,392	£340,865	£19,338		£2,897,406
Education		£37,200,200	£7,100,100			£44,300,300
Health		£2,200,000	£0			£2,200,000
Leisure, play and sports	£3,175,000	£1,519,183	£5,360,775	£3,814,998		£13,869,956
Libraries		£45,280	£38,488	£33,960		£117,728
Busway/bus		£53,100,000	£178,000,000			£231,100,000
Cycleways		£55,995,000				£55,995,000
Highway	£0	£850,000	£0			£850,000
Park & ride			£17,300,000			£17,300,000
Publc realm	£3,000,000	£30,011,500				£33,011,500
Rail	£0					£0
Waste	£1,125	£273,325	£193,325	£109,125		£576,900
Cross border	**£91,744**	**£9,401,957**	**£8,333,249**	**£1,022,756**		**£18,849,706**
Community facilities			£142,943			£142,943
Education		£8,510,000	£8,000,000			£16,510,000
Leisure, play and sports	£91,744	£891,957	£190,306	£1,022,756		£2,196,763
South Cambridgeshire	**£714,449**	**£203,657,036**	**£148,379,941**	**£279,423,324**	**£159,044,126**	**£791,218,876**
Community facilities	£248,207	£614,661	£2,026,151	£3,804,071	£4,107,666	£10,800,756
Education		£30,870,000	£25,020,000	£24,510,000	£119,570,000	£199,970,000
Health		£825,000	£440,000	£2,900,000		£4,165,000
Leisure, play and sports	£453,036	£3,476,485	£3,940,922	£12,697,624	£28,379,425	£48,947,492
Libraries		£1,281,012	£41,884	£306,871	£5,657,750	£7,287,517
Busway/bus		£98,600,000	£67,640,000	£46,100,000		£212,340,000
Cycleways		£49,100,000	£9,800,000	£14,400,000		£73,300,000
Highway		£0	£21,600,000	£129,800,000		£151,400,000
Park & ride		£18,700,000	£17,300,000	£11,500,000		£47,500,000
Rail	£0		£0	£33,100,000		£33,100,000
Waste	£13,206	£189,878	£570,984	£304,758	£1,329,285	£2,408,111
Grand Total	**£8,293,129**	**£395,479,873**	**£365,046,743**	**£284,423,501**	**£159,044,126**	**£1,212,287,372**

5.4 General comments to inform future delivery

5.4.1 Feedback from service providers and the review of recent consented schemes shows that increasingly, there is a move to provide a multipurpose community hub type facility which includes a combination of services such as health, libraries, community space, police and other services. The IDS has not been assessed on this basis, and service providers state that there is no one model that serves to inform the assumptions for this as each 'community hub' is tailored to the site, existing facilities, and capacity. The refinements to infrastructure requirements relating to final delivery will be picked up at the planning application stage.

5.4.2 There is a move for greater efficiency, so for instance GP health facilities are being rationalised, with the removal of smaller traditional GP practices and moving towards a 'hub and spoke' type model. Going forward, a move towards seven day opening for GPs or sharing of sports facilities with schools could also reduce the overall infrastructure requirements.

5.4.3 NHS England and the CCG's are currently undertaking a review of the primary care services throughout the East Region. Each CCG is currently in the process of preparing an Estates Strategy to be completed in draft by December 2015. This strategy will set out the future ambitions for healthcare premises. The IDS does not currently include infrastructure improvements for surgeries in the rural area. As a live document the IDS will be updated following the outcome of this Strategy.

6 UTILITIES INFRASTRUCTURE

6.1 Introduction

6.1.1 In section 3.6.3, we categorised utilities infrastructure as 'critical enabling infrastructure' because this type of infrastructure is generally required as a direct result of the proposed growth and would have to be implemented if the development was to go ahead (for instance sewerage, drinking water, energy supply etc.).

6.1.2 Given the timescales, previous assessments and the Councils' experience of recent major planning applications, this study has focused effort on the provision of electricity, potable water and foul water infrastructure.

6.1.3 Inputs relating to wider utilities infrastructure were invited as part of the stakeholder consultations and will continue to be sought by the client team as part of ongoing consultations but do not form part of this assessment.

6.1.4 Parts of the two Councils' areas are known to be prone to flooding and this has been managed through the site allocation process and via planning policies and at planning application stage. Developers are required to ensure they do not add to any existing down stream flood risk and integrate onsite flood mitigation measures through the adoption of SUDs and other measures to ensure development is neutral in terms of flood impact.

6.1.5 This section has been informed by the following:

- Primarily by inputs from UK Power Networks, Cambridge Water Company and some limited input from Anglian Water (see Appendix A)
- Supported by evidence studies prepared by some of the strategic site promoters including the Water Cycle Study by Mott Mac Donald for the Waterbeach site, the Water Cycle Study by Hyder (Arcadis) for the Bourn site, and various supporting documents accompanying the Cambourne West planning application.
- The Cambridgeshire Horizons Water Cycle Strategy – major growth areas in and around Cambridge by Halcrow Phase 1 outline strategy October 2008[15].
- Statement of Common Ground (see Appendix F) prepared by the Environment Agency, Anglian Water and South Cambridgeshire District Council[16].

6.2 How this study deals with utilities infrastructure

6.2.1 Utilities infrastructure assessment has been treated as follows:

- This assessment has investigated the extent to which utilities infrastructure may represent an obstacle to jobs and housing growth. It may be, for example, that utility provision is at capacity, and that further growth is impossible until further investment takes place. The study method has explicitly tried to pick up on any such issues and presented the information using traffic lights tables for the strategic sites to show how it might affect the planned phasing.
- The general principle involved is that strategic investment in this infrastructure is met by the utility companies as required at their own cost with capital raised through private debt

[15] Cambridge Area Water Cycle Strategy – Outline Strategy 2008 (Cambridgeshire Horizons)

[16] Joint Position Statement on Foul Water and Environmental Capacity in relation to Proposed Development within South Cambridgeshire District (Anglian Water and Environment Agency) 2014

or equity capital as they see fit, and in return for the income generated from sales to domestic and commercial customers.

- However, in some instances additional infrastructure may be required to create connections to existing plant. In these instances the cost of any additional infrastructure will be paid for by either the developer and or the utility provider depending on the individual specific circumstances. The viability assessment by Dixon Searle has included an allowance for site opening cost in their viability appraisal to reflect this type of cost and so this cost input is not duplicated in the IDS.

- Our focus with the utilities infrastructure assessment is to understand if there are likely to be any technical or licensing problems in servicing the planned growth with utilities infrastructure in a timely manner aligned to the planned growth trajectory.

6.3 Interpreting the critical path analysis

6.3.1 The study findings have been set out in a critical path analysis using red, amber and green bars for each infrastructure category. This helps to provide a quick visual presentation of any infrastructure capacity issues for the strategic sites assessed as part of this study. The traffic lights used in Table 6.1 below can be interpreted as follows:

- **Red** A red bar indicates a need for some immediate infrastructure before growth can take place. It is important to note that in some instances, there may be planned solutions to address the capacity deficit in the imminent future and the red bar could soon change to green or amber once the solution is implemented. Development may be possible during this period, but may result in some services being 'stretched or facing congestion'.

- **Amber** An amber bar indicates that a capacity limit to growth has been identified or is expected, and there is a need to proceed with caution and plan for additional capacity.

- **Green** A green bar indicates that there is sufficient capacity to deliver growth, or that improvement has been delivered to accommodate the growth.

6.4 Electricity infrastructure findings

6.4.1 The estimation of load growth associated with housing and general light industrial developments for Cambridge and South Cambridgeshire is undertaken by the local Distribution Network Operator (DNO), which is UK Power Networks. It advises National Grid of the predicted increase in demand at the 132kV bulk supply points.

6.4.2 National Grid then determines whether additional reinforcement at the 400kV or 275kV to 132kV substation would be required. However, reinforcement on the 132kV distribution system remains the responsibility of the DNO. Reinforcements at National Grid substations can usually be accommodated within 3 years, subject to planning approval

6.4.3 UK Power Networks is the DNO for the East of England. It is primarily responsible for the 11kva and 33Kva electricity networks and is regulated by OFGEM. UK Power Networks have informed this assessment, identifying where there might be reinforcement challenges to meet the planned growth. This is captured in table 6.3 overleaf.

6.4.4 Broadly speaking, over the fifteen year period of planned growth, there should not be a problem in delivering electricity capacity to support development in the area. However, as development takes place, hotspots can occur in specific locations where a lack of capacity at substations arises. The service provider has stated that at present there is capacity to meet the current Cambourne West planning application growth, if this larger site were granted planning permission, and there could be some capacity to accommodate the medium term Local Plan trajectory for Bourn. However, at this stage upgrades are likely to be required.

6.4.5 Depending on which of these schemes come forward and use existing capacity, there could be a need for major network reinforcements. If development rate proceeds according to the planned trajectory, there is time to build in upgrades into the next Asset Management Plan. The need for planned reinforcements could be addressed at the time. However, if demand for capacity comes forward ahead of the planned trajectory, then there could be a need for possible unplanned reinforcements which would entail some cost apportionment on the developer. We recommend continued engagement between the local authorities, site promoters and utility service providers to exchange information and continue to highlight any critical path issues by establishing a Utilities Forum.

Table 6.1 Critical path analysis for electricity infrastructure

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Electricity	Cambridge urban Area	No reinforcement planned before 2023 for Cambridge East or West area Area. Further development in Cambridge South area is likely to be served from St Anthony Street Primary which will need to be reinforced. Arbury Grid now runs near to full capacity. Radnor Primary now fully loaded. Further development in this area likely to be from St Anthony Street Primary which will need to be reinforced. No reinforcemnet planned for Storey's Way or Sleaford Street Primary. CB 1 area around the railway station is now at capacity and will require primary level reinforcements		
Electricity	Cambridge urban Area			
Electricity	Cambridge Fringe	Cambridge University and NW Cambridge sites to be supplied from Madingley Road Primary substation which will require reinforcement to deliver the full load requested. Initial phases of Northstowe will be supplied by Longstanton but after that a primary sub station will be required for longer term growth of Northstowe. May use capacity from Story's Way. Land Nr of Cherry Hinton maybe accomodated via Barnwell primary which can be reinforced.		
Electricity	Cambridge Fringe			
Electricity	Rural settlements	Work at Sandy and Lt Barford (11kV) complete. Croydon and Melbourn remains in Asset Management Plan. Burwell Local 33 Electricity Grid work planned upto 2019. This includes 33kV switchgear replacement required as a result of the amount generation requiring connection which will increase the fault level above the original design rating. Grid transfromers are to be replaced due to asset condition which will provide additional capacity as a secondary benefit. There are capacity issues at Linton and Sawston which may require network reinforcement.		
Electricity	Rural settlements			
Electricity	Waterbeach new town	Exitsing capacity at present at Waterbeach Primary and Histon Grid. For long term growth, along with Northstowe, University, NW Site, Addenbrookes etc, UKPN will have to review loads, and make provision for establishing a new 132,000-Volt switchboard at Horningsea along with another Grid site to trnasfer load away from Histon and Fulbourn Grids. Deferred from 2014 to 2021-2023.		
Electricity	Waterbeach new town			
Electricity	Bourn airfield new settlement	Some existing capacity in the area to accomodate development. Beyond that major network reinforcement required.		
Electricity	Bourn airfield new settlement			
Electricity	Cambourne West	Some existing capacity in the area to accomodate development. Beyond that major network reinforcement works are likely to be required, to enable additional growth to take place and how this affects growth will depend on capacity take up from surrounding settlements.		
Electricity	Cambourne West			
Electricity	Land North of Cherry Hinton	Barnwell Primary may need reinforcement, but could be accomodated.		
Electricity	Land North of Cherry Hinton			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: UK Power Networks stakeholder inputs October 2015

6.5 Potable water infrastructure findings

6.5.1 South Staffs Water which now incorporates Cambridge Water Company (CWC) are the providers of water supply across the area and they forecast supply and demand, and what infrastructure they need to deliver and the effect this would have on customers' bills. This has to be agreed with the regulator OFWAT and current investments are set out in 5 year, Asset Management Plans (AMP). The current AMP5 period runs between April 2015 and March 2020.

6.5.2 It is important to appreciate the current distribution of water supply in the Cambridge Water region. The figure 6.1 shows a simplified visual of the distribution system in the region.

Figure 6.1 Cambridge Region water distribution system

Source: South Staffs Water full business plan, December 2013

6.5.3 The ground water sources predominantly pump directly into supply, which are supplemented by a large reservoir system at Cherry Hinton, which fills at times of low demand from ground water sources and supplements interconnected structures at daily peaks.

6.5.4 Cambridge has been identified by the Environment Agency as an area of serious water stress, thus posing challenges requiring the conservation of water and minimising waste and increasing potential for recycling water use. These aspects are covered in the Cambridgeshire Horizons Water Cycle Study phase 1 report. The study at the time did not identify any insurmountable technical problems to the supply of water to the planned growth areas, and this work has since been supplemented by most of the site promoters to articulate any off site infrastructure requirements to provide a potable water supply to the strategic sites.

6.5.5 Input from the CWC indicates that there is water capacity, however accessing this at various sites particularly the strategic sites will require varying degrees of infrastructure to supply the sites.

6.5.6 Table 6.2 sets out the critical path assessment for potable water.

Table 6.2 Critical path analysis for potable water

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Potable Water	Cambridge urban Area	There is capacity in many zones covering the Cambridgeshire area. CWC will allocate spare capacity on a first come first served basis. Development requiring an increase in capacity of the zone will require either an upgrade to existing boosters and / or a new storage reservoir, tower or booster plus associated mains.		
Potable Water	Cambridge urban Area			
Potable Water	Cambridge Fringe	The Cambridge Water Cycle Strategy 2011 identifies the need to upgrade ring mains around Cambridge to serve planned fringe developments. These are being brought forward in association with the major developments.		
Potable Water	Cambridge Fringe			
Potable Water	Rural settlements	There is capacity in many zones covering the Cambridgeshire area. CWC will allocate spare capacity on a first come first served basis. Development requiring an increase in capacity of the zone will require either an upgrade to existing boosters and / or a new storage reservoir, tower or booster plus associated mains.		
Potable Water	Rural settlements			
Potable Water	Waterbeach new town	There is potable water capacity at Cherry Hinton reservoir to serve this site, however, it will require substantial reinforcements to infrastructure including mains laying and dualing.		
Potable Water	Waterbeach new town			
Potable Water	Bourn airfield new settlement	There is potable water supply to serve this site, but is likely to require some local storage and local mains and booser infrastructure		
Potable Water	Bourn airfield new village			
Potable Water	Cambourne West	There is potable water supply to the site via the DSR at Bourn or Madingley but is likely to require some local storage and local mains and booster infrastructure.		
Potable Water	Cambourne West			
Potable Water	Land North of Cherry Hinton	There is potable water supply at Cherry Hinton to serve this stie and is likely to require some minor upgrades to route infrastructure to the site		
Potable Water	Land North of Cherry Hinton			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: Cambridge Water Company stakeholder inputs November 2015

6.6 Waste water infrastructure findings

6.6.1 Anglian Water Services (AWS) are responsible for the operational and maintenance of the existing foul drainage network (or now known as recycled water systems) across the area. They forecast what infrastructure they need to deliver and the effect this would have on customers' bills. This has to be agreed with the regulator Ofwat and current investments are set out in 5 year, Asset Management Plans (AMP). The current AMP6 period runs between April 2015 and March 2020. There are various Drain Boards that also operate in this area and will be affected.

6.6.2 In addition to the actual infrastructure capacity and scope to expand, any discharge of effluent into the main water courses is managed by license consents managed by the Environment Agency in order to protect the water quality of the receiving watercourse.

6.6.3 Following the Cambridge Horizon study, a joint position statement on foul water and environment capacity in relation to the proposed development within South Cambridgeshire District was signed by the Environment Agency, Anglian Water and South Cambridgeshire District Council. A copy of this statement is included as Appendix E.

6.6.4 The following extract from the statement is worth replicating:

'*Anglian Water Services Ltd (AWS) and the Environment Agency (EA) will work closely with South Cambridgeshire District Council (SCDC) and with developers to identify any potential constraints and to secure an agreed approach to enable delivery of the proposed quantum of development in a sustainable manner and in compliance with environmental legislation.*

Through early consultation we have already established potential solutions that will allow several sites to proceed within wastewater and environmental capacity constraints. In partnership we will continue to look for options for the remaining sites but we agree that until capacity is created, or a solution to create capacity is identified, development may be delayed.' Extract from the Joint Statement on foul water and environment capacity 2014.

6.6.5 Some inputs to the IDS relating to planned investment has be provided by Anglian Water. Table 6.3 sets out the critical path assessment for waste water.

Table 6.3 Critical path analysis for waste water infrastructure

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Waste water	Cambridge urban Area	Cambridge Weater Cycle Stratgey 2011 confirmed there is capacity in the Cambridge STW to meet development needs. Local sewer upgraded may be required.		
Waste water	Cambridge urban Area			
Waste water	Cambridge Fringe	The Cambridge Water Cycle Stratgey 2011 identified the need for increased sewer capacity in association with planned developments, but that practicable solution scould be delivered.		
Waste water	Cambridge Fringe			
Waste water	Rural settlements	Sawston, Melbourn, Gamlingay, Over and Haslingfield WRCs have capacity to accept foul water flows from proposed growth without the need for increased capacity of water recycling (previously referred to as wastewater treatment) infrastructure. Growth is therefore not constrained by water recycling in these locations. However, no assessment has yet been made regarding the environmental impact of this growth, so all parties will work together in order to confirm that there will be no detriment to local water quality.		
Waste water	Rural settlements			
Waste water	Waterbeach new town	The location of the proposed new town is currently served by a small Water Recycling Centre (WRC) that has insufficient capacity to serve this proposal beyond the plan period. The preferred option is to build a new WRC to serve the proposed development, and initial assessment by the EA suggests that final effluent could be discharged into the River Cam without causing environmental damage. All parties continue to work at developing the most sustainable strategy within environmental parameters. A Water Cycle Study (known as Denny St Francis WCS) specifically to look at the Waterbeach development proposal has been completed. This provides guidance on the most sustainable solutions for portable water supply and drainage.		
Waste water	Waterbeach new town			
Waste water	Bourn airfield new settlement	The proposed development is in the catchment of Bourn WRC. The existing WRC has limited capacity but could take a portion of foul flows from the new site. Alternative WRCs in the vicinity are Papworth Everard and Utton's Drove, and each may be able to accommodate some or all of the foul water flows from the development. Work is ongoing to assess the foul drainage options in conjunction with other development sites at Cambourne West and Northstowe. Initial assessment indicates that capacity could be made available at Papworth Everard within environmental parameters. Utton's Drove is less favourable at this time as the expansion of Cambourne and Northstowe would likely take precedence. Whichever option is taken, upgrades to the foul network will be required to convey the flows to the serving WRC.		
Waste water	Bourn airfield new settlement			
Waste water	Cambourne West	The growth proposed for Cambourne West could potentially be served by Bourn, Papworth Everard and/or Utton's Drove Water Recycling Centres (WRC). Initial assessments carried out in conjunction with the proposed development at Bourn Airfield have indicated that development is deliverable but will require upgrades to the foul network - high level solutions have been identified. All parties will continue working together to ensure the most sustainable solution within environmental parameters is achieved.		
Waste water	Cambourne West			
Waste water	Land North of Cherry Hinton	Awaiting assessment by site promoter and Anglian Water		
Waste water	Land North of Cherry Hinton			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: Various Water Cycle Studies reviewed by SCDC October 2015

6.7 General comments to inform future delivery

6.7.1 The main purpose of the utilities assessment is to ensure that there are not any technical or phasing issues that will delay or prevent development taking place. Based on the assessments already undertaken by site promoters and inputs provided by some service providers, we are not aware of any technical issues to prevent development from taking place.

6.7.2 There will be a need to ensure timely delivery of major reinforcements to the electricity supply, potable water and waste water infrastructure. These requirements are known by the site promoters and will require ongoing engagement with the utilities providers to ensure that review of their Assessment Management Plans incorporate the need for longer term infrastructure upgrades, and ensure timely delivery of development can take place.

6.7.3 We recommend establishing a utilities forum that meets possibly once a year, involving the major site promoters and the local authorities to exchange information on emerging planned growth and identifying any network capacity issues.

6.7.4 A common issue for many of the utilities infrastructure is the need for an equitable spreading of costs across site developers. In providing supply reinforcements to a strategic site, there is a risk that all the costs will fall on the first developer (s) or on the later ones (if new capacity requirements only become essential at that stage. Establishing a utilities forum will provide a vehicle to explore options of how to spread the costs equitably between all developers.

7 NORTH OF CHERRY HINTON STRATEGIC SITE

7.1 Introduction

7.1.1 This section provides a broad overview of the infrastructure and delivery considerations relating to the strategic site known as land north of Cherry Hinton

Clarity over scheme and landownership

7.1.2 The land is in the ownership of Marshall, the owners of Cambridge Airport, and the White family represented by Endurance Estates. The two landowners are in the process of agreeing heads of terms to work towards a single masterplan for the site.

Developer consultation

7.1.3 A developer surgery took place on 6th and 8th October 2015 (see Appendix A) to provide PBA an opportunity to discuss the infrastructure requirements and any site challenges that might inform the infrastructure requirements of the scheme with the promoters. Although at an early stage, the surgeries provided an opportunity to understand the aspirations of the two landowners and their desire to work together towards preparing a single concept plan for the site, known opportunities and constraints of the site, effect of the adjoining operational airport site and its operation.

7.1.4 The land is partly within the airport boundary, with the remainder in agricultural use. Cambridge Airport has confirmed that in principle the majority of the land could be developed without compromising the safe operation of the airport, subject to detailed design and assessment of implications for airport operations. Evidence assessments are expected to commence in autumn 2015 to consider constraints, impact of the airport and navigational equipment, transport, infrastructure and environmental impact in more detail. There is a gas main which affects part of the site, and depending on the scheme design, may require relocation. . An updated assessment has not been undertaken on utilities infrastructure capacity specifically on this enlarged area e, although the site was considered as part of the Cambridge East Area Action Plan process, which was considered through documents including the Water Cycle Strategy 2008.

Development context

7.1.3 North of Cherry Hinton lies within an area known as Cambridge East and straddles across the boundaries of Cambridge and South Cambridgeshire. The site forms part of the area covered by the adopted Cambridge East Area Action Plan. The Action Plan identifies that an area north of Cherry Hinton is capable of development whilst the airport site remains in operation[17]. The submitted Local Plans reflected this by identifying an area of development[18]. A larger area was safeguarded for future development.

7.1.4 Since the Matter 9 hearing session of the Local Plans held on 29 April 2015, discussions between Marshall and development partner for the White family and the two local authorities have been ongoing to explore the development potential of land North of Cherry Hinton. The Councils have now reviewed the allocation, and identified a larger area of land capable of being developed during the plan period.

7.1.5 The land North of Cherry Hinton, comprising for approximately 47 hectares is identified as supporting 1,200 homes at approximately 40 dwellings per hectare (net).

Quantum of growth and housing trajectory

[17] Cambridge East Area Action Plan Policy CE/35

[18] South Cambridgeshire Submission Local Plan Policy SS/3

7.1.6 Table 7.1 sets out the housing trajectory and the assumed rate of delivery in the two Local plans.

Table 7.1 Planned residential growth for land north of Cherry Hinton

Planned Growth	2015-2020	2020-2025	2025 2031	Beyond plan period	Maximum annual estimate delivery rate
Cambridge East – North of Cherry Hinton - South Cambridgeshire	214	206	0	0	Maximum annual delivery of 147 dwellings.
Cambridge East – North of Cherry Hinton - Cambridge	386	394	0	0	Maximum annual delivery of 180 dwellings.

Source: Cambridge City Council and SCDC 2015

7.2 Infrastructure costs and phasing

7.2.1 The land North of Cherry Hinton will require various on site and off site infrastructure, including the provision of primary and secondary schools, green infrastructure and a local centre. Discussion with the NHS Property team indicated that this site is unlikely to support a stand alone GP surgery under the new emerging standards for an optimal size catchment population. The health infrastructure will need to explore alternative options which might be met elsewhere in the area.

7.2.2 Table 7.2 sets out the initial identified infrastructure requirements for this site, note these cost estimates are to be revised (as the the secondary school will perform a wider function for the east of the city and so not all the costs outlined in table 7.2 are attributable to this scheme). Further work on assessing recreational, community and waste infrastructure will be undertaken in the coming months to inform the infrastructure requirements for land North of Cherry Hinton infrastructure requirements and the cost estimates will be updated as appropriate.

Table 7.2 Partial infrastructure assessment

North of Cherry Hinton	2016-21	2021-26	Grand Total
Education	£8,510,000	£8,000,000	£16,510,000
Grand Total	**£8,510,000**	**£8,000,000**	**£16,510,000**

Source: PBA November 2015 (service provider inputs)

Transport infrastructure requirements

7.2.3 The land North of Cherry Hinton Road site has been accounted for in the updated transport modelling undertaken by Cambridgeshire County Council, and officers have informed us that although this scheme will not directly be dependent on the Newmarket to Cambridge transport corridor, the development will need to address, (as a minimum), the following transport infrastructure requirements:

- High quality bus provision linking the site with Cherry Hinton and the City Centre via Coldham's Lane;
- Bus prioritisation measures, including a bus gate and priority at junctions on the entrances/exits of the site
- Direct, segregated high quality pedestrian and cycle links to Barnwell Road
- Creation of high quality segregated cycle and pedestrian routes within site.
- Vehicular access to be provided through junctions at Gazelle Way and Coldham's Lane (as a minimum and subject to further site assessment work).

7.3 Infrastructure funding

7.3.1 We have been informed that the infrastructure requirements relating to this site will all be met solely through a Community Infrastructure Levy charge. Section thirteen sets out our approach to developer funding. Based on a proposed CIL rate of £125 per sq. m, and an average unit size of say 90 sq. m, the estimated CIL income to support infrastructure from this site would equate to approximately £9.5m after allowing for affordable housing contributions.

7.3.2 This estimated developer contribution of approximately £9.5m towards the CIL relevant infrastructure is unlikely to fund the estimated education infrastructure costs for this site, and will require further consideration as to some site specific developer contributions towards infrastructure costs. The secondary school will perform a wider function for the east of the city therefore other sources of funding will be need to be identified.

Utilities critical path assessment

7.3.3 Utilities consultation to inform waste water for the 1,200 dwelling scenario has yet to be undertaken. A previous consultation with Anglian Water for 985 dwellings identified that the Water Recycling Centre is close to capacity at Teversham, so will expect upgrades. A high level water cycle study should be undertaken to inform whether waste water infrastructure capacity can be created to accommodate this site and that there are no other licensing or technical issues that might affect the delivery of this site.

7.3.4 As part of developing the Cambridge East Area Action Plan (adopted 2008), there was investigation of the capacity of the local sewerage network. Furthermore, the Cambridgeshire Horizons Water Cycle Study (2011) states that the site North of Cherry Hinton would connect to the sewer crossing Coldham's Common , which has sufficient capacity. Further work will need to be undertaken in consultation with Anglian Water for this revised site.

Table 7.3 Critical path assessment for land North of Cherry Hinton

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Electricity	Land North of Cherry Hinton	Barnwell Primary may need reinforcement, but could be accomodated.		
Electricity	Land North of Cherry Hinton			
Potable Water	Land North of Cherry Hinton	There is potable water supply at Cherry Hinton to serve this stie and is likely to require some minor upgrades to route infrastructure to the site		
Potable Water	Land North of Cherry Hinton			
Waste water	Land North of Cherry Hinton	Awaiting assessment by site promoter and Anglian Water		
Waste water	Land North of Cherry Hinton			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: PBA November 2015 (based on service provider inputs and studies)

7.3.5 See paragraph 6.3 for an explanation of the traffic light assessment included in table 7.3.

Any other issues to be consider?

7.3.6 This site is at an early stage, assessments have been commissioned by the site owners to inform impact on the operational airport and we would also recommend that either a high level water cycle study is undertaken or at the least a stakeholder meeting held with Anglian Water to understand if there are any capacity issues to the delivery of waste water capacity. We were unable to secure this meeting with Anglian Water during the study timeframe.

7.3.7 Based on the Cambridgeshire Horizons Water Cycle Study (2011) and also the joint position statement on foul water and environmental capacity in relation to the proposed development within South Cambridgeshire District signed by the Environment Agency, Anglian Water and South Cambridgeshire District Council (see Appendix E), we consider the site can move towards a developable status, subject to confirmation from Anglian Water and the Environment Agency confirming there will be capacity and there are no technical barriers to prevent growth taking place here.

8 WATERBEACH NEW TOWN STRATEGIC SITE

8.1 Introduction

8.1.1 This section provides a broad overview of the infrastructure and delivery considerations relating to the Waterbeach new town strategic site.

Developer consultation

8.1.2 A developer surgery took place on 9th September 2015 to provide PBA an opportunity to discuss the deliverability of the scheme with the two site promoters, Urban & Civic and Royal London Waterbeach (RLW) and their various experts (see Appendix A). Urban & Civic are currently developing a mixed use scheme of 5,000 homes at nearby Alconbury.

8.1.3 The surgery provided an opportunity to understand the aspirations of the two promoters in terms of the overall scale of growth, the opportunities and constraints of the site based on the range of site investigations that have been undertaken, particularly the information regarding how the longer term (beyond plan period) utilities infrastructure would be met and any issues there might be concerning EA discharge permits and wider stakeholder engagement. The surgery also provided an opportunity to explore the promoters' views on the delivery of strategic transport infrastructure and their desire to bring this site forward sooner than the planned trajectory. The promoters shared a number of evidence base reports they have independently commissioned, including a Water Cycle Study, various transport reports and their initial thoughts on the type of infrastructure likely to be required at Waterbeach over different timeframes.

Development context

8.1.4 The South Cambridgeshire Submission Local Plan identifies the site for a sustainable new town north of Waterbeach. The site comprises Waterbeach Barracks, an extensive area of brownfield land, along with the runway and adjoining areas of farmland. This will be a long term development, with much of the growth taking place beyond the plan period. A new town will require a significant amount of new infrastructure, including schools, shops, services and facilities. It will also include opportunities for green infrastructure and open space, including providing a setting for Denny Abbey.

8.1.5 The South Cambridgeshire Submission Local Plan Policy SS/5 proposes an Area Action Plan to provide a policy framework for the site. The policy includes high level infrastructure requirements including high quality public transport links to Cambridge, a relocated railway station to serve Waterbeach village and the new town, along with services, facilities and open space to met the needs of the town.

Quantum of growth and housing trajectory

8.1.6 Table 8.1 sets out the Local Plan housing trajectory and the assumed rate of delivery in the Local plan. The Local Plan identifies a capacity of the new town as 8,000 – 9,000 dwellings; a scheme of 9,000 dwellings has been assessed for this study. The site promoters consider the site can accommodate up to 12,000 units.

Table 8.1 Planned residential growth for Waterbeach new town

Planned Growth	2015 – 2020	2020 – 2025	2025 – 2031	Beyond plan period	Maximum annual delivery rate
Waterbeach New Town 2,050 during plan 6,950 post plan 9,000 dwellings in total	0	550	1,500	6,950	Maximum annual delivery rate estimate of 250 dwellings.

Source: SCDC 2015

Clarity over scheme and land ownership

8.1.7 The barracks site and airfield are owned by the Defence Infrastructure Organisation (DIO) and are being promoted by their development partner Urban & Civic. The adjoining farmland is in various ownerships but all landowners are parties to a Trust with a single promoter led by RLW. No site ownership constraints were identified.

8.2 Infrastructure costs and phasing

8.2.1 Tables 8.2 below sets out the estimated site specific infrastructure requirements for Waterbeach new town for the 9,000 dwellings over the plan period and beyond. Note these costs are a high level estimate at this point in time, based on inputs received from service providers on a call to update the IDS undertaken by the South Cambridgeshire District Council. At planning application stage there will be a more detailed assessment of infrastructure requirements based on known capacity and scheme detail.

8.2.2 The total site specific cost estimate of approximately £150m equates to approximately £17,000 per dwelling. We consider it sensible to assume a range between £17,000 and £20,000 per dwelling S106 for this site.

Table 8.2 Waterbeach new town site specific infrastructure cost estimates

Waterbeach New Town	2021-26	2026-31	2031-41	Grand Total
Infrastructure	**£8,510,000**	**£31,996,874**	**£109,279,669**	**£149,786,543**
Community facilities		£1,643,623	£3,863,822	£5,507,445
Education	£8,510,000	£24,510,000	£78,550,000	£111,570,000
Health		£2,900,000		£2,900,000
Leisure, play and sports		£2,845,951	£21,371,447	£24,217,398
Libraries			£4,526,200	£4,526,200
Waste	£0	£97,300	£968,200	£1,065,500
Grand Total	**£8,510,000**	**£31,996,874**	**£109,279,669**	**£149,786,543**

Source: PBA 2015 (based on service provider inputs)

Ely to Cambridge transport corridor infrastructure requirements

8.2.3 There will also be a requirement to make a contribution towards transport costs for some of the works proposed to the Ely to Cambridge transport corridor.

8.2.4 Table 8.3 sets out the transport costs currently identified for the Ely to Cambridge transport corridor (A10 north). Appendix B provides more details of the schemes proposed as part of this corridor.

Table 8.3 Ely and Cambridge Corridor transport cost estimates

Ely - Cambridge transport corridor	2026-31	Grand Total
Busway/bus	£46,100,000	£46,100,000
Cycleways	£14,400,000	£14,400,000
Highway	£129,800,000	£129,800,000
Park & ride	£11,500,000	£11,500,000
Rail	£33,100,000	£33,100,000
Grand Total	**£234,900,000**	**£234,900,000**

Source: PBA 2015 (based on service provider inputs and published documents)

8.2.5 As outlined in section 4 of this study, the assessments informing the type of infrastructure needed for the A10 corridor are being refined. A study has been jointly commissioned and funded by the local authorities and all key developers and landowners affected by this corridor, who have agreed the scope of the study and will work in partnership during the preparation of the study. An options assessment of the A10 scheme delivery is expected to be completed by spring 2016. This assessment should start to refine the composition of the corridor (see section 4 for a brief review of the cost differentials between different options being considered for this scheme, particularly the highway costs).

8.3 Infrastructure funding

8.3.1 The developer funding section thirteen of this report sets out our approach and the estimated range of developer contributions that might be sought towards infrastructure requirements.

Site specific S106 costs

8.3.2 There will be no CIL contributions for this site. Based on a site specific S106 contribution of between £17,000 and £20,000 per dwelling, there will be an estimate range of £153m to £180m towards the total site specific costs identified in table 8.2 and 8.3.

Contributions towards strategic transport costs

8.3.3 See section thirteen for our assessment of a possible approach to developer contribution towards strategic transport infrastructure.

Are there any threshold limitations affecting the delivery of growth?

8.3.4 It is unlikely that all the strategic infrastructure requirements outlined for the transport corridors will be needed before the commencement of any development. However, the Inspectors Letter (dated 20 May 2015) specifically questioned what quantum of growth would be acceptable along the A428 corridor. Similarly we consider it would be helpful to ask the same question for the A10 corridor; especially as most of the strategic transport corridor measures are currently not likely to be implemented until the later part of the plan period, whilst the delivery of the 2050 dwellings is identified in the trajectory to commence during 2022.

8.3.5 The specific phasing of transport infrastructure relative to the delivery of development will need to be considered though more detailed work to inform the threshold limits to growth. The site promoters have submitted an assessment to inform what they consider is likely to be required by way of transport mitigation measures to enable the first five year plan period growth to take place. This has not been formally assessed as part of this study.

8.3.6 Work has commenced on refining the delivery options for the Ely to Cambridge corridor (the A10 study). At time of writing (November 2015), a study has been commissioned jointly by the local authorities and various site promoters to refine infrastructure requirements and phasing related to the developments planned in the A10 corridor. A major element in terms of cost in this scheme is the requirement to undertake highway works along the A10 and A14 Milton Interchange.

8.4 Utilities critical path assessment

8.4.1 Table 8.4 sets out the findings from the utilities assessment relating to Waterbeach new town. This has in part been informed by service providers and assessments undertaken as part of the Water Cycle Study undertaken by both site promoters to inform flood, potable water, water recycling centre, and discharge into water courses.

Table 8.4 Critical path assessment for Waterbeach

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Electricity	Waterbeach new town	Exitsing capacity at present at Waterbeach Primary and Histon Grid. For long term growth, along with Northstowe, University, NW Site, Addenbrookes etc, UKPN will have to review loads, and make provision for establishing a new 132,000-Volt switchboard at Horningsea along with another Grid site to trnasfer load away from Histon and Fulbourn Grids. Deferred from 2014 to 2021-2023.		
Electricity	Waterbeach new town			
Potable Water	Waterbeach new town	There is potable water capacity at Cherry Hinton reservoir to serve this site, however, it will require substantial reinforcements to infrastructure including mains laying and dualing.		
Potable Water	Waterbeach new town			
Waste water	Waterbeach new town	The location of the proposed new town is currently served by a small Water Recycling Centre (WRC) that has insufficient capacity to serve this proposal beyond the plan period. The preferred option is to build a new WRC to serve the proposed development, and initial assessment by the EA suggests that final effluent could be discharged into the River Cam without causing environmental damage. All parties continue to work at developing the most sustainable strategy within environmental parameters. A Water Cycle Study (known as Denny St Francis WCS) specifically to look at the Waterbeach development proposal has been completed. This provides guidance on the most sustainable solutions for portable water supply and drainage.		
Waste water	Waterbeach new town			

Source: PBA November 2015 (based on inputs from service providers and promoter assessment)

8.4.2 See paragraph 6.3 for an explanation of the traffic light assessment included in table 8.4.

Water Recycling Centre

8.4.3 There is some capacity in the Water Recycling Centre (WRC) to serve some growth during the plan period. However the post plan period growth will need additional capacity. The guidance from the panel of stakeholders consulted as part of the Denny St Francis Water Cycle Study suggests that the preferred option to meet this requirement would be to build a new WRC to serve the proposed development. An initial assessment by the EA suggests that final effluent could be discharged into the River Cam. All parties will need to continue to work together to proactively manage the timely delivery of the most sustainable strategy to deliver the additional waste water capacity resource for this site.

Investment will be needed to provide potable water to the site

8.4.4 There is potable water capacity at the Cherry Hinton reservoir to serve this site; however, it will require substantial reinforcements to the infrastructure to transport this water to Waterbeach including mains laying during the plan period. The Denny St Francis Water Cycle Study (by Mott Mac Donald) identifies a technical solution to provide a potable water supply to the site, which will require a new strategic main from the Cherry Hinton reservoir to Milton and then further reinforcements will be needed to the existing network between Milton and Waterbeach. Feedback from Cambridge Water Company confirms this, and suggested various works to accommodate the plan period growth as well as the post plan.

Any other issues to be consider?

8.4.5 An ongoing dialogue should be maintained with the utilities service providers. Considerable investment to support the longer term planned growth will be needed. Therefore some certainty as to the scale of growth and phasing strategy will be important to enable the developers and utility service providers to take proactive action in a timely manner to plan for the major investment in potable and waste water infrastructure. Technical solutions have been identified. Upfront cash investment will be needed to support this planned growth.

8.4.6 Subject to the viability assessment and delivery of the strategic transport corridor, there are no other issues identified at this stage that would prevent this scheme from being developed as part of the planned trajectory.

9 BOURN AIRFIELD NEW SETTLEMENT INFRASTRUCTURE ASSESSMENT

9.1 Introduction

9.1.1 This section provides a broad overview of the infrastructure and delivery considerations relating to the Bourn Airfield new settlement strategic site.

Developer consultation

9.1.2 A developer surgery took place on 8th September 2015 to provide PBA an opportunity to discuss the deliverability of the scheme with Countryside Properties who are the site promoters (see Appendix A) and their various experts. Countryside Properties prepared a presentation of the emerging concept plan, outlining the type of infrastructure envisaged on the site, access options, broad phasing strategy, site constraints and set out an approach to delivery of the emerging concept plan.

9.1.3 The promoters were able to draw on comparison of costs and delivery rates with a similar sized scheme they are developing at Beaulieu, Chelmsford. Some utilities assessments have been commissioned and the promoters were able to share their high level Water Cycle Study by Hyder (Arcadis) with us. The promoters of Bourn Airfield new settlement stated that their aspiration is to start the development earlier than the planned trajectory and anticipate a higher annual delivery rate than the Local Plan trajectory.

Clarity over scheme and landownership

9.1.4 The main part of the site is in single ownership, and is being promoted for development by Countryside Properties. The adjoining employment site is in separate ownership.

Development context

9.1.5 The submitted Local Plan identifies the Bourn Airfield site for a new village including 3,500 dwellings and other supporting services and facilities. The allocation would provide for continued growth beyond the plan period and so help provide certainty over the longer term supply of housing. Table 8.1 sets out the plan trajectory and proposed phasing strategy.

Quantum of growth and housing trajectory

Table 8.1 Planned residential growth for Bourn new settlement

Planned Growth)	2015 – 2020	2020-2025	2025 – 2031	Beyond plan period	Maximum annual delivery rate
Bourn new settlement 1,360 during plan period 2,140 post plan period A total of 3,500 dwellings	0	460	900	2,140	Maximum annual delivery rate estimate of 150 dwellings.

Source: SCDC 2015

9.1.6 The plan envisages a new settlement which would provide for its own services, facilities and employment appropriate to a Rural Centre, including provision for health, primary and secondary education, green infrastructure, including open space, sport and leisure facilities would be required, to provide an attractive green setting for the settlement.

9.1.7 The South Cambridgeshire Submission Local Plan Policy SS/6 proposes an Area Action Plan to provide a policy framework for the site.

9.2 Infrastructure costs and phasing

Table 9.2 Infrastructure cost and phasing for Bourn Airfield new settlement

Bourn Airfield new village	2021-26	2026-31	2031-41	Grand Total
Community facilities	£18,018	£1,634,013	£243,844	£1,895,875
Education	£8,510,000		£41,020,000	£49,530,000
Health	£440,000			£440,000
Leisure, play and sports	£311,673	£2,742,724	£7,007,978	£10,062,375
Libraries		£267,251	£1,131,550	£1,398,801
Waste	£10,425	£91,740	£361,085	£463,250
Grand Total	**£9,290,116**	**£4,735,728**	**£49,764,457**	**£63,790,301**

Source: PBA November 2015 (based on service provider inputs)

9.2.1 Table 9.2 shows the estimated infrastructure costs by theme and timeframe for Bourn Airfield new settlement.

9.2.2 Based on 3,500 dwellings, this equates to an estimate per dwelling cost of £18,000. We consider it sensible to assume a range between £18,000 and £20,000 per dwelling S106 for this site.

9.2.3 We caution that these cost estimates are based on the limited inputs received from service providers on a call to update the IDS undertaken by the South Cambridgeshire District Council. At planning application stage there will be a more detailed assessment of infrastructure requirements based on known capacity and greater scheme detail.

St Neots to Cambridge (A428) transport corridor infrastructure requirements

9.2.4 The linear corridor around the A428 (west of Cambridge) links St Neots (outside the study area) with the western Cambridge boundary via the A1303. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth at Cambourne West and Bourn new settlement as well as the consented development at St Neots, the major employment site at West Cambridge and the mixed use sites of North West Cambridge and the NIAB (Darwin Green) sites.

9.2.5 Table 9.3 sets out the transport costs currently identified for the St Neots to Cambridge transport corridor. Appendix B provides more details of the schemes proposed as part of this corridor.

Table 9.3 St Neots to Cambridge (A428) transport corridor infrastructure costs

Transport corridors (essential)	2016-21	2021-26	Grand Total
Busway/bus	£62,600,000	£28,800,000	£91,400,000
Cycleways	£23,400,000		£23,400,000
Highway	£0		£0
Park & ride	£11,500,000		£11,500,000
Grand Total	**£97,500,000**	**£28,800,000**	**£126,300,000**

9.2.6 As outlined in section 4 of this study, the assessments informing the type of infrastructure needed for the A428 corridor are being refined. An options assessment of possible scheme solutions for the corridor has been prepared and these options are currently (Autumn 2015) being consulted on. The scheme costs included in the IDS will be refined once a decision has been taken on the preferred option. Note these costs will be shared with other proposed growth and requirements stemming from background deficit.

9.3 Infrastructure funding

9.3.1 The developer funding section thirteen of this report sets out our approach and the estimated range of developer contributions that might be sought towards infrastructure requirements.

Site specific S106 costs

9.3.2 There will be no CIL contributions for this site. Based on a site specific S106 contribution of between £18,000 and £20,000 per dwelling, there will be an estimate range of £63m to £70m towards the total estimate costs shown in table 9.2 and 9.3.

Contributions towards strategic transport costs

9.3.3 See section thirteen for our assessment on a possible approach to developer contribution towards strategic transport infrastructure.

City Deal funding

9.3.4 Part of this corridor has been identified as a priority for the tranche 1 City Deal scheme funding. This relates to the A428 to M11 segregated bus route / A428 Park & Ride works.

9.4 Are there any threshold limitations affecting the delivery of growth?

9.4.1 It is unlikely that all the strategic infrastructure requirements outlined for the transport corridors are likely to be needed before the commencement of any development. Early delivery is identified through the City Deal, particularly for the A428 to M11 section. The specific phasing of transport schemes relative to the delivery of development will need to be considered though more detailed work to inform the threshold limits to growth.

9.4.2 However, the Inspectors Letter (dated 20 May 2015) specifically questioned what quantum of growth would be acceptable along the A428 corridor. The response to this will be part of the ongoing technical assessments being undertaken by Cambridgeshire County Council to refine the corridor design and works alongside the public consultation taking place at time of writing. Also the work on the current Cambourne West planning application may help to articulate the threshold limits (if any) for the A428 corridor.

9.5 Utilities critical path assessment

9.5.1 Table 9.4 sets out the findings from the utilities assessment relating to Bourn Airfield new settlement.

Capacity of the electricity supply during the medium term of the phasing

9.5.2 There could be a potential phasing issue in terms of electricity supply depending on the timing and delivery of the other strategic site in this area at Cambourne West, and take up of the existing capacity. Reinforcements are likely to be required to accommodate the scale of medium to longer term planned growth planned in the corridor.

9.5.3 Based on the planning trajectory, this issue is manageable as we have been informed by UK Power Networks that the scale of growth currently included in the planning application (which is for a greater quantum than the planning trajectory) can be accommodated with existing capacity and there is capacity to service the initial phase of the Bourn new settlement scheme. The planning trajectory would also provide sufficient lead in time to proactively manage the upgrades needed in a timely manner as part of the AMP review.

Table 9.4 Utilities critical path assessment

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Electricity	Bourn airfield new settlement	Some existing capacity in the area to accomodate development. Beyond that major network reinforcement required.		
Electricity	Bourn airfield new settlement			
Potable Water	Bourn airfield new settlement	There is potable water supply to serve this site, but is likely to require some local storage and local mains and booser infrastructure		
Potable Water	Bourn airfield new settlement			
Waste water	Bourn airfield new settlement	The proposed development is in the catchment of Bourn WRC. The existing WRC has limited capacity but could take a portion of foul flows from the new site. Alternative WRCs in the vicinity are Papworth Everard and Utton's Drove, and each may be able to accommodate some or all of the foul water flows from the development. Work is ongoing to assess the foul drainage options in conjunction with other development sites at Cambourne West and Northstowe. Initial assessment indicates that capacity could be made available at Papworth Everard within environmental parameters. Utton's Drove is less favourable at this time as the expansion of Cambourne and Northstowe would likely take precedence. Whichever option is taken, upgrades to the foul network will be required to convey the flows to the serving WRC.		
Waste water	Bourn airfield new settlement			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: PBA November 2015 (based on inputs from service providers and promoter assessment)

9.5.4 See paragraph 6.3 for an explanation of the traffic light assessment included in table 9.4.

Any other issues to be consider?

9.5.5 An ongoing dialogue should be kept with UK Power Networks with regard to the capacity of the electricity supply for this site and timely inclusion of identified network upgrades in the next review of the AMP.

9.5.6 Subject to the viability assessment and delivery of the strategic transport corridor, there are no other issues identified at this stage that would prevent this scheme from being developed as part of the planned trajectory.

10 CAMBOURNE WEST STRATEGIC SITE

10.1 Introduction

10.1.1 This section provides a broad overview of the infrastructure and delivery considerations relating to the Cambourne West strategic site.

Developer consultation

10.1.2 A developer surgery took place on 8th September 2015 to provide PBA an opportunity to discuss the deliverability of the scheme with the promoter's (MCA Consortia) agent (see Appendix A). The agent was able to draw on a wealth of assessments undertaken for the current planning application to inform the discussion during the surgery, though it was made clear that the developer surgery was purely to inform the IDS.

Development context

10.1.3 The submission South Cambridgeshire Local Plan identifies the land surrounding Cambourne Village College, along with a part of the undeveloped land on the Cambourne Business Park for an additional village of 1,200 dwellings and other supporting services and facilities. In addition, the plan envisages replacement of the existing employment land (8.1ha) at the Cambourne business park to be incorporated within the Cambourne West strategic development site. Table 10.1 sets out the planned trajectory.

10.1.4 There is currently (Autumn 2015) a planning application in for 2,350 dwellings, employment and other uses on the Cambourne West site which includes land as far as the Caxton Gibbet roundabout to the west. It excludes land on the Business Park, which could in itself have capacity for around 240 dwellings. This scheme would have different infrastructure needs which are being considered through the planning application process. The IDS assessment focuses on a scheme of 1,200 units.

Quantum of growth and housing trajectory proposed

Table 10.1 Planned residential growth for Cambourne West

Planned Growth	2015 – 2020	2020 – 2025	2025 – 2031	Beyond plan period	Maximum annual delivery rate
Cambourne West Total plan1,200 dwellings	200	750	250	0	Maximum annual delivery rate estimate of 150 dwellings.

Source: SCDC 2015

Clarity over land ownership

10.1.5 The larger area around the village college is in single ownership.

10.1.6 The adjoining Cambourne Business Park is in separate ownership which does create some challenges in securing a direct access link through the business park. There is ongoing dialogue between the site promoters the business park owners and SCDC (also a part owner of the business park) to secure a direct access link via the business park.

10.2 Infrastructure costs and phasing

Table 10.2 Infrastructure cost and phasing for Cambourne West growth

Strategic site	2016-21	2021-26	2026-31	Grand Total
Cambourne West	**£9,785,752**	**£10,389,228**	**£1,785,534**	**£21,960,514**
Community facilities		£1,475,455		£1,475,455
Education	£8,510,000	£8,000,000		£16,510,000
Health	£825,000			£825,000
Leisure, play and sports	£426,427	£913,773	£1,785,534	£3,125,734
Waste	£24,325			£24,325
Grand Total	**£9,785,752**	**£10,389,228**	**£1,785,534**	**£21,960,514**

Source: PBA 2015 (based on service provider inputs)

10.2.1 Table 10.2 shows the estimated infrastructure costs by theme and timeframe for Cambourne West based on the planned growth. This does not include any contributions from the developer or other sources at this stage.

10.2.2 Based on 1,200 dwellings, this equates to an estimate per dwelling cost of £18,000. We consider it sensible to assume a range between £17,000 and £20,000 per dwelling S106 for this site

10.2.3 These cost estimates are based on high level inputs received from a number of service providers on a call for updates undertaken by South Cambridgeshire District Council. At planning application stage there will be a more detailed assessment of infrastructure requirements based on known capacity and greater scheme detail. Again it should be noted that the planning application being considered by the Council at time of writing is for the larger site.

St Neots to Cambridge (A428) transport corridor infrastructure requirements

10.2.4 The transport corridor around the A428 (west of Cambridge) links St Neots (outside the study area) with the western Cambridge boundary via the A1303. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth at Cambourne West and Bourn Airfield new settlement as well wider growth in the corridor.

10.2.5 Table 10.3 sets out the transport costs currently identified for the St Neots to Cambridge corridor. Appendix B provides more details of the schemes proposed as part of this corridor.

Table 10.3 St Neots to Cambridge (A428) transport corridor infrastructure costs

Transport corridors (essential)	2016-21	2021-26	Grand Total
Busway/bus	£62,600,000	£28,800,000	£91,400,000
Cycleways	£23,400,000		£23,400,000
Highway	£0		£0
Park & ride	£11,500,000		£11,500,000
Grand Total	**£97,500,000**	**£28,800,000**	**£126,300,000**

Source: PBA 2015 (based on service provider inputs)

10.2.6 As outlined in section four, the assessments informing the type of infrastructure needed for the A428 corridor are being refined. An options assessment of possible scheme solutions for the corridor has been prepared and these options are currently at consultation stage[19] (Autumn 2015). The scheme costs included in the IDS will be refined once a decision has been taken on the preferred option. Note these costs will be shared with other schemes and background growth requirements.

10.3 Infrastructure funding

10.3.1 The developer funding section thirteen of this report sets out our approach and the estimated range of developer contributions that might be sought towards infrastructure requirements.

Site specific S106 costs

10.3.2 There will be no CIL charge for this site. Based on a site specific S106 contribution of between £18,000 and £20,000 per dwelling, there will be an estimate range of £21m to £24m towards the total estimate costs identified in table 10.2 and 10.3

Contributions towards strategic transport costs

10.3.3 See section thirteen for our assessment of a possible approach to developer contribution towards strategic transport infrastructure.

City Deal funding

10.3.4 Part of this corridor has been identified as a priority for the tranche 1 City Deal scheme funding. This relates to the A428 to M11 segregated bus route / A428 Park & Ride works.

10.4 Are there any threshold limitations affecting the delivery of growth?

10.4.1 It is unlikely that all the strategic infrastructure requirements outlined for the transport corridors are likely to be needed before the commencement of any development. The specific phasing of transport schemes relative to the delivery of development will need to be considered though more detailed work to inform the threshold limits to growth.

10.4.2 However, the Inspectors Letter (dated 20 May 2015) specifically questioned what quantum of growth would be acceptable along the A428 corridor. The response to this will be part of the ongoing technical assessments being undertaken by Cambridgeshire County Council to refine the corridor design and works alongside the public consultation taking place at time of writing. Also the work on the current Cambourne West planning application will help to articulate the threshold limits (if any) for the A428 corridor. We are aware that Highways England has sought amendments to the Transport Assessment currently informing the planning application in relation to the strategic A428 road.

10.5 Utilities critical path assessment

10.5.1 Table 10.4 sets out the findings from the utilities assessment relating to Cambourne West development. The critical path identifies the current capacity and future upgrades needed to service the general development in this strategic sites area. Some upgrades in infrastructure will be required to serve this site, depending on wider take up of capacity.

Table 10.4 Utilities critical path assessment

	place	Short Term (2015-2020)	Medium Term (2020-2025)	Long Term (2025-2031)
Electricity	Cambourne West	Some existing capacity in the area to accomodate development. Beyond that major network reinforcement works are likely to be required, to enable additional growth to take place and how this affects growth will depend on capacity take up from surrounding settlements.		
Electricity	Cambourne West			
Potable Water	Cambourne West	There is potable water supply to the site via the DSR at Bourn or Madingley but is likely to require some local storage and local mains and booster infrastructure.		
Potable Water	Cambourne West			
Waste water	Cambourne West	The growth proposed for Cambourne West could potentially be served by Bourn, Papworth Everard and/or Utton's Drove Water Recycling Centres (WRC). Initial assessments carried out in conjunction with the proposed development at Bourn Airfield have indicated that development is deliverable but will require upgrades to the foul network - high level solutions have been identified. All parties will continue working together to ensure the most sustainable solution within environmental parameters is achieved.		
Waste water	Cambourne West			
Red – There is likely to be a need for some immediate infrastructure before growth can proceed				
Amber - Proceed with caution, could accommodate some growth now but may require some infrastructure.				
Green - Capacity in infrastructure to accommodate some growth.				

Source: PBA 2015 (based on inputs from service providers and promoter assessment)

10.5.2 See paragraph 6.3 for an explanation of the traffic light assessment shown in the traffic light assessment shown in table 10.4.

Capacity of the electricity supply during the medium term of the phasing

10.5.3 There could be a potential capacity issues in terms of electricity supply depending on the timing and delivery of the Bourn Airfield new settlement scheme and take up of the existing capacity. Reinforcements are likely to be required to accommodate the scale of medium to longer term planned growth in the area.

10.5.4 Based on the planning trajectory, this issue is manageable as we have been informed by UK Power Networks, that the scale of growth currently included in the planning application (which is for a greater quantum than the planning trajectory) can be accommodated with existing capacity and there is capacity to service the initial phase of the Bourn Airfield new settlement scheme as well. The planning trajectory would also provide sufficient lead in time to proactively manage the upgrades needed in a timely manner as part of the AMP review.

10.6 Any further other issues to be considered?

10.6.1 There is a desire from SCDC to ensure that this strategic development should be effectively integrated with Cambourne particularly by making use of the access road though the existing Cambourne Business Park. The development will make the location of Cambourne Village College more central to the overall village and residential on the current remaining land in the business park with displaced employment land to be replaced on the strategic site. The access through the business park is in separate ownership to the remainder of the site.

10.6.2 An ongoing dialogue should be maintained UK Power Networks and Cambridge Water Company with regard to the capacity of the electricity supply and potable water infrastructure for this site and timely inclusion of identified network upgrades in the next review of the AMP.

10.6.3 Subject to the viability assessment and delivery of the strategic transport corridor, there are no other issues identified at this stage that would prevent this scheme from being developed as part of the planned trajectory.

11 MAJOR CONSENTED SCHEMES

11.1 Introduction

11.1.1 Schemes that have been consented and associated infrastructure has either been delivered or is fully funded have not been included in the IDS. However, this section provides a brief narrative to reflect the infrastructure that will be provided to support the developments at station area in Cambridge, the urban fringe sites and Northstowe. Much of this consented development will form part of the five year supply.

11.2 Recent consented schemes forming part of the five year supply

11.2.1 Table 11.1 reflects the consented schemes that will be delivered during the plan period, particularly the first five year supply and some beyond.

Table 11.1 Consented planned growth

Consented Planned Growth (residential)	2015 – 2020	2020 – 2025	2025 – 2031	Beyond plan period	
Sites with Planning Permission					
Sites with Planning Permission (Cambridge)[20]	5,283	1,762	190	0	
Sites with Planning Permission (South Cambridgeshire)	4,038	2,031	1,500	1,425	

Source: South Cambridgeshire District Council and Cambridge City Council October2015

11.2.2 The following is a brief summary of recent schemes approved and accompanying infrastructure which make up part of the five year housing supply.

11.3 Northstowe

11.3.1 The capacity of the A14 Huntingdon to Cambridge improvement works has placed a threshold limit of 1,500 dwellings for the delivery of the full Northstowe scheme (phased 2 and 3). These cannot proceed before the completion of the A14 road scheme. Government funding has now been identified for the A14 Cambridge to Huntingdon Scheme. At time of writing a Development Consent Order application is being considered by the Planning Inspectorate. Subject to receiving consent, the scheme is anticipated to commence construction in 2016 and be completed by 2020.

11.4 Cambridge Southern Fringe developments

11.4.1 The Cambridge Southern Fringe has four residential development areas currently underway - Clay Farm; Glebe Farm; Trumpington Meadows, Bell School. The Trumpington Meadows site is a cross-boundary site covering Cambridge City Council and South Cambridgeshire District Council local authority areas.

[20] This includes Northstowe (phases 1 & 2), Orchard Park, North West Cambridge (University Site), Trumpington Meadows, and Cambourne

Cambridge Biomedical Campus

11.4.2 Cambridge Biomedical Campus is also part of the Southern Fringe Development area and is focussed on the development of clinical and biomedical and research and development facilities. This area is set to provide approximately 9,000 jobs and planning applications have been approved for a biomedical campus (06/0796/OUT), forum development (hotel, conference centre, learning and retail – 14/0120/FUL), an Energy Innovation Centre (C/05009/12/CW) and new facilities for Papworth Hospital and AstraZeneca (14/1633/REM). A southern spine road, Addenbrooke's Road and Francis Crick Avenue have been completed to provide access to the site, as have facilities for the Laboratory of Molecular Biology and a multi-storey car park. The Local Plan process has also provisionally identified additional land with development potential to the south of the Campus, subject to further investigations in relation to surface water flooding.

Clay Farm

11.4.3 Clay Farm is set to provide 2,165 residential units, a new secondary school and primary schools, community, sports and recreational facilities, local shops, public open space and crossings of Hobson's Brook. The site is 113 hectares and currently has six developers involved in the residential aspect of the site. All residential development has been approved through the planning process and 680 residential units had been built as of 31 March 2015.

11.4.4 Work is under way on the new multi-use community centre at the centre of the Clay Farm development. It is expected to be completed by summer 2016, and its five storeys will provide a hall for events and activities, library, café, meeting rooms, as well as medical facilities and residential flats. The building is designed to be sustainable and environmentally-friendly, with solar cells to generate electricity and a 'green roof' made with vegetation to help absorb carbon dioxide and reduce the effects of rainwater running off. Work has also started on the innovative Virido housing development on City Council land at Clay Farm. This collection of 208 residential properties, including affordable homes built around traditional 'Quad' designs is destined to set new standards for sustainability, with reduced water usage, lower energy consumption, and areas to encourage wildlife.

Glebe Farm

11.4.5 Glebe Farm is situated north of Addenbrooke's Road between Hauxton Road and Shelford Road. It is 8.89 hectares, and was previously in agricultural use. The site was approved for 286 dwellings with associated landscaping, open spaces, vehicle access from Addenbrooke's access road and related infrastructure. 253 units have been provided on the site. An application for a further portion of land called Glebe 3 is currently pending consideration (14/1792/FUL) for 30 new mixed tenure dwellings with associated open space, landscaping, car parking and infrastructure.

Trumpington Meadows

11.4.6 Trumpington Meadows will provide approximately 1,200 dwellings on 30 hectares of land within the Cambridge City Council and South Cambridgeshire District Council Local Authority areas. The site will also provide a primary school (now open), enhanced community facilities, retail, 58 hectares of country park, formal and informal open space, a children's play area including a multi-use games area, and a tennis court, a network of footpaths and cycleways, two new access points onto Hauxton Road and emergency access off Granchester Road and 0.9 hectares of land for allotments in the northwest of the site. The country park and the primary school and multi use games area is now open and 322 residential units have been completed (in the Cambridge area). 29 residential units have been completed in South Cambridgeshire to date; development in the rest of South Cambridgeshire is expected to begin in the 2015/16 monitoring year, with development increasing to approximately 100 units per year from 2016/17 to 2020/21.

Bell School

11.4.7 Bell School is set to deliver 270 residential dwellings and 100-bed student accommodation for the Bell Language School on 7.78 hectares of land under application 13/1786/REM. The development includes public open space, with vehicular access from Babraham Road and associated roads, footpaths and cycleways and drainage infrastructure. The site is under construction.

Madingley Road (Cambridge University site)

11.4.8 There are two major developments taking shape in the north west of Cambridge either side of Huntingdon Road. The site between Madingley Road and Huntingdon Road is being developed by the University of Cambridge, linked to the rest of Cambridge by bus priority lanes, cycleways and footpaths. The overall vision for the university site is to make housing affordable for its workers, so that it can continue to be a world leading institution that has contributed so much to the economic success of Cambridge as a whole. When complete there will be up to 3,000 new homes there, half of which will be university workers and half market houses, up to 2,000 units of student accommodation, along with a community centre run jointly by the council and the university, shops, academic and research facilities, sports pitches, a local centre (to be named Eddington after an eminent Cambridge scientist), public art, parks and allotments. Many of the homes there will be built to the highest possible standard for sustainability with innovative features such as solar panels on all roofs, water recycling networks and an underground waste system to make waste collection easier. It is expected that the first residents will move in by next summer. A brand new school, the University of Cambridge Primary School, has recently opened its doors. A new road junction to the site from Huntingdon Road has also now been completed, but this will initially be open only to school and construction traffic.

Darwin Green

11.4.9 Over the other side of Huntingdon Road, the first phase of the Darwin Green development will see more than 1,500 new homes built on land stretching as far as Histon Road (in the Cambridge local authority area), plus a primary school, community facilities and open spaces. This site spans the Cambridge City Council and South Cambridgeshire District Council local authority boundaries. The first phase currently has outline planning permission, and it is expected that there will eventually be an additional 1,000 homes in South Cambridgeshire during the later phases of the project. The frontage has so far delivered 153 residential units under reserved matters application 07/1124/REM.

11.5 Cambridge station developments

11.5.1 The development around Cambridge station is well underway. CB1 is being created as a new ‘gateway’ to the city, which has already seen new housing, offices including the Microsoft headquarters, student accommodation and open spaces being built in the area around the railway station. The next phase of development, which is already underway, will see a new public square (larger than the market square) created in front of the station building. The station itself will be redeveloped by operators Abellio, which will entail the current ticket office being closed for a period this autumn to enlarge it, and a temporary replacement being opened in nearby buildings. During the next 18 months a new 231 bed hotel, a 3,000 space cycle park and new shops and restaurants are also due to take shape around the square. 150 residential units as part of the blue phase of residential development have been built so far and it is estimated that over the next five years CB1 will deliver a further 396 residential units.

PART 3: HOW MUCH FUNDING IS AVAILABLE?

This section investigates how infrastructure can be paid for.

We investigate how public sector funding will help to pay for supporting infrastructure.

We then consider how developers investing in new homes and employment will fund relevant infrastructure using S106 and CIL.

The findings of the known costs and funding sources are brought together to understand the scale of remaining funding gap, timeframes and options to manage this over the longer term, including beyond the plan period.

12 NON DEVELOPER INFRASTRUCTURE FUNDING

12.1 Introduction

12.1.1 The successful delivery of the essential infrastructure identified in this study is important in supporting the delivery of the planned growth. A number of developer and non developer funding streams are expected to fund the identified infrastructure.

12.1.2 Here we consider the main sources of non developer funding that will support the delivery of the planned growth. The main sources of non developer funding identified at present to support the delivery of infrastructure are:

- National infrastructure funding via agencies such as Highways England and Network Rail
- City Deal
- New Homes Bonus
- Business Tax Retention
- Other government funding initiatives (such as Growth Deal)
- Mainstream funding

12.1.3 We consider each of these funding sources in turn to determine the scale of funding that might be sought from these sources to fund the IDS.

12.2 Public sector investment in national and sub regional infrastructure

12.2.1 The Government has recognised the importance of the role of Cambridge economy by offering substantial infrastructure funding support via City Deal, and major investment in national and sub regional transport including investment in Cambridge North railway station, major highway works at the M11 and A14. As noted in paragraph 4.5 there is an estimated £2.085 billion public investment secured to support the delivery of major sub regional transport infrastructure to support the planned growth in this area.

12.3 City Deal funding

The City Deal funding is a real game changer in terms of levels of investment for infrastructure in the area

12.3.1 The Greater Cambridge City Deal[21] was signed by Central Government, Council leaders, the Local Enterprise Partnership and the University of Cambridge and is aimed at helping Greater Cambridge to maintain and grow its status as a prosperous economic area by helping to accelerate the growth in jobs and homes planned through the Cambridge and South Cambridgeshire Local Plans and to enhance the connectivity of key housing and employment sites.

12.3.2 Government has confirmed payment of £100 million investment in transport infrastructure from 2015/16 to 2019/20. This provides a high level of certainty to commence investment in delivering an innovative transport strategy to tackle barriers to further economic growth and support planned growth throughout the Greater Cambridge area. Then, depending on tangible economic impact, the Greater Cambridge partners will be able to access up to an additional £400m over the subsequent 10-15 years.

12.3.3 Whilst the City Deal money does aim to accelerate the growth agenda through supporting delivery of the key infrastructure needed for the Local Plans, it is not intended to replace the requirement for developers to contribute to the cost of infrastructure at appropriate levels. The expectation from the Councils is that significant but reasonable contributions are expected

[21] Further information on City Deal can be found here http://www.cambridgeshire.gov.uk/citydeal/

from developers towards schemes to mitigate the impact of development proposals on the transport network and that together with other sources of funding; this will help to deliver the infrastructure identified as necessary to support the delivery of the development strategy. We return to this point in the next section.

Approach to City Deal prioritisation

12.3.4 The local partners committed as part of the City Deal to decide by the end of January 2015 on the prioritised infrastructure investment programme for tranche 1 of the City Deal. In order to achieve this, work was commissioned to assess economic impacts and develop a model to test the likely benefits of the proposed schemes. Alongside this, officers evaluated the deliverability of those schemes.

12.3.5 This model allowed an analysis of the relative housing and employment effects of the various schemes identified. In order to evaluate the direct impact of the various schemes on development sites, consideration was given to the criticality of the various schemes to each key development site. Each scheme had an evaluation made of the risk of delay to start, considering its contentiousness and complexity. Those schemes that were not considered to be deliverable until the end of the tranche 1 programme period, if not later, were therefore not recommended to be progressed as part of tranche 1.

Tranche one list of City Deal schemes

12.3.6 Table 12.1 sets out the agreed City Deal Executive Board[22] tranche 1 programme

Table 12.1 City Deal tranche 1 projects

City Deal Tranche 1 Projects	£m
Milton Road bus priority	£23.04m
Madingley bus priority	£34.56m
Histon Road bus priority	£4.28m
A428/M11 bus segregation	£24.48m
City Centre improvements/ cross City cycle improvements	£22.66m
A1307 Corridor including bus priority	£39.00m
Chisholm Trail	£8.40m
Year 1 to 5 pipeline development	£10.60m
Year 6 – 10 programme development	£9.00m
Programme management and early scheme development	£4.50m
Total	**£180.52m**

12.3.7 As can be seen from table 12.1, the programme of funding at £180million is considerably in excess of the £100million approved City Deal grant funding available. This reflects the

[22] Greater Cambridge City Deal Partnership Budget 2015/16 report presented to the Greater Cambridge City Deal Executive Board on 27th March 2015

assumption that the City Deal funding will be supplemented by additional funding, primarily from developer contributions and any other funding streams that might be identified (as indicated in paragraph 12.3.9 below) as well as building in flexibility to the programme to allow for variations in scheme costs, or indeed for schemes to enter and be removed from the list, to reflect any other significant changes in circumstances. However, any alteration to the programme would require a clear case to be made, with agreement from the City Deal Executive Board, considering the advice of the Joint Assembly. When studies are completed, funding will be used for the schemes which best support local growth and the Local Plan priorities.

There is a strong delivery and partnership working process in place to manage the City Deal programme

12.3.8 The City Deal Executive Board comprises of a wide range of representatives of the five City Deal partner organisations. It is advised by the Joint Assembly, which consists of 15 members representing, in the case of the partner Councils, those Councils' wider membership and, in the case of the Local Enterprise Partnership and University of Cambridge, stakeholders from the wider business and academic sectors.

12.3.9 As part of the City Deal, the three local authorities, Cambridgeshire County Council, Cambridge City Council and South Cambridge District Council have agreed to 'pool' resources to support the delivery of the City Deal programme to form an 'Infrastructure Investment Fund' and to invest in schemes that deliver the greatest economic impact.

12.3.10 This pooling of resources is an important step in demonstrating commitment to work towards managing the delivery of transport infrastructure. The City Deal Executive Board is expected to be responsible for 'pooled resources' collected from developer contributions (either CIL or s106 and City Deal funding).

12.3.11 In addition there will be scope for greater co-ordination of investment plans, as the Joint Committee will act in the role of a 'Super Consultee' in respect of funding secured from the Local Transport Plan Grant and the Local Transport Body Grant. Thus it will have the opportunity to ensure that resources are being coordinated and channelled to support the delivery of planned growth.

12.3.12 Finally, as part of the City Deal process, a City Deal team has been established to oversee the delivery of the programme.

12.4 New Homes Bonus funding

£4.09million funding of NHB money will complement the City Deal Programme in 2015/16

12.4.1 The three local authorities, Cambridgeshire County Council, Cambridge City Council and South Cambridge District Council have agreed to contribute 40% of the New Homes Bonus (NHB) Grant for 2015/ 16 towards the non-project costs of the City Deal programme (project management, communication, economic assessment, Smarter Greater Cambridge, inward investment and housing). This equates to a commitment of £4.09million for 2015/16 to support the delivery of this substantial investment programme.

12.4.1 There is estimated support of £3.6 million for 2016/17. However, there is uncertainty about the future of NHB funding, until the outcome of the forthcoming Spending Review is known.

12.5 Local Transport Funding

12.5.1 LTP funding has not been identified separately as a funding source for any of the transport schemes in the IDS, however, we expect there will be funding from this source to support mainstream infrastructure requirements.

12.6 Growth Deal

12.6.1 Growth Deal funding is delivered through the LEP. Guidance for the spending review makes clear expectation there will be future rounds of funding available. Local examples of it being used to open up sites and help deliver planned development. Funding of £16m has been secured for Ely bypass, supporting the creation of 4,500 new jobs and 3,000 new homes.

12.7 Park and Ride charges and Car parking charges

12.7.1 Income will be generated through car parking charges at the various Park & Ride facilities. It accepted that the aim will be to keep charges low to encourage the modal shift; however, some funding could be created through these that could be re-invested in the wider Infrastructure Investment Fund. For now we have not assumed any income from this source, but it may warrant further investigation.

12.7.2 Similarly, income generated from the limited car parking facilities where costs are likely to be increased to dissuade car travel, could be used to fund the Infrastructure Investment Fund.

12.7.1 Such issues will be considered through the City Centre Access Study which has been commissioned as part of the City Deal scheme.

12.8 Business Rates Retention

Business rates retention income could provide a source for future contributions towards infrastructure investment

12.8.1 A review of Business Rates was announced in the 2014 Autumn Statement and on the continuation of existing rates retention schemes. In addition there is a planned Rating Revaluation in 2017 with an antecedent valuation date of April 2015.

12.8.2 This could provide the partners with a useful alternative funding stream to be used toward the Infrastructure Investment Fund and project management costs.

12.8.3 There are experiences elsewhere, for example at Battersea in London, where GLA borrowing for the Northern Line Extension is to be serviced through a combination of developer contributions raised by the boroughs and incremental business rates generated and retained within the Enterprise Zone (EZ) in Battersea.

12.8.4 There is considerable new employment investment anticipated in the area to generate the scale of jobs forecast. This new business employment space may provide an additional local income stream. However, the risk at present is this is an unknown, until the Chancellor makes a firm commitment to this, and so we do not rely on this source of income to plug the infrastructure funding gap, but do recommend keeping a watching brief on this.

12.9 Mainstream service provider funding assumptions

Where possible, we assume that mainstream funding is the first funding to be used

12.9.1 It is the Government's intention to use CIL and S106 to fund infrastructure after sources of mainstream Government support have been identified. We therefore look to incorporate some mainstream funding for infrastructure delivery where there is a realistic prospect of funding.

12.9.2 There are some local government funding streams that are prescribed to specific activity. These include Basic Needs (schools) funding, Capital Maintenance Grants (schools) and Devolved Formula Grant (schools).

Basic Needs funding

12.9.3 Basic Needs (schools) funding for New Pupil Places to support local authorities in their statutory duty to ensure sufficient school places are provided to ensure the provision of new school places where they are needed. The resources available are allocated to local authority areas on the basis of relative need. For this purpose 'need' is measured in terms of forecast pupil growth for the period (provided by local authorities through the School Capacity returns). Weightings are applied to take account of whether places are in primary or secondary schools, and are also adjusted to reflect the relative costs of building work in different regions across the country.

12.9.4 Some Basic Needs funding has been available to fund 'population led requirements' in both authorities using prudential borrowing to support this, however there is very limited funding.

13 DEVELOPER FUNDING

13.1 Introduction

13.1.1 This section provides a brief explanation of the role of viability in informing infrastructure delivery and sets out the different developer funding mechanisms adopted for this study.

13.1.2 The assessment has been informed by the Viability Study[23] which has been developed in parallel to this study.

13.2 The Local Plans and whole plan viability assessment

13.2.1 Viability considerations now form an important part of the NPPF, recognising that the developer's residual pot is finite, and that it may not be possible to expect the developer to fund all the infrastructure cost requirements. Some trade-offs may be needed between other policy requirements such as affordable housing and infrastructure funding (either via CIL or s106).

13.2.2 Legislation introduced in the 2008 Planning Act, and brought into effect by the Community Infrastructure Levy Statutory Instruments (CIL) 2010 (and revisions) informs the mechanisms support developer funding. This is also incorporated in the National Planning Policy Framework which sets out some parameters and informs the options guiding developer funding.

13.2.3 The key messages in terms of infrastructure delivery from legislation and the Framework are as follows:

- The Local Plans must have regard to the infrastructure needed to support planned growth and have a clear plan and process in place of how this infrastructure is going to be delivered, including funding and management in a timely fashion to support planned growth. Indeed infrastructure planning is part of the soundness considerations of the local plan.

- In assessing the overall deliverability of the Local Plans, the Planning Authority must take account of the impact of the whole policy 'ask' on the viability of the planned growth. Therefore, local authorities need to consider the trade-offs between various policy requirements, especially affordable housing and the option of using developer funding to part fund infrastructure. This recognises that development viability is finite and important policy choices need to be made. This means adopting an iterative process to arriving at the affordable housing and infrastructure delivery policy mix which supports the Plan objectives.

- These policies should be kept flexible to allow for review and revision over time. Setting this approach out clearly in policy and linked to a 'live' Infrastructure Delivery Plan provides an important tool for adopting a proactive approach to managing the delivery of planned growth. It also recognises that viability assumptions change over shorter timeframes whilst the Local Plan is a longer term policy document.

13.3 Developer funding mechanisms

13.3.1 We adopt the following categories for informing developer funding for infrastructure:

[23] Cambridge City Council & South Cambridgeshire District Council Local Plans Viability Update, Dixon Searle Partnership (November 2015)

- **Site enabling infrastructure** is assumed to be funded fully by a developer: This infrastructure would be required of a developer to create a saleable product, such as utilities infrastructure connections and upgrades, drainage and flood mitigations, SUDs and informal open space.

- **Strategic or cumulative infrastructure** funding (Community Infrastructure Levy Regulation 123 list), relates to projects of a strategic nature, and the infrastructure requirements arise due to the cumulative impact of development such as town centre congestion and strategic transport corridors, libraries, sports centres, strategic flood defence measures, schools, parks, and strategic green infrastructure. These projects usually relate to infrastructure seen as important for the overall delivery of the plan. It is possible for such development to be funded via S106 or CIL (but there cannot be duplication of funding and this is secured through the preparation of a CIL Regulation 123 list).

- **Site relevant infrastructure** funding (S106) infrastructure items are focused on addressing the specific mitigation required by a new development. S 106 projects must be a) directly related to the proposed development, b) reasonable in scale and kind and c) necessary to make the development acceptable in planning terms[24], and pooling restrictions apply.

13.3.2 We set our approach to each of these below and assess the scale of developer contributions to fund the projects included in this study.

13.4 The approach to developer site enabling infrastructure funding

13.4.1 Any costs required to service a site in order to create serviceable plots, i.e. including land formation, drainage, any flood mitigation and utilities, any land clearance, or noise abatement etc. is considered as part of the site enabling costs for a scheme.

13.4.2 As part of the strategic site developer surgeries we sought views from the site promoters as to the need for any major or abnormal site constraints that might affect their sites opening costs. There will be a need for various off site reinforcements for utilities as has been noted in the utilities section of this study.

13.4.3 For this study we assume that the site enabling infrastructure will be fully funded by the developer: An allowance of £20,000 per dwelling has been included for the strategic sites in the Viability Study.

13.5 The approach to strategic (CIL) infrastructure funding

13.5.1 Having considered the different funding mechanisms, infrastructure requirements, local policy priorities and legal advice, the following CIL rates and funding mechanisms have been adopted by each authority:

- South Cambridgeshire District Council has opted not to charge any CIL for the strategic sites in its submitted Draft CIL Charging Schedule, adopting instead to use S106 as the mechanism to fund all site specific and site relevant strategic transport costs. This will adhere to the pooling restrictions and requirements of CIL Regulation 122.

- However, for the purposes of this study it is assumed that land North of Cherry Hinton's infrastructure contributions will be met entirely by a CIL charge of £125 per sq. m, as this would reflect the approach in the existing South Cambridgeshire Draft CIL Charging Schedule.

[24] These tests are now on a statutory basis under Regulation 122(2) of the CIL Regulations 2010 (continued in the CIL Regulations 2014). Although these Regulations are ostensibly about CIL, they apply to S106 in this instance.

- For all non strategic sites, South Cambs is proposing to use a simplified CIL charge of £100 per sq. m for all dwellings to fund infrastructure the infrastructure that will be on their Regulation 123 list.

- Cambridge City Council is proposing to use a CIL charge of £125 per sq. m for all residential and student housing growth and £60 per sq. m for convenience retail to fund infrastructure that will be on their Regulation 123 list. For this study we estimate the total CIL contributions based on the planned growth schedule prepared by Cambridge City Council.

- Both authorities are not proposing to charge any CIL for planned employment growth. Any costs arising from employment development, particularly transport costs will be met by S106 contributions but no cost estimate has been included for this in this study.

13.5.2 For this study we have estimated the total CIL contributions based on the planned growth schedule prepared by Cambridge City Council and South Cambridgeshire District Council.

13.6 Estimating the total CIL contributions to fund infrastructure

13.6.1 The approach to calculating the CIL assessment has been based on identifying the scale of unconsented growth, deducting an allowance for affordable housing to arrive at a 'market floor space area. The CIL charge rate for each authority is applied to this floor space. Note the strategic site Land north of Cherry Hinton growth is included in this assessment for both Councils.

Table 13.1Calculating the estimate CIL for each 'charging authority'

Cambridge City residential CIL revenue forecast (£125 p sq.m)	Estimate for plan period
Allocations not expected to have pp at adoption of CIL	2,946
Unidentified' Windfall Sites	1,511
Sub total	4457
Market units (assumed 70% market)	3119.9
Market floorspace (assumed 80 sqm)	249592
CIL revenue	£31,199,000
District Council retained revenue (assumed £100 per dwelling)	£30,887,010
Sub total	**£30,887,010**
South Cambs residential CIL revenue forecast (£100 p sq.m)	**Estimate for plan period**
Allocations not expected to have pp at adoption of CIL	904
Unidentified' Windfall Sites	2,450
Sub total	3,354
Market units	2012.4
Market floorspace	201,240
CIL revenue	£20,124,000
District Council retained revenue	£16,099,200
Sub total	**£16,099,200**
Cambridge student housing CIL revenue forecast (£125 p sq.m)	**Estimate for plan period**
Student units	0
Unidentified' Windfall Sites	4,224
CIL revenue	£528,000
Sub total	**£528,000**
Cambridge retail CILrevenue forecast (£75 p sq.m)	**Estimate for plan period**
Grafton @ 12,000 sq.m	£900,000
Windfall @ 2000 sq.m	£150,000
Sub total	**£1,050,000**
Total CIL developer funding estimate for both authorities	**Total for plan period**
Cambridge City Council Charging Authority	£32,465,010
South Cambridgeshire District Charging Authority	£16,099,200
Total	**£48,564,210**

Source PBA November 2015 (based on assessments undertaken by the local authorities)

13.6.2 The total estimated CIL forecast for each local authority is set out in table 13.1 above. The following CIL related developer funding estimate has been assumed to support the delivery of infrastructure costs identified in this study:

- £32,500,000 for Cambridge City Council.
- £16,000,000 for South Cambridgeshire District Council.

13.7 The approach to developer funding (S106) from the strategic sites

13.7.1 No S106 is assumed in the viability assessment for Cambridge City Council area. The assessment here relates only to South Cambs.

13.7.2 The delivery of infrastructure for Bourn Airfield new village, Cambourne West and Waterbeach new town strategic sites[25] is to be met by means of a S106 contribution, this includes all site specific infrastructure costs such as schools, libraries, health facilities, parks, playing fields (see sections 8, 9 and 10). These strategic sites shall make developer contributions (via S106 contributions) towards the transport corridors infrastructure requirements.

13.7.3 The Ely Cambridge transport corridor and the St Neots to Cambridge transport corridor will help to support the delivery of the plan strategic sites as well as supporting the delivery of background growth, and other employment growth.

13.7.4 Cambridgeshire County Council is currently assessing how to determine the scale of developer contributions appropriate from the strategic sites to fund identified elements of these transport corridor costs. An indicative assessment by Cambridgeshire County Council, which takes account of planned growth and background growth and known costs at the times, suggests an indicative cost for the St Neots to Cambridge (A428) corridor of an estimated £7,500 per dwelling S106 contribution. We do not consider it appropriate to pre-empt this assessment, though it is necessary to have some indication of the scale of developer contributions that might be available to fund the transport infrastructure requirements identified in the IDS.

13.7.5 We have explored various options with Cambridgeshire County Council, South Cambridgeshire District Council and the strategic site promoters to arrive at a developer contribution for the strategic sites. Our assessment takes account of the Viability Study findings, the approach adopted by CCC and the cost estimates arrived at from our infrastructure assessment. We focus only on costs and funding and not on defining clearly distinct transport projects within the overall transport corridors. This work will be developed by the local authorities.

13.7.6 It must be emphasised that the findings set out here are working assumptions to inform the IDS only and should be refined once there is an agreed approach from Cambridgeshire County Council (preferably in consultation with the site promoters) and costs estimates have been refined following consultation of the A428 corridor options and the A10 study.

Approach to estimating the scale of developer contribution for the strategic sites

13.7.7 We test for two scales of growth, the plan period and beyond the plan period and set out the findings separately.

13.7.8 The starting point in estimating the developer contribution was to consider the range of developer contribution from the Viability Study. The Viability Study assessed a number of assumptions for sales values, affordable housing and site enabling cost infrastructure. These assumptions are set out in the table 13.2.

[25] The land north of Cherry Hinton will support infrastructure delivery via a CIL charge and so has not been included in this assessment.

Table 13.2 Viability assumptions informing the scale of developer contributions for the strategic sites

Bourn Airfield new village and/Waterbeach new town	3,500 unit strategic site with no CIL	
Percentage Affordable housing	30% (average)	40%
Site enabling infrastructure costs (per unit)	£20,000	£20,000
Sales value £3,300 m2	£36,986	£31,111
Sales value £3,050 m2	£28,680	£23,888
Sales value £2,750 m2	£18,542	£14,861
Cambourne West	**1,200 unit strategic site with no CIL**	
Percentage Affordable housing	30% (average)	40%
Strategic infrastructure costs (per unit)	£20,000	£20,000
Sales value £3,300 m2	N/A	£43,750
Sales value £3,000 m2	£37,500	£32,083
Sales value £2,750 m2	£25,417	£20,833

Source: Strategic Sites Viability Study by Dixon Searle Partnership November 2015

13.7.9 Table 13.2 shows the 'overage' available to support developer contributions at varying assumptions for affordable housing and sales values in the Viability Study.

13.7.10 We adopted the highlighted mid to lower sales values, which result in an estimated total developer contributions package of approximately £24,000 to £28,700 per dwelling for Bourn Airfield new village and Waterbeach new town and £32,000 to 37,500 for Cambourne West, depending on the level of affordable housing. .

13.7.11 We then assess how much residual would be available to contribute towards the cost of the strategic transport costs, if all the known site specific costs assessed in this study were met.

13.7.12 Our base assumption for this was the cost estimate per dwelling arrived at as part of the strategic sites[26] assessment included in the strategic sites section of this study. Most of the strategic sites have site specific S106 infrastructure requirements ranging from £17,000 per dwelling to £18,000 per dwelling. Note these cost ranges are comparable with other local similar examples assessed by SCDC where this range of site specific costs has been reflected in the delivery of consented strategic sites.

13.7.13 We also test at a range of £20,000 per dwelling site specific contribution to allow for a degree of flexibility and inform an upper and lower range of site specific contributions that might be available for the strategic transport costs.

13.7.14 The balance available for transport infrastructure costs is the difference from the Viability Study S106 and the on site infrastructure 106 per unit, (note in reality some trade-offs may also happen between site specific infrastructure and transport infrastructure requirements).

13.7.15 The two overages, based on variations in affordable housing, are used to inform the estimate funding to contribute towards the strategic transport corridor costs and the strategic site specific S106 requirements

13.7.16 Based on the assumptions set out in table 13.3, we calculate the estimated funding available for site specific infrastructure and transport infrastructure. These then inform the total estimation.

13.7.17 To take account of the flexibility incorporated in the site specific costs, and other assumptions, we take a mid value to inform the scale of S106 funding for each of the affordable housing assumptions – rows J and K in table 13.3.

[26] see sections 8,9 and 10.

Table 13.3 estimating the strategic sites developer funding (S106) up to and beyond the plan period

Strategic site	Sales value assumed £ per sq.m	Assumed number of units	Affordable housing %	Site enabling cost per unit	Viability Study S106 overage	On site infrastructure S106 per unit	Strategic transport S106 per unit	Mid range estimated site specific S106	Total estimated strategic site developer contribution S106	Mid range estimated strategic transport contributions S106	Total estimate S106 contributions
Waterbeach new town	£3,050	9000	30%	£20,000	£28,500	£17,000	£11,500		£256,500,000		
Waterbeach new town	£3,050	9000	30%	£20,000	£28,500	£20,000	£8,500	£166,500,000	£256,500,000	£90,000,000	£256,500,000
Waterbeach new town	£3,050	9000	40%	£20,000	£24,000	£17,000	£7,000		£216,000,000		
Waterbeach new town	£3,050	9000	40%	£20,000	£24,000	£20,000	£4,000	£166,500,000	£216,000,000	£50,000,000	£216,500,000
Cambourne West	£3,000	1200	30%	£20,000	£37,500	£18,000	£19,500		£45,000,000		
Cambourne West	£3,000	1200	30%	£20,000	£37,500	£20,000	£17,500	£22,800,000	£45,000,000	£22,200,000	£45,000,000
Cambourne West	£3,000	1200	40%	£20,000	£32,000	£18,000	£14,000		£38,400,000		
Cambourne West	£3,000	1200	40%	£20,000	£32,000	£20,000	£12,000	£22,800,000	£38,400,000	£16,000,000	£38,800,000
Bourne Airfield new settlement	£3,050	3,500	30%	£20,000	£28,500	£18,000	£10,500		£99,750,000		
Bourne Airfield new settlement	£3,050	3,500	30%	£20,000	£28,500	£20,000	£8,500	£66,500,000	£99,750,000	£33,000,000	£99,500,000
Bourne Airfield new settlement	£3,050	3,500	40%	£20,000	£24,000	£18,000	£6,000		£84,000,000		
Bourne Airfield new settlement	£3,050	3,500	40%	£20,000	£24,000	£20,000	£4,000	£66,500,000	£84,000,000	£18,000,000	£84,500,000

Source PBA November 2015

13.7.18 The above table shows the total contributions from the scale of growth proposed beyond the plan period. It shows that the scale of funding available for developer contributions falls as the scale of affordable housing requirement is increased. The amount of S106 contribution available for each strategic sites for the full 'post plan' period growth is as follows:

- Waterbeach new town is estimated to contribute between £216.5m to £256.5m in S106 developer contributions (depending on the scale of affordable housing) and of this, £50m to £90m could be available for strategic transport infrastructure.
- Bourn Airfield new village is estimated to contribute between £84.5m to £99.5m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £18m to £33m.
- Cambourne West is estimated to contribute between £39m to £45m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £16m to £22m.

Plan period strategic sites developer contributions (S106).

13.7.19 Table 13.4 below adopts the same approach as above to arrive at the estimated scale of developer contributions (S106), however, the scale of growth has been adjusted to reflect the housing trajectory for the plan period.

Table 13.4 estimating the strategic sites developer funding (S016) up to the plan period

Strategic site	Sales value assumed £ per sq.m	Assumed number of units	Affordable housing %	Site enabling cost per unit	Viability Study S106 overage	On site infrastructure S106 per unit	Strategic transport S106 per unit	Mid range estimated site specific S106 funding	Mid range estimated strategic transport contributions S106	Total estimate S106 contributions
Waterbeach new town	£3,050	2050	30%	£20,000	£28,500	£17,000	£11,500			
Waterbeach new town	£3,050	2050	30%	£20,000	£28,500	£20,000	£8,500	£37,925,000	£20,500,000	£58,425,000
Waterbeach new town	£3,050	2050	40%	£20,000	£24,000	£17,000	£7,000			
Waterbeach new town	£3,050	2050	40%	£20,000	£24,000	£20,000	£4,000	£37,925,000	£11,275,000	£49,200,000
Cambourne West	£3,000	1200	30%	£20,000	£37,500	£18,000	£19,500			
Cambourne West	£3,000	1200	30%	£20,000	£37,500	£20,000	£17,500	£22,800,000	£22,200,000	£45,000,000
Cambourne West	£3,000	1200	40%	£20,000	£32,000	£18,000	£14,000			
Cambourne West	£3,000	1200	40%	£20,000	£32,000	£20,000	£12,000	£22,800,000	£15,600,000	£38,400,000
Bourne Airfield new settlement	£3,050	1,360	30%	£20,000	£28,500	£18,000	£10,500			
Bourne Airfield new settlement	£3,050	1,360	30%	£20,000	£28,500	£20,000	£8,500	£25,840,000	£12,920,000	£38,760,000
Bourne Airfield new settlement	£3,050	1,360	40%	£20,000	£24,000	£18,000	£6,000			
Bourne Airfield new settlement	£3,050	1,360	40%	£20,000	£24,000	£20,000	£4,000	£25,840,000	£6,800,000	£32,640,000

Source PBA November 2015

13.7.20 The amount of S106 contribution available for each strategic sites for the plan period growth is as follows:

- Waterbeach new town is estimated to contribute between £49m to £58m in S106 developer contributions (depending on the scale of affordable housing) and of this, £11m to £20.5m could be available for strategic transport infrastructure.
- Bourn Airfield new village is estimated to contribute between £33m to £39m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £7m to £13m.

- Cambourne West is estimated to contribute between £38m to £45m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £16m to £22m.

13.8 The approach to developer funding (S106) from non strategic sites

13.8.1 For South Cambs, an allowance of £3000 per dwelling S106 has been included in the Viability Study to support the cost of site specific infrastructure to fund any relevant primary school infrastructure. The total S106 contributions arising from this are set out in table 13.5 below.

Table 13.5 S106 forecast funding from the non strategic sites in SCDC area

South Cambs residential	Dwellings	S106 @ £3000 per unit[27]
Allocations at villages	1084	£3,252,000
North of Cherry Hinton	420	£1,260,000
Total		£4,512,000

Source: PBA November 2015 (based on Viability Study S106 assumption)

13.8.2 In addition to the strategic sites, the following large sites in the current adopted plans currently without planning permission will also contribute S.106 in the SCDC area:

- The Darwin Green 2 site is estimated to contribute £5m towards strategic transports costs via S106.

- The Councils are currently negotiating a section 106 agreement in respect of development at the Wing site at Cambridge East (site SS/3) comprising up to 1,300 dwellings. Although the application is not determined at the time this report is published, agreement has been reached as to the extent of some offsite transport infrastructure improvements in Cambridge City and South Cambridgeshire administrative areas that are to be delivered via a combination of a section 106 agreement or section 278 works. These measures will be included in an updated future infrastructure delivery study.

13.9 Summary of S106 developer funding assessment

13.9.1 The sum of the various S106 contributions for the planned development in South Cambs is summarised in table 13.6.

Table 13.6 Summary of infrastructure funding and variations in affordable housing during plan and post plan period

Post planned growth	**Affordable at 30%**		Total	**Affordable housing at 40%**		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£166,500,000	£90,000,000	£256,500,000	£166,500,000	£50,000,000	£216,500,000
Bourne Airfield new settlement	£66,500,000	£33,000,000	£99,500,000	£66,500,000	£18,000,000	£84,500,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£16,000,000	£38,800,000
Sub total	£255,800,000	£145,200,000	£401,000,000	£255,800,000	£84,000,000	£339,800,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£260,312,000**	**£150,200,000**	**£410,512,000**	**£260,312,000**	**£89,000,000**	**£349,312,000**

Plan period growth	**Affordable at 30%**		Total	**Affordable housing at 40%**		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£37,925,000	£20,500,000	£58,425,000	£37,925,000	£11,275,000	£49,200,000
Bourne Airfield new settlement	£25,840,000	£12,920,000	£38,760,000	£25,840,000	£6,800,000	£32,640,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£15,600,000	£38,400,000
Sub total	£86,565,000	£55,620,000	£142,185,000	£86,565,000	£33,675,000	£120,240,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£91,077,000**	**£60,620,000**	**£151,697,000**	**£91,077,000**	**£38,675,000**	**£129,752,000**

Source: PBA November 2015

13.9.2 The total developer funding available for South Cambs for the post plan period growth in the form of S106 ranges from £349m at approximately £410m depending on the percentage of affordable housing policy adopted.

13.9.3 The total developer funding available for South Cambs during the plan period ranges from £60m to £130m depending on the percentage of affordable housing policy adopted.

13.9.4 For the total growth (including post plan period), the reduction in affordable housing form 40% to 30% has the effect of increasing the amount of funding available for transport infrastructure from £89m to £150m in total. Whilst for the plan period growth, the effect of this, is an increase from £39m to £60m.

13.9.5 As the scale of growth increases, the amount of developer funding available to contribute towards strategic transport infrastructure increases.

13.9.6 There is limited funding during the plan period, (due to the limited scale of growth), to support the delivery of transport scheme. Further consideration should be given to what transport works are essential to enabling the scale of planned growth prior to implementation of the full scheme.

13.9.7 The scope to use public funding such as City Deal to support the 'upfront' delivery of the strategic transport works, with a view to clawing back the funding via S106, would help with both cash flow for the developers and possibly avoid the need for any threshold restrictions.

14 SUMMARY OF COSTS AND FUNDING

14.1 Introduction

14.1.1 This section pulls together a summary of the cost and funding information considered throughout this report and presents this information in a number of tables to inform if there is a funding shortfall.

14.2 Headline infrastructure cost summary tables

14.2.1 The assessment shows a total infrastructure cost of £1.2billion. This reflects cost in the plan period but also cost of schemes for the two strategic sites, Waterbeach new town and Bourn Airfield new village, which commence in the plan period and continue beyond (i.e. this cost includes the post plan requirements as well), as well as the total infrastructure requirements. This is summarised in table 14.1 below and detailed in Appendix G table G1.

Table 14.1 Total infrastructure cost to post plan period (including essential and desirable)

All areas costs	2011-16	2016-21	2021-26	2026-31	2031-41	Grand Total
Cambridge Urban Area	£7,486,936	£182,420,880	£208,333,553	£3,977,421		£402,218,790
Cross border	£91,744	£9,401,957	£8,333,249	£1,022,756		£18,849,706
South Cambridgeshire	£714,449	£203,657,036	£148,379,941	£279,423,324	£159,044,126	£791,218,876
Grand Total	**£8,293,129**	**£395,479,873**	**£365,046,743**	**£284,423,501**	**£159,044,126**	**£1,212,287,372**

14.2.2 Focusing on costs required in the plan period reduces the total costs from £1.2b to £1b as shown in table 14.2 below.

Table 14.2 Total costs in the plan period only (including essential and desirable)

All areas costs	2011-16	2016-21	2021-26	2026-31	Grand Total
Cambridge Urban Area	£7,486,936	£182,420,880	£208,333,553	£3,977,421	£402,218,790
Cross border	£91,744	£9,401,957	£8,333,249	£1,022,756	£18,849,706
South Cambridgeshire	£714,449	£203,657,036	£148,379,941	£279,423,324	£632,174,750
Grand Total	**£8,293,129**	**£395,479,873**	**£365,046,743**	**£284,423,501**	**£1,053,243,246**

14.2.3 By focusing on the costs identified as essential in this study, within the plan period, the cost estimate is further reduced from £1b to £885m. This is summarised in table 14.3 below and detailed in Appendix G table G3.

Table 14.3 Total Essential infrastructure summary costs in plan period

All areas costs	2011-16	2016-21	2021-26	2026-31	Grand Total
Cambridge Urban Area	£1,125	£120,773,525	£202,593,425	£109,125	£323,477,200
Cross border		£8,510,000	£8,000,000		£16,510,000
South Cambridgeshire	£13,206	£148,959,878	£136,930,984	£259,714,758	£545,618,826
Grand Total	**£14,331**	**£278,243,403**	**£347,524,409**	**£259,823,883**	**£885,606,026**

14.2.4 The costs can be further prioritised to reflect infrastructure needed for the delivery of growth – we return to this after consider the scale of funding available and the need for any further prioritisation.

Developer funding mechanisms being adopted

14.2.5 Cambridge City Council's future developer funding revenue is expected to be entirely made up of CIL contributions, as it is proposing to charge all residential development a flat CIL rate. South Cambs is adopting a mix of developer funding mechanisms, reflecting the type of growth proposed. All infrastructure requirements related to the three new strategic sites will be funded entirely by S106 contributions, whilst other sites, (including land north of Cherry

Hinton) will make a CIL contribution and (where appropriate) make a S106 contribution towards primary school and some transport infrastructure.

14.2.6 We have already set out a number of headline funding tables in section 13. Here we bring the cost and funding tables together to inform how infrastructure is likely to be delivered and what decisions might be required to further prioritise funding to reflect growth related delivery.

14.3 Bringing costs and funding together to inform delivery considerations

All the non strategic sites (including land North of Cherry Hinton)

14.3.1 The total estimated developer income from CIL charges and some limited S106 for each authority for non strategic sites (including land north of Cherry Hinton) is summarised in table 14.4. This shows a breakdown by local authority.

14.3.2 The total estimated income is £58m for the non strategic sites in each authority. The total funding gap for the non strategic sites for both authorities (and excluding the cost of the strategic transport corridors) is approximately £121m.

14.4 Table Infrastructure costs and funding (non transport) for those sites identified as liable for CIL by local authority areas

Non strategic all non transport infrastructure plan & post plan	2011-16	2016-21	2021-26	2026-31	Grand Total
Cambridge Urban Area	**£4,486,936**	**£42,464,380**	**£13,033,553**	**£3,977,421**	**£63,962,290**
Community facilities	£1,310,811	£1,226,392	£340,865	£19,338	£2,897,406
Education		£37,200,200	£7,100,100		£44,300,300
Health		£2,200,000	£0		£2,200,000
Leisure, play and sports	£3,175,000	£1,519,183	£5,360,775	£3,814,998	£13,869,956
Libraries		£45,280	£38,488	£33,960	£117,728
Waste	£1,125	£273,325	£193,325	£109,125	£576,900
Cross border	**£91,744**	**£9,401,957**	**£8,333,249**	**£1,022,756**	**£18,849,706**
Community facilities			£142,943		£142,943
Education		£8,510,000	£8,000,000		£16,510,000
Leisure, play and sports	£91,744	£891,957	£190,306	£1,022,756	£2,196,763
South Cambridgeshire	**£714,449**	**£27,471,284**	**£3,850,597**	**£6,005,188**	**£38,041,518**
Community facilities	£248,207	£614,661	£532,678	£526,435	£1,921,981
Education		£22,360,000			£22,360,000
Leisure, play and sports	£453,036	£3,050,058	£2,715,476	£5,323,415	£11,541,985
Libraries		£1,281,012	£41,884	£39,620	£1,362,516
Waste	£13,206	£165,553	£560,559	£115,718	£855,036
Grand Total	**£5,293,129**	**£79,337,621**	**£25,217,399**	**£11,005,365**	**£120,853,514**

Total CIL developer funding estimate for both authorities	Total for plan period
Cambridge City Council Charging Authority	£32,465,010
South Cambridgeshire District Charging Authority	£16,099,200
Total	**£48,564,210**

S106 for South Cambs	Site specific S106	Transport S106
Add S Cambs £3k per unit for CIL sites	£4,512,000	£0
Darwin 2 transport S106	£0	£5,000,000

Managing infrastructure delivery in Cambridge City

14.3.3 Table 14.4 shows that the total cost of all non transport infrastructure for Cambridge City is approximately £64m, and focusing on essential infrastructure (such as education) reduces the cost to £44m, whilst the funding expected is £32.4m. This represents a funding gap of approximately £13m for essential infrastructure.

14.3.4 From the point of demonstrating a developable plan, there will need to be a prioritisation of the infrastructure that is to be funded from CIL, and this is likely to require some mainstream funding or prudential borrowing to support some of the essential infrastructure such as

education and waste. Other services such as health maybe provided directly by the private sector on a rental basis, thus creating a revenue stream. To meet the needs of leisure, sports and play, there should be greater use of shared facilities associated with new school developments.

14.3.5 Based on the delivery of recent schemes in Cambridge City, we consider it is likely that either Basic Needs education funding, combined with prudential borrowing will be able to support the delivery of the essential infrastructure. These options should be discussed with the service providers to look for measures to support either cost savings, shared use of facilities, and reducing some of the requirements included on the IDS (where appropriate). Elected members will need to do some prioritisation to support the delivery of infrastructure as all the service provider 'ask' cannot be funded.

14.3.6 With careful prioritisation, exploring the scope for shared service use for community and open space facilities, we consider the scale of the funding gap identified for Cambridge City Council is manageable but it is unlikely to be able to contribute much in the way of strategic transport costs.

Managing delivery of the cross border site at Land north of Cherry Hinton

14.3.7 At present the funding assumptions relating to the land north of Cherry Hinton scheme have been incorporated into our CIL revenue assessment for the two local authorities.

14.3.8 The education infrastructure requirements identified in the IDS for the cross border infrastructure currently relate to a wider area than just the scheme proposed for the land north of Cherry Hinton scheme. Further works is also needed to better understand any other site specific infrastructure requirements.

14.3.9 we recommend further discussions should take place with the education service provider to articulate how the cost of this site have been arrived. This scheme is at an early stage of preparing evidence base, and it would be worth exploring how the site promoters proposes to deliver and fund infrastructure requirements such as education.

Managing infrastructure delivery in South Cambridgeshire (non strategic sites)

14.3.10 Table 14.4 show's the South Cambridgeshire's non strategic site infrastructure requirement (excluding transport costs) at an estimated £38m, and funding to support this is currently estimated at £21m. The bulk of the requirement consists of education infrastructure costs at £22m and leisure, sports and play infrastructure at £11m.

14.3.11 From the point of demonstrating a developable plan, there will need to be a prioritisation of the infrastructure that is to be funded from CIL, and this is likely to require some mainstream funding or prudential borrowing to support some of the essential infrastructure such as education and waste. Other services such as health maybe provided directly by the private sector on a rental basis, thus creating a revenue stream. To meet the needs of leisure, sports and play, there should be greater use of shared facilities associated with new school developments.

14.3.12 With careful prioritisation, exploring the options for shared service options for community and open space facilities, we consider the scale of this funding gap is manageable but unlikely to be able to support much in the way of strategic transport costs.

14.3.13 We would recommend that an early dialogue takes place with all the key service providers to look at refining some of the costs, reducing the requirements and exploring opportunities for some mainstream funding to plug this gap.

14.4 Managing infrastructure delivery of the strategic sites

14.4.1 Tables 14.5 and 14.6 set out the non transport infrastructure costs for the three new strategic sites in South Cambs reflecting the requirements during the plan period (table 14.5) and total planned growth up to 2041. The total plan level requirement is estimated at just over £76m, whilst the post plan infrastructure cost is at £236m in total for all planned growth at the strategic sites. Based on a total of 13,700 dwellings, this equates to an average contribution of approximately £17,300 per dwelling to meet the total S106 requirements identified in the IDS.

14.4.2 Section 13 has demonstrated, using the Viability Study findings that a contribution ranging from £17,000 per dwelling to £20,000 per dwelling is viable and so the identified site specific S106 requirements can be fully funded. A buffer has been incorporated to allow for some adjustments (up or down) which are subsequently reflected in the scale of funding available to support the strategic transport infrastructure costs.

Table 14.5 Infrastructure costs (non transport) for strategic sites funded via S106 plan period

Strategic sites non transport plan period	2016-21	2021-26	2026-31	Grand Total
Bourn Airfield new settlement		**£9,290,116**	**£4,735,728**	**£14,025,844**
Community facilities		£18,018	£1,634,013	£1,652,031
Education		£8,510,000		£8,510,000
Health		£440,000		£440,000
Leisure, play and sports		£311,673	£2,742,724	£3,054,397
Libraries			£267,251	£267,251
Waste		£10,425	£91,740	£102,165
Cambourne West	**£9,785,752**	**£10,389,228**	**£1,785,534**	**£21,960,514**
Community facilities		£1,475,455		£1,475,455
Education	£8,510,000	£8,000,000		£16,510,000
Health	£825,000			£825,000
Leisure, play and sports	£426,427	£913,773	£1,785,534	£3,125,734
Waste	£24,325			£24,325
Waterbeach new town		**£8,510,000**	**£31,996,874**	**£40,506,874**
Community facilities			£1,643,623	£1,643,623
Education		£8,510,000	£24,510,000	£33,020,000
Health			£2,900,000	£2,900,000
Leisure, play and sports			£2,845,951	£2,845,951
Waste		£0	£97,300	£97,300
Grand Total	**£9,785,752**	**£28,189,344**	**£38,518,136**	**£76,493,232**

Table 14.6 Infrastructure costs (non transport) for strategic sites funded via S016 post plan period

Strategic sites non transport post plan period	2016-21	2021-26	2026-31	2031-41	Grand Total
Bourn Airfield new settlement		**£9,290,116**	**£4,735,728**	**£49,764,457**	**£63,790,301**
Community facilities		£18,018	£1,634,013	£243,844	£1,895,875
Education		£8,510,000		£41,020,000	£49,530,000
Health		£440,000			£440,000
Leisure, play and sports		£311,673	£2,742,724	£7,007,978	£10,062,375
Libraries			£267,251	£1,131,550	£1,398,801
Waste		£10,425	£91,740	£361,085	£463,250
Cambourne West	**£9,785,752**	**£10,389,228**	**£1,785,534**		**£21,960,514**
Community facilities		£1,475,455			£1,475,455
Education	£8,510,000	£8,000,000			£16,510,000
Health	£825,000				£825,000
Leisure, play and sports	£426,427	£913,773	£1,785,534		£3,125,734
Waste	£24,325				£24,325
Waterbeach new town		**£8,510,000**	**£31,996,874**	**£109,279,669**	**£149,786,543**
Community facilities			£1,643,623	£3,863,822	£5,507,445
Education		£8,510,000	£24,510,000	£78,550,000	£111,570,000
Health			£2,900,000		£2,900,000
Leisure, play and sports			£2,845,951	£21,371,447	£24,217,398
Libraries				£4,526,200	£4,526,200
Waste		£0	£97,300	£968,200	£1,065,500
Grand Total	**£9,785,752**	**£28,189,344**	**£38,518,136**	**£159,044,126**	**£235,537,358**

14.4.3 Table 14.7 shows that during the planned period the three strategic sites can contribute between £120m to £142m in s106 towards developer contributions (see blue highlight row in table 14.7). The amount depends on the scale of affordable housing required. This is sufficient to support the site specific infrastructure requirements identified in this study and there is capacity to contribute towards the cost of the strategic transport corridors.

14.4.4 Table 14.7 also shows the ability of the three strategic sites to meet between £340m to £400m in terms of total infrastructure costs for the total planned growth, including the post plan period. This is thus able to meet the estimated site specific infrastructure cost of £236m identified in table 14.6 and contribute towards the cost of the strategic transport corridors in the region of £90m to £150m (depending on the scale of the affordable housing contribution).

Table 14.7 Estimated S106 funding for the Strategic sites and the non strategic sites over plan and post plan period

Post planned growth	**Affordable at 30%**		Total	**Affordable housing at 40%**		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£166,500,000	£90,000,000	£256,500,000	£166,500,000	£50,000,000	£216,500,000
Bourne Airfield new settlement	£66,500,000	£33,000,000	£99,500,000	£66,500,000	£18,000,000	£84,500,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£16,000,000	£38,800,000
Sub total	£255,800,000	£145,200,000	£401,000,000	£255,800,000	£84,000,000	£339,800,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£260,312,000**	**£150,200,000**	**£410,512,000**	**£260,312,000**	**£89,000,000**	**£349,312,000**

Plan period growth	**Affordable at 30%**		Total	**Affordable housing at 40%**		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£37,925,000	£20,500,000	£58,425,000	£37,925,000	£11,275,000	£49,200,000
Bourne Airfield new settlement	£25,840,000	£12,920,000	£38,760,000	£25,840,000	£6,800,000	£32,640,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£15,600,000	£38,400,000
Sub total	£86,565,000	£55,620,000	£142,185,000	£86,565,000	£33,675,000	£120,240,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£91,077,000**	**£60,620,000**	**£151,697,000**	**£91,077,000**	**£38,675,000**	**£129,752,000**

14.5 Managing the infrastructure delivery of the transport corridors

14.5.1 Transport infrastructure costs makes up nearly 80% of the total infrastructure costs. The ten top highest cost items in the IDS are also transport related schemes. The transport infrastructure identified includes a range of schemes included in the TSCSC which aim to bring transformative change to the area's transport network. Many of these schemes will help to address current deficit and future transport needs in the area arising, as well as certain schemes specifically needed for strategic developments to come forward.

14.5.2 Table 14.8 below identifies the cost of all the transport schemes, identified by theme, corridor, local authority area and priority. The essential priority list currently reflects the City Deal list. The total infrastructure requirement to meet this essential list is estimated at £743m.

14.5.3 Table 14.8 also highlights schemes with the highest costs, some of which have already been discussed in section 4, relating to the possible dualling of the A10, and the busway corridor for the St Neots Cambridge Corridor. Depending on the options adopted it is possible for the schemes costs to come down, thus reducing the overall infrastructure costs.

14.5.4 For the purpose of the IDS, the transport corridors could be further prioritised by focusing investment and resources on those transport corridors which support the planned growth.

14.5.5 Table 14.9 summarises the costs for St Neots to Cambridge and Ely to Cambridge transport corridors which support the plan and post plan period growth at Cambourne West, Bourn Airfield new village and Waterbeach.

14.5.6 This prioritisation would reduce the essential transport corridor costs from £742m to the IDS priority infrastructure list of £331m. This is not to say that other transport costs are not essential, however, in terms of prioritise for delivery the focus has been refined to those corridors critical to the delivery of planned growth.

14.5.7 We have already noted above, that there is potential for the strategic site schemes to contribute, between £89m to £150m[28] to support the delivery of these two strategic transport corridors. This scale of developer contribution helps to reduce the transport corridor funding shortfall for the two relevant corridors to between £181m to £242m. The ranges depend on the scale of affordable housing adopted - we have considered 30% to 40% for this assessment.

14.5.8 As noted in section four, there are a number of broad ranging cost options being considered for these corridors. The scheme costs will be refined following the outcome of the A428 study consultation and the A10 corridor study, and could result in significant reductions. The findings from these studies will inform further refinements of the funding shortfall.

14.5.9 There is also an impetus from the site promoters to bring the development potential for the Waterbeach new town forward based on the feedback at the developer surgery. The City Deal scheme priority could change in the light of this context and the A10 study will help inform what is needed when to allow development to proceed.

14.5.10 Finally, the major transport infrastructure, such as public transport and cycling improvements of transport corridors into Cambridge, also perform a wider sub regional role in serving the Greater Cambridge area. For this reason, it is noted that the major development proposals in the Local Plans are not likely to be responsible for the full cost of these corridors.

14.5.11 We would recommend that an early dialogue takes place with the key service provider to look at refining some of the costs, reducing the requirements and exploring opportunities for some mainstream and other sources of funding.

[28] Taking account of the £5m expected from the Darwin 2 scheme.

Table 14.8 Transport corridors by local areas distinguished as essential or desirable

Transport corridors	Desirable	Essential	Grand Total
Cambridge Urban Area	**£59,656,500**	**£278,600,000**	**£338,256,500**
Busway/bus	**£0**	**£231,100,000**	**£231,100,000**
Cambridge		£25,800,000	£25,800,000
Cambridge orbital	£0	£83,400,000	£83,400,000
Cambridge radials		£27,300,000	£27,300,000
Newmarket/Cambridge corridor		£94,600,000	£94,600,000
Cycleways	**£25,795,000**	**£30,200,000**	**£55,995,000**
Cambridge	£25,630,000	£30,200,000	£55,830,000
Non transport corridor	£165,000		£165,000
Highway	**£850,000**		**£850,000**
Cambridge	£850,000		£850,000
Park & ride		**£17,300,000**	**£17,300,000**
Newmarket/Cambridge corridor		£17,300,000	£17,300,000
Public realm	**£33,011,500**		**£33,011,500**
Cambridge	£33,011,500		£33,011,500
Rail	**£0**		**£0**
Cambridge	£0		£0
South Cambridgeshire	**£53,500,000**	**£464,140,000**	**£517,640,000**
Busway/bus	**£15,000,000**	**£197,340,000**	**£212,340,000**
Cambridge	£0		£0
Cambridge orbital		£23,040,000	£23,040,000
Ely/Cambridge corridor		£46,100,000	£46,100,000
Haverhill/Cambridge corridor		£36,000,000	£36,000,000
Royston/Cambridge corridor		£15,800,000	£15,800,000
St Neots/Cambridge corridor	£15,000,000	£76,400,000	£91,400,000
Cycleways	**£38,500,000**	**£34,800,000**	**£73,300,000**
Ely/Cambridge corridor		£14,400,000	£14,400,000
Haverhill/Cambridge corridor	£6,000,000	£4,800,000	£10,800,000
Non transport corridor	£5,500,000		£5,500,000
Royston/Cambridge corridor	£2,000,000	£7,200,000	£9,200,000
Saffron Walden/Cambridge corridor	£10,000,000		£10,000,000
St Neots/Cambridge corridor	£15,000,000	£8,400,000	£23,400,000
Highway		**£151,400,000**	**£151,400,000**
Ely/Cambridge corridor		£129,800,000	£129,800,000
Royston/Cambridge corridor		£21,600,000	£21,600,000
St Neots/Cambridge corridor		£0	£0
Park & ride	**£0**	**£47,500,000**	**£47,500,000**
Ely/Cambridge corridor	£0	£11,500,000	£11,500,000
Haverhill/Cambridge corridor		£7,200,000	£7,200,000
Royston/Cambridge corridor		£17,300,000	£17,300,000
St Neots/Cambridge corridor		£11,500,000	£11,500,000
Rail	**£0**	**£33,100,000**	**£33,100,000**
Ely/Cambridge corridor	£0	£33,100,000	£33,100,000
Newmarket/Cambridge corridor	£0		£0
Royston/Cambridge corridor	£0		£0
Grand Total	**£113,156,500**	**£742,740,000**	**£855,896,500**

Source PBA November 2015

Table 14.9 Transport infrastructure corridors costs supporting the three main strategic sites for plan and post plan period (same)

Transport corridors for strategic sites	2016-21	2021-26	2026-31	Grand Total
Ely/Cambridge corridor		**£0**	**£234,900,000**	**£234,900,000**
Busway/bus			£46,100,000	£46,100,000
Cycleways			£14,400,000	£14,400,000
Highway			£129,800,000	£129,800,000
Park & ride		£0	£11,500,000	£11,500,000
Rail		£0	£33,100,000	£33,100,000
St Neots/Cambridge corridor	**£97,500,000**	**£28,800,000**		**£126,300,000**
Busway/bus	£62,600,000	£28,800,000		£91,400,000
Cycleways	£23,400,000			£23,400,000
Highway	£0			£0
Park & ride	£11,500,000			£11,500,000
Grand Total	**£97,500,000**	**£28,800,000**	**£234,900,000**	**£361,200,000**

14.6 Summary of IDS infrastructure funding

The prioritised infrastructure funding gap

14.6.1 When considered against the delivery of the strategic sites, and other planned growth in the two Local Plans, the essential infrastructure outstanding requirement is reduced to approximately £650m. This can only be secured by aligning costs and available funding, and recommending actions to prioritise the transport corridors that are relevant to the planned growth. The total cost assessment needs to focus on targeting limited resources to those schemes that are essential to the delivery of planned growth. The estimated cost of £650m, as set out in this section, consists of the following :

- Cambridge City essential infrastructure cost at £45m.
- Cross border infrastructure currently estimated at £18m, this is to be reviewed as part of the ongoing work on this new site.
- South Cambs non strategic essential infrastructure cost at £38m.
- South Cambs strategic sites essential infrastructure at £236m to post plan growth.
- Prioritised transport infrastructure corridor, focusing action on essential infrastructure costs at £331m (these costs will be revised pending the outcome of the A428 consultation and the A10 study).

14.6.2 The highest costs relate to the strategic site and the transport infrastructure related to the strategic sites.

The total estimated developer funding contribution

14.6.3 An estimated £378m - £439m of developer funding to support the £650m essential infrastructure costs has been identified as follows:

- Cambridge estimated CIL at £32.4m
- South Cambs estimated CIL and S106 for the non strategic sites is £21m
- South Cambs strategic essential infrastructure for the strategic site specifics is £236m
- A South Cambs strategic sites essential infrastructure S106 contribution towards the strategic transport corridor costs is between £89m to £150m.

14.6.4 If the scale of affordable housing is reduced then more of this funding gap can be met, for instance at 30% affordable housing, £150m could be secured to support the strategic transport corridor.

The role of other non developer funding

14.6.5 The major transport corridors identified in this study, which make up a substantial element of the transport costs, also perform a wider sub regional role in serving the Greater Cambridge area. For this reason, it is noted that the major development proposals in the Local Plans are not likely to be responsible for the full cost of these corridors; other funding too will need to support these costs.

14.6.6 As detailed in chapter 12, there are a range of non-developer infrastructure funding sources which will assist the delivery of essential infrastructure in the Cambridge area. The most significant of these is the City Deal. Up to £500m funding specifically designed to provide infrastructure to help unlock growth. City Deal is not a replacement for developer funding, but

it will provide a significant funding boost, and added certainty regarding commitment to delivery.

14.6.7 Essential transport schemes identified in the infrastructure schedules have included the full estimated cost of the City Deal eligible transport schemes identified in the TSCSC. Future City Deal schemes will undergo a prioritisation process, and exploration of scheme options, to focus funding where it supports housing and jobs growth, and support delivery of the Local Plans.

14.6.8 City Deal funding can also help a vital role in forward funding infrastructure delivery, to ensure infrastructure is available in a timely manner to support development; some of this funding can then be clawed back as developer contributions at a time that enables initial cash flows constraints are minimised. The programme provides flexibility to enable growth to be supported in this way.

14.6.9 Other sources of funding could also be available. Although not specifically identified, it is likely, based on recent delivery of education infrastructure, that some Basic Needs funding and prudential borrowing could be available to support some of the non strategic sites. The Local Transport Fund allocation should also contribute towards the cost of some of the transport infrastructure identified in this study over the plan period. Further work will be needed to estimate the scale of contributions that can be anticipated from these sources.

14.6.10 The total cost of transport infrastructure schemes, including essential and desirable schemes, exceeds the level of funding identified. This is not unusual when considering a long term strategic plan alongside existing infrastructure deficits that exist within the area.

14.6.11 Where a shortfall in funding may exist, significant levels of funding opportunities have been identified, that can be prioritised to enable planned growth to take place in a sustainable manner. The Councils and the developers promoting the strategic sites have a track record of delivering growth, including strategic development sites and new settlements.

14.6.12 The phasing of development and upfront investment in strategic infrastructure can greatly assist developers with cash flow issues in the early phases of delivery, when there are already high site enabling costs to be met. Thus upfront investment in strategic transport corridors by the local authorities will support delivery of strategic sites and enable some developer funding to be captured later in the post plan period towards the cost of specific identified items of transport infrastructure.

14.6.13 Planning policies will need to be scripted in a flexible manner, particularly in terms of linking to a live infrastructure delivery plan and allowing variations to the scale of 40% affordable housing sought at a site specific stage, subject to viability.

PART 5: DELIVERY RECOMMENDATIONS

15 DELIVERY CONCLUSIONS AND RECOMMENDATIONS

15.1 Introduction

15.1.1 This study has undertaken an assessment of infrastructure to inform the deliverability considerations of the emerging Local Plans for South Cambridge District Council and Cambridge City Council. The approach has been framed by the requirements of the National Planning Policy Framework. The IDS has been prepared in parallel with a Viability Assessment of the strategic sites and the plan wide growth.

15.1.2 The IDS considers the delivery and developability of four strategic sites know as land North of Cherry Hinton, Waterbeach new town, Bourn Airfield new village and Cambourne West, as well as growth in the Cambridge Urban Area and South Cambs rural areas. The approach has included input from the strategic site promoters and interviews with key infrastructure service providers. The IDS reflects the delivery of growth in the plan period and also beyond the plan period to arrive at view on the ability to support the strategic infrastructure requirements.

15.2 Utility infrastructure findings

15.2.1 Based on the broad growth assessment to utilities, no technical or licensing barriers to growth have been identified, that would prevent the delivery of the planned growth. Potential pinch points in capacity and the requirements for additional reinforcements and new infrastructure requirements have been identified. The site promoters are already working with the respective utilities infrastructure providers to plan for capacity requirements. The funding of utilities infrastructure has been factored into the viability cost assessments to reflect a £20k per dwelling allowance for site enabling infrastructure costs.

It is recommended

15.2.2 We recommend the establishment of a Utilities Forum meeting once or twice a year to exchange information on planned growth and impact on existing capacity and developing a possible approach to spreading costs across the development sites, and informing the Asset Management Plans. The initial response from utilities providers to this suggestion to us has been very positive. The coordination of this type of strategic infrastructure enabling activity could be led by the Councils or the LEP or other similar strategic body with a responsibility for promoting the timely delivery of planned growth

Land north of Cherry Hinton

15.2.3 The strategic site referred to as land north of Cherry Hinton is at an early stage, work has commenced to identify any potential site constraints and assess the effect of the adjoining operational airport site. Evidence assessments are expected to commence in autumn 2015 to consider constraints, impact of the airport and navigational equipment, transport, infrastructure and environmental impact in more detail and this will further inform the developability of the site. For this study we have relied on the findings of the Cambridgeshire Horizons Water Cycle Study (2011) and the joint position statement on foul water and environment capacity in relation to the proposed development within South Cambridgeshire District signed by the Environment Agency, Anglian Water and South Cambridgeshire District Council (see Appendix E).

It is recommended

15.2.4 Given this site is at an early stage, we recommend the local authorities should seek to review evidence on critical enabling infrastructure and seek the views of Anglian Water concerning any possible delivery issues that might affect the delivery of waste water infrastructure.

15.3 Transport infrastructure

15.3.1 There is now a radical longer term transport strategy[29] in place to meet the needs of the area and accommodate the planned growth. The transport strategy is predicated on continuing to create a modal shift in transport patterns. The strategy is closely aligned to the planned growth and is aimed at creating strong radial and orbital connective between surrounding settlements and employment areas within Cambridge. This is based around the delivery of transport corridors into Cambridge from South Cambridgeshire and a Cambridge city wide 'hub'.

15.3.2 The table 15.1 sets out the transport infrastructure requirements, phasing and costs identified in the IDS 2015 assessment by transport corridor. The information informing the transport assessment has been provided by Cambridgeshire County Council based on various sources as described in section 4.

Table 15.1 Summary of transport requirements by transport corridors (essential and desirable)

Transport corridors (essential)	Busway/bus	Cycleways	Highway	Park & ride	Public realm	Rail	Grand Total
Cambridge	£25,800,000	£55,830,000	£850,000		£33,011,500	£0	£115,491,500
Cambridge orbital	£106,440,000						£106,440,000
Cambridge radials	£27,300,000						£27,300,000
Ely/Cambridge corridor	£46,100,000	£14,400,000	£129,800,000	£11,500,000		£33,100,000	£234,900,000
Haverhill/Cambridge corridor	£36,000,000	£10,800,000		£7,200,000			£54,000,000
Newmarket/Cambridge corridor	£94,600,000			£17,300,000		£0	£111,900,000
Non transport corridor		£5,665,000					£5,665,000
Royston/Cambridge corridor	£15,800,000	£9,200,000	£21,600,000	£17,300,000		£0	£63,900,000
Saffron Walden/Cambridge corridor		£10,000,000					£10,000,000
St Neots/Cambridge corridor	£91,400,000	£23,400,000	£0	£11,500,000			£126,300,000
Grand Total	**£443,440,000**	**£129,295,000**	**£152,250,000**	**£64,800,000**	**£33,011,500**	**£33,100,000**	**£855,896,500**

15.3.3 Two corridors are especially important in helping to support the delivery of major planned growth:

- **Ely to Cambridge (A10N) corridor** supports the Waterbeach new town, which during the plan period comprises of 2,050 dwellings and beyond the plan period it will support a further 7,000 units making a total of 9,000. The corridor also supports the consented urban extension of 4,000 dwellings at Ely (outside the study area), and links to the Cambridge Science Park and Cambridge Research Park and also Cambridge Northern Fringe East, an area with significant potential for employment development being considered through a joint Area Action Plan.

- **The St Neots to Cambridge (A428) corridor** supports Cambourne West and Bourn Airfield new settlement. The plan allocation for Cambourne West is 1,200 dwellings, though there is a current planning application for 2,350 dwellings. The Bourn Airfield new settlement has a provision of 1,360 dwellings during the plan period and a further 2,140 dwellings beyond the plan period. The corridor will also support consented development at St Neots (outside the study area), the major employment site at West Cambridge and the mixed use sites of North West Cambridge and the NIAB sites (also known as Darwin Green).

[29] Transport Strategy for Cambridge and South Cambridgeshire March 2014 – Transport Strategy and High Level Programme

15.3.4 Table 15.2 summarises the transport costs for the corridors supporting the three main strategic sites.

Table 15.2 Transport infrastructure corridors costs supporting the three main strategic sites for plan and post plan period (same)

Transport corridors for strategic sites	2016-21	2021-26	2026-31	Grand Total
Ely/Cambridge corridor		**£0**	**£234,900,000**	**£234,900,000**
Busway/bus			£46,100,000	£46,100,000
Cycleways			£14,400,000	£14,400,000
Highway			£129,800,000	£129,800,000
Park & ride		£0	£11,500,000	£11,500,000
Rail		£0	£33,100,000	£33,100,000
St Neots/Cambridge corridor	**£97,500,000**	**£28,800,000**		**£126,300,000**
Busway/bus	£62,600,000	£28,800,000		£91,400,000
Cycleways	£23,400,000			£23,400,000
Highway	£0			£0
Park & ride	£11,500,000			£11,500,000
Grand Total	**£97,500,000**	**£28,800,000**	**£234,900,000**	**£361,200,000**

15.3.5 Further work is underway to refine the options and cost requirements for the two transport corridors along the A428 and the A10 North. This is being undertaken jointly by the various strategic site promoters and local authorities. An options assessment of the A10 scheme delivery is expected to be completed by spring 2016. This assessment should start to refine the composition of the corridor (see section 4 for a brief review of the cost differentials between different options being considered for this scheme, particularly the highway costs).

15.4 Strategic and non strategic site delivery

15.4.1 The review of the infrastructure requirements and funding for the non strategic sites in Cambridge City Council and South Cambridgeshire District Council shows that the scale of growth is deliverable; however, careful prioritisation will be required to ensure that the forecast CIL revenues will meet the costs of these schemes, particularly education infrastructure. It is unlikely that there will be any developer funding from these schemes to contribute towards the cost of strategic transport costs, unless alternative funding can be identified to meet the cost of education infrastructure.

15.4.2 With careful prioritisation, exploring the options for shared service options for community and open space facilities, we consider the scale of this funding gap to support the needs of the non strategic sites is manageable but unlikely to be able to support much in the way of strategic transport costs.

15.4.3 Our infrastructure assessment and funding of the site specific requirements for the three strategic sites at Waterbeach new town, Bourn Airfield new village and Cambourne West, confirms there is sufficient funding to deliver site specific S106 infrastructure requirements for all three sites. We used the Viability Assessment assumptions as a starting point in arriving at the scale of contributions the sites can afford.

15.4.4 The details of our approach have been set out in section 14 the following summary table provides an indication of the scale of developer contributions that could be sought from the three sites to meet site specific requirements and make a contribution towards some of the strategic transport corridor costs.

15.4.5 Cambridgeshire County Council is currently assessing how to determine the scale of developer contributions appropriate from the strategic sites to fund identified elements of these transport corridor costs. It must be emphasised that the findings set out here are working assumptions to inform the IDS and should be refined once there is an agreed approach from Cambridgeshire County Council (preferably in consultation with the site promoters).

Summary of S106 assessment for South Cambridgeshire District Council

15.4.6 The sum of these various S106 contributions results in the following estimate total S106 for the planned development in SCDC area.

Table 13.6 Summary of infrastructure funding and variations in affordable housing during plan and post plan period

Post planned growth	Affordable at 30%		Total	Affordable housing at 40%		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£166,500,000	£90,000,000	£256,500,000	£166,500,000	£50,000,000	£216,500,000
Bourne Airfield new settlement	£66,500,000	£33,000,000	£99,500,000	£66,500,000	£18,000,000	£84,500,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£16,000,000	£38,800,000
Sub total	£255,800,000	£145,200,000	£401,000,000	£255,800,000	£84,000,000	£339,800,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£260,312,000**	**£150,200,000**	**£410,512,000**	**£260,312,000**	**£89,000,000**	**£349,312,000**

Plan period growth	Affordable at 30%		Total	Affordable housing at 40%		Total
S106 for South Cambs	Site specific S106	Transport S106		Site specific S106	Transport S106	
Waterbeach new town	£37,925,000	£20,500,000	£58,425,000	£37,925,000	£11,275,000	£49,200,000
Bourne Airfield new settlement	£25,840,000	£12,920,000	£38,760,000	£25,840,000	£6,800,000	£32,640,000
Cambourne West	£22,800,000	£22,200,000	£45,000,000	£22,800,000	£15,600,000	£38,400,000
Sub total	£86,565,000	£55,620,000	£142,185,000	£86,565,000	£33,675,000	£120,240,000
Add S Cams £3k per unit for CIL sites	£4,512,000	£0	£4,512,000	£4,512,000	£0	£4,512,000
Darwin 2 transport S106	£0	£5,000,000	£5,000,000	£0	£5,000,000	£5,000,000
Total estimatedS106 in South Cambs	**£91,077,000**	**£60,620,000**	**£151,697,000**	**£91,077,000**	**£38,675,000**	**£129,752,000**

15.4.7 Waterbeach new town is estimated to contribute between £216.5m to £256.5m in S106 developer contributions (depending on the scale of affordable housing) and of this, £50m to £90m could be available for strategic transport infrastructure.

15.4.8 Bourn Airfield new village is estimated to contribute between £84.5m to £99.5m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £18m to £33m.

15.4.9 Cambourne West is estimated to contribute between £39m to £45m in total for S106 contributions (depending on the scale of affordable housing) and of this the contributions to strategic transport infrastructure range from £16m to £22m Transport capacity thresholds

15.4.10 The specific phasing of transport schemes relative to delivery of development will need to be considered though more detailed work, some of this is most likely to be undertaken as part of a detailed transport assessment. It is not the case that all infrastructure outlined in this study is likely to be needed before the commencement of any development.

15.4.11 However, the Inspectors letter specifically questioned what quantum of growth would be acceptable along the A428 corridor – this would relate to the Bourn Airfield new settlement and Cambourne West scheme. Similarly, it would be helpful to understand the threshold on the scale of growth that would be acceptable on the A10 corridor.

It is recommended

15.4.12 We would recommend that an early dialogue takes place with all the key service providers to look at refining some of the costs, reducing the requirements and exploring opportunities for some mainstream funding to reduce the funding shortfall.

15.4.13 Based on the assessment of site specific infrastructure, we conclude the strategic sites can meet their own site specific infrastructure requirements and are able to make contribution towards the delivery of the strategic transport infrastructure requirements. However, as the costs are refined, we recommend that the local authorities should work with the site promoters and Cambridgeshire County Council to agree an approach to costing the infrastructure requirements to support the delivery of the strategic transport infrastructure and review any possible threshold to the scale of growth that will be acceptable, possible re-prioritising the City Deal schemes to reflect the planned growth, considering the phasing and implementation strategies for the strategic transport corridors to align with the site delivery plans. There will

also be a need to identify any shortfall in funding that cannot be met by the strategic site promoters.

15.5 The role of other non developer funding

15.5.1 The major transport corridors identified in this study, which make up a substantial element of the transport costs, also perform a wider sub regional role in serving the Greater Cambridge area. For this reason, it is noted that the major development proposals in the Local Plans are not likely to be responsible for the full cost of these corridors; other funding too will need to support these costs.

15.5.2 As detailed in section 12, there are a range of non-developer infrastructure funding sources which will assist the delivery of essential infrastructure in the Cambridge area. The most significant of these is the City Deal. Up to £500m funding specifically designed to provide infrastructure to help unlock growth. City Deal is not a replacement for developer funding, but it will provide a significant funding boost, and added certainty regarding commitment to delivery.

15.5.3 Essential transport schemes identified in the infrastructure schedules have included the full estimated cost of the City Deal eligible transport schemes identified in the TSCSC. Future City Deal schemes will undergo a prioritisation process, and exploration of scheme options, to focus funding where it supports housing and jobs growth, and support delivery of the Local Plans.

15.5.4 City Deal funding can also help a vital role in forward funding infrastructure delivery, to ensure infrastructure is available in a timely manner to support development; some of this funding can then be clawed back as developer contributions at a time that enables initial cash flows constraints are minimised. The programme provides flexibility to enable growth to be supported in this way.

15.5.5 Other sources of funding could also be available. Although not specifically identified, it is likely, based on recent delivery of education infrastructure, that some Basic Needs funding and prudential borrowing could be available to support some of the non strategic sites. The Local Transport Fund allocation should also contribute towards the cost of some of the transport infrastructure identified in this study over the plan period. Further work will be needed to estimate the scale of contributions that can be anticipated from these sources.

15.5.6 The total cost of transport infrastructure schemes, including essential and desirable schemes, exceeds the level of funding identified. This is not unusual when considering a long term strategic plan alongside existing infrastructure deficits that exist within the area.

15.5.7 Where a shortfall in funding may exist, significant levels of funding opportunities have been identified, that can be prioritised to enable planned growth to take place in a sustainable manner. The Councils and the developers promoting the strategic sites have a track record of delivering growth, including strategic development sites and new settlements.

15.5.8 The phasing of development and upfront investment in strategic infrastructure can greatly assist developers with cash flow issues in the early phases of delivery, when there are already high site enabling costs to be met. Thus upfront investment in strategic transport corridors by the local authorities will support delivery of strategic sites and enable some developer funding to be captured later in the post plan period towards the cost of specific identified items of transport infrastructure.

15.5.9 Planning policies will need to be scripted in a flexible manner, particularly in terms of linking to a live infrastructure delivery plan and allowing variations to the scale of 40% affordable housing sought at a site specific stage, subject to viability.

15.6 The Infrastructure delivery schedule to be kept a 'live document'

15.6.1 This infrastructure assessment is seeking to assess something that is constantly changing due to the following:

- The precise nature and timing of growth is not fixed, meaning that being precise about the required infrastructure is not appropriate
- Public services, legislation and hence the infrastructure that service providers require is in a state of flux e.g. recent changes to health legislation or education legislation means there is greater scope for private sector providers.
- Technology is likely to affect infrastructure requirements over the next few years in ways which may be difficult to predict.
- Efficiency saving means service providers are looking to retrench and seek joint use of buildings e.g. community/PCT buildings/LA all of which alter infrastructure demand and future requirements.
- Priority for what is critical or desirable infrastructure will change depending on funding and other considerations.
- Most service providers do not plan beyond three to five years (if that) as generally funding is not guaranteed for longer term and so cannot by definition be expected to know their precise requirements in (say) ten or fifteen years' time.
- This means that long term infrastructure requirements as a result of growth are difficult to predict and are necessarily subject to considerable change and so the information will need to be regularly reviewed.

It is recommended

15.6.2 That the IDS should be kept as a 'live' document and is backed up with a strong delivery mechanism. Therefore the IDS assessment provides a best estimate at this point in time, but the IDS will need to be kept under close review. This study should be considered as a sketch plan rather than a detailed route map to delivery. It is important to remember that in this study infrastructure requirements are only dealt with at a strategic level. As plans are developed, then specific development based infrastructure assessments will need to be carried out that will map out more accurately the actual infrastructure needs and costs based on greater detail and understanding of capacity at that point in time.

15.6.3 As more detail emerges, the IDS should be refined and updated on at least an annual basis and in some instances possibly more regularly. This document should be treated as a 'live toolkit' rather than a static study. It has the potential to add value beyond the Local Plan Examination and become an invaluable tool to support the delivery of growth.

15.7 Delivery orientated mechanism to be established

15.7.1 For the Councils to demonstrate a 'deliverable' five year housing supply and 'developable' longer term supply, it will be necessary to have infrastructure in place to support short term growth, and a mechanism in place to demonstrate that the medium to longer term growth is developable. Given the estimated shortfall in funding and the significant modal shift in transport use patterns, there is a role for proactive action, to carefully plan and manage the infrastructure funding and delivery to ensure infrastructure to meet a rolling programme of five year housing supply remains 'deliverable'.

15.7.2 The NPPF recognises this by distinguishing between deliverable schemes for the first five years and developable schemes for the rest of the plan. The cash flow assessment of 'critical

infrastructure shows how the infrastructure delivery can be managed and reduces the overall annual cost requirement.

15.7.3 This assessment has shown that the potential 'ask' is big and the funding is limited to meet the essential requirements, it is not appropriate to work to an unrealistic 'wish list'. Although the planned growth is assessed as being developable, there will need to be some important decisions on prioritising infrastructure, minimising costs and seeking innovative ways to deliver services. The local authorities in this area are already familiar with move to create single joint service hubs, and looking at ways to reduce and remove infrastructure that is not essential.

It is recommended

15.7.4 It is recommended that a formal 'infrastructure delivery mechanism' should be established. This will help the political process by clarifying decisions that need to be taken, when they need to be taken, and what the ramifications of choices are. The Infrastructure Delivery Mechanism would need to be practically orientated and could focus on the following:

- Focus on how problems are to be resolved, priorities determined, risks identified and plan ahead to support the delivery of the first five years of growth.
- Use the tools developed as part of this study to keep up to date the critical path analysis and the IDS to refine issues in the infrastructure time sequence. This would allow the focusing of resources on short term issues and a process of active planning for medium term issues. Longer-term problems (where it is clear that fundamental changes in funding regimes or market conditions are required) could be left for future work;
- Have a specific officer with responsibility for infrastructure planning and project managing including responsibility for managing the critical path, set dates for those issues to be resolved, and clarify delivery roles and responsibilities for different organisations and individuals. This officer could also have the responsibility for overseeing the Community Infrastructure Levy, management of the Regulation 123 list and CIL monitoring and spend prioritisation.
- Establish a Member level decision making process to inform priorities for using the developer funding to manage infrastructure delivery. This should also consider links to the City Deal Assembly and Executive Board in order to consider how to align priorities for investment.
- Engage with cross border partners, particularly Cambridgeshire County Council to ensure strategic infrastructure is carefully planned and delivered and any claw back of City Deal funding is carefully managed.

Appendix A Stakeholder Consultations

A.1 Strategic sites developer / promoter surgeries

A.1.1 The table below sets out the dates and attendees at the strategic site developer surgeries.

Table A1:

Strategic site	Date	Attendees
Cambourne West new settlement	8th September 2015	Stephen Kosky Barton Willmore, Julian Clark TPA, David Roberts, Caroline Hunt, Jonathan Dixon, Ed Durrant, James Fisher SCDC Shilpa Rasaiah
Bourn airfield	8th September 2015	Mike Lambert, Jo Clark, Andrew Fisher – Countryside Properties, Andrew Martin – Andrew Martin Associates Ian Mitchel – Mayer Brown. Jonathan Dixon, Ed Durrant, James Fisher SCDC Shilpa Rasaiah
Waterbeach new town	9th September 2015	Chris Goldsmith RLW, Tim Leathes Urban & Civic, Ron Henry PBA, Chris Gent WSP, Simon Clelow Clelow Associates, Matt Clarke, Mike Newton Boyer Planning, Darren Bell Julia Foster David Lock Associates, Andrew Rawlings Motts, Bernie Foulkes LDA, David Roberts, Caroline Hunt, Paul Mumford, SCDC Shilpa Rasaiah
Land North of Cherry Hinton	6th October 2015	Jon Alsop, LDA David Bell, LDA, Sara Saunders, Shilpa Rasaiah
Land North of Cherry Hinton	8th October 2015	Richard Oakley, Marshall Group Properties Ltd, Sara Saunders, Shilpa Rasaiah

A.2 Infrastructure service provider consultations

A.2.1 Stakeholder meetings were held with the following infrastructure service provider:

- Various officers from transport and S106 teams of Cambridge County Council – IDS schedule 26th August 2015
- Jonathan Dixon, James Fisher, Joanna Gilbert Wooldridge, SCDC and Cambridge City Council – IDS update – 7th September 2015
- Jeremy Smith, Mike Salter, Matthew Bowles, Transport Teams, Cambridge County Council - 23rd September 2015
- Ian Burns, National Health Service – Property Services – 14th October 2014
- Paul van de Bulk, Learning/Children, Families and Adults Services CCC – 9th October 2014
- Jim Whiteley, UK Power Networks, - various telephone meetings throughout October.
- Mike Sloane, Cambridge Water Company, various telephone meetings.

A.2.2 The IDS was sent to the following consultees by SCDC and Cambridge City Council to update and return. The table below outlines the consultees and responses received.

Table A2:

Consultee	Organisation	Date contacted	Comment
Sinead Odonaghue and others	Cambridgeshire County Council	September 2015	Update of County Council infrastructure list.
Ian Burns	NHS Property Services Ltd	Oct 2015	Inputs into Health assessment provided
Paul Van De Bulk	Learning/Children, Families and Adults Services CCC	Oct 2015	Inputs into Education assessment provided
Jim Whiteley	UK Power Networks	IDS Schedule sent Sept 2015 by Cambridge City Council	Completed schedule returned Oct 2015
Sue Bull	Anglian Water Services Ltd	Oct 2015	Completed schedule returned Oct 2015
Andy	N Power Renewables	Oct 2015	
Adam Ireland	Environment Agency	Oct 2015	
Jan Taylor	Cambridgeshire County Council Waste	Oct 2015	
Guy Belcher	Cambridge City Council	September 2015	Inputs on nature conservation
Rob Mungovan	SCDC	September 2015	Inputs on nature conservation
Mick Lawrence	Cambridgeshire Fire Service	September 2015	No response
Colin Luscombe	Cambridgeshire Police and Crime Commissioner	September 2015	Completed schedule returned September 2015
Iain Green	SCDC	September 2015	No response
Kylie Laws	SCDC and Cambridge City Council	September 2015	Inputs on waste
Ian Ross	Cambridge City Council	September 2015	Inputs on leisure
Simon Bunn	Cambridge City Council	September 2015	Inputs on drainage and flood risk

Appendix B Transport corridors and assumptions

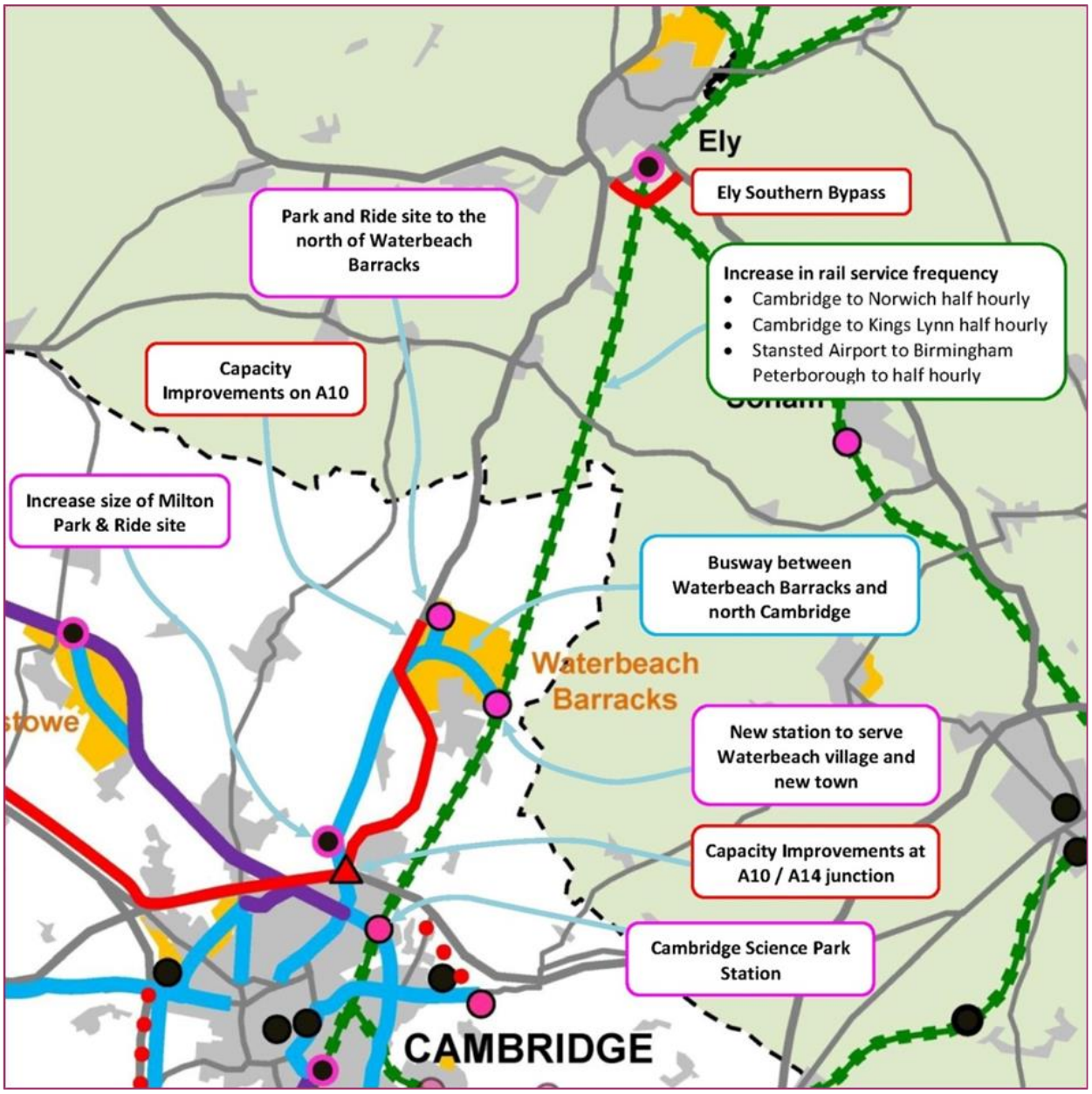
B.1 Ely to Cambridge (A10N) corridor

B.1.1 The linear corridor around the A10 (north) and existing railway line linking Ely to the north (outside the study area) with the Cambridge City boundary. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth of 9,000 dwellings at Waterbeach new town, and the consented urban extension of 4,000 dwellings at Ely, as well as two major employment sites at the Cambridge Research Park and the Cambridge Science Park and proposed expansion of this.

Figure B1: List of interventions on the Ely and Waterbeach to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	King's Lynn to Cambridge service increase in frequency to half hourly	Short
	Norwich to Cambridge service increased in frequency to half hourly	Short-Medium
	King's Lynn, Norwich and Birmingham New St trains between Ely and Cambridge to stop at Cambridge Science Park	Short
	Rolling stock for King's Lynn and Cambridge to London Kings Cross fast services to be replaced with new IEP or Thameslink rolling stock	Medium
	Improved interchange at Waterbeach and Ely	Medium
	Platform lengthening at Ely (and Waterbeach if needed – see below) to take 12-carriage Thameslink trains or 10-carriage InterCity Express trains.	Medium
	Electrification of rail lines feeding Cambridge in Network Rail CP6 (2019 to 2024)	Long
	Replacement of diesel rolling stock on Norwich to Cambridge and Birmingham to Stansted services	Long
	Waterbeach Barracks to north Cambridge Busway	Long
	Waterbeach Park & Ride	Long
	A new station at Waterbeach to serve the village and the new town on the Waterbeach Barracks site.	Long
	Consideration of a new railway station at Addenbrooke's	Medium-Long
Walking and cycling	Complete the direct cycle route from Cambridge to Cambridge Business Park on the A10 at Waterbeach.	Short-Medium
	Extension of cycle route from Cambridge Business Park to Stretham and Ely.	Long
	Create network connecting to transport interchanges along corridor	Short-Medium
	Create network focussed on catchment of Cottenham and Impington Village Colleges	Short-Medium
	Network of cycle links between the new town on Waterbeach Barracks and north Cambridge, Stretham and Ely, and the surrounding villages.	Long
Highway capacity	Capacity improvements on the A10 to address existing capacity issues and the impact of the Waterbeach Barracks development. The capacity required will informed by consideration of: • The capacity of the network to cater for new vehicular trips into Cambridge. • The capacity of the A14	Medium-Long

	• The new transport capacity that investment in bus, Guided bus, rail, pedestrian and cycle infrastructure will bring.	
	Capacity enhancements to the A14 / A10 Milton interchange, informed by the factors noted above	Medium-Long
	Longer term consideration of the capacity of the A10 between Ely and Waterbeach.	Long



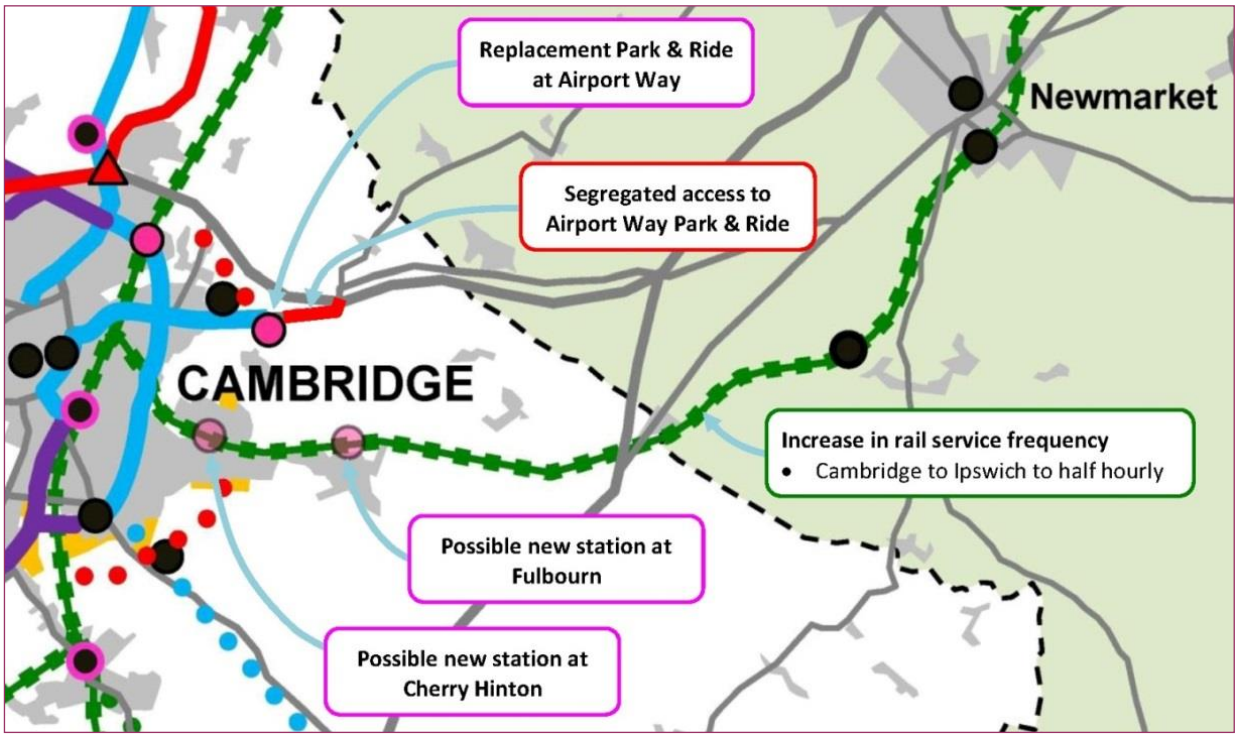
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.2 Newmarket to Cambridge (A1303) corridor

B.2.1 The linear corridor around the A1303 Newmarket Road and the existing railway line between Newmarket and Cambridge links the town of Newmarket (outside the study area) with the eastern Cambridge City boundary. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes the 'wing' development site.

Figure B2: List of interventions on the Newmarket to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	Electrification of rail lines feeding Cambridge and Newmarket	Medium
	Doubling of track or passing loops between Newmarket and Cambridge	Medium / Long
	Ipswich to Cambridge rail service increase in frequency to half hourly	Short / Medium
	Relocation of Newmarket Road Park & Ride site to Airport Way	Long
	Provision of segregated access from Quy interchange to new Park & Ride site	Long
	Consideration of a new railway station at Addenbrooke's	Medium-Long
	Consideration of a new railway station at Cherry Hinton	Medium-Long
	Consideration of a new railway station at Fulbourn	Medium-Long
Walking and cycling	Create network connecting employment sites	Short / Medium
	Create network connecting to transport interchanges along corridor	Short / Medium
	Create network focussed on catchment of Bottisham Village College	Short / Medium



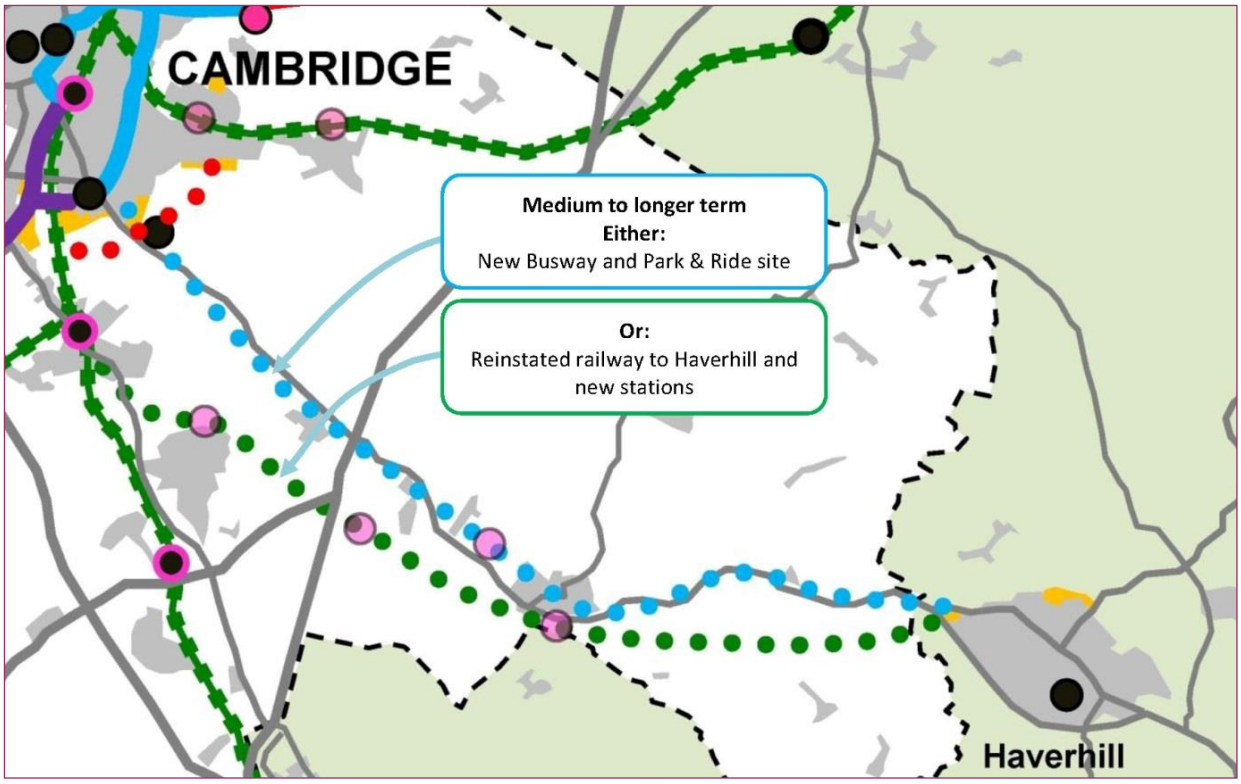
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.3 Haverhill to Cambridge (A1307) corridor

B.3.1 The linear corridor around the A1307 links Haverhill (outside the study area) with the south-eastern Cambridge City boundary, where the major development sites of the Cambridge Southern Fringe and Addenbrookes Biomedical Campus are situated. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes major employment sites at Addenbrookes BMC, Granta Park and Babraham Research Campus, as well as the 4,000 dwellings proposed in Haverhill.

Figure B3: List of interventions on the Haverhill to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	Bus priority at key congestion points on A1307	Short-Medium
	Segregated car access into Babraham Road P&R site	Short-Medium
	Creation of high quality transport interchanges along corridor	Short-Medium
	Busway/HQPT corridor along line of former Cambridge-Colchester railway	Long
	Additional P&R site between A11 and Linton	Long
Walking and cycling	Complete direct cycle route from Cambridge to Babraham Research Campus and Granta Park	Short-Medium
	Continue direct cycle route from Granta Park outwards towards Haverhill	Long
	Create network connecting to transport interchanges along corridor	Short-Medium
	Create network focussed on catchment of Linton Village College	Short-Medium



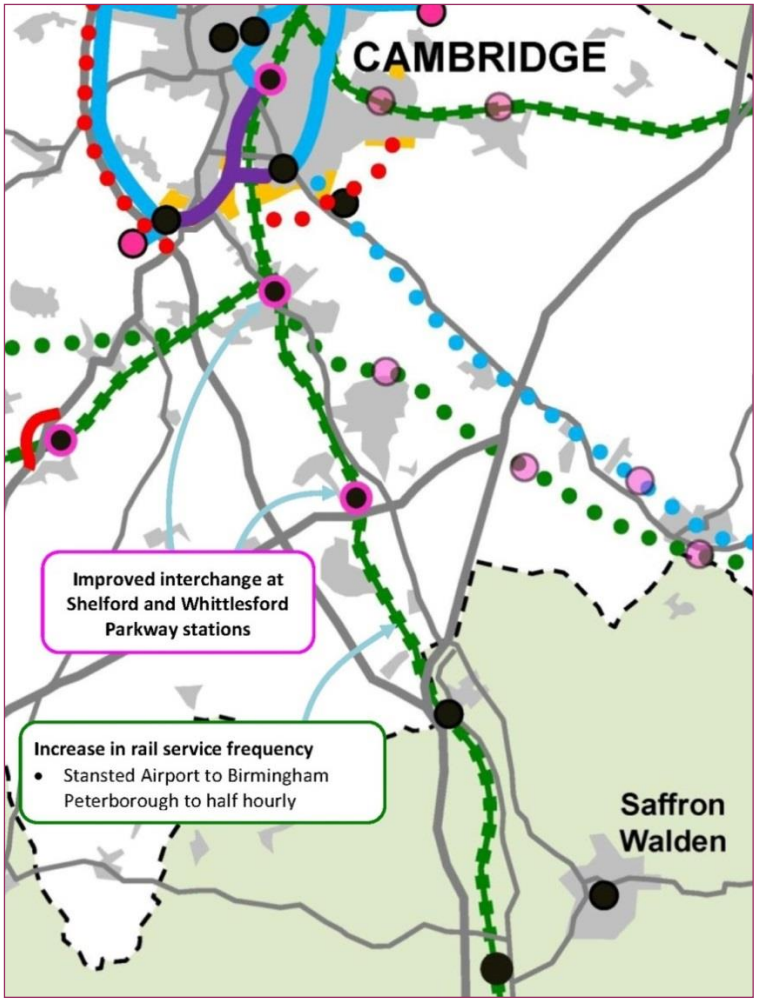
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.4 Saffron Walden to Cambridge (A1301) corridor

B.4.1 The linear corridor around the A1301 Shelford Road and the existing railway line between London Liverpool St and Cambridge links Saffron Walden (outside the study area) with the south-eastern Cambridge City boundary, where the major development sites of the Cambridge Southern Fringe and Addenbrookes Biomedical Campus are situated.. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor.

Figure B4: List of interventions on the Saffron Walden to Cambridge corridor.

Intervention		Timescale
HQPT	Increase frequency of services calling at stations	Short-Medium
	Improve interchange facilities at Shelford, Whittlesford Parkway and Great Chesterford stations	Short-Medium
	Consideration of a new railway station at Addenbrooke's	Medium-Long
Walking and cycling	Continue cycle route outwards from Shelford along corridor towards Saffron Walden	Short-Medium
	Create network connecting employment sites at Babraham Research Campus, Granta Park and Genome Campus	Short-Medium
	Create network connecting to transport interchanges along corridor	Short-Medium
	Create network focussed on catchment of Sawston Village College	Short-Medium



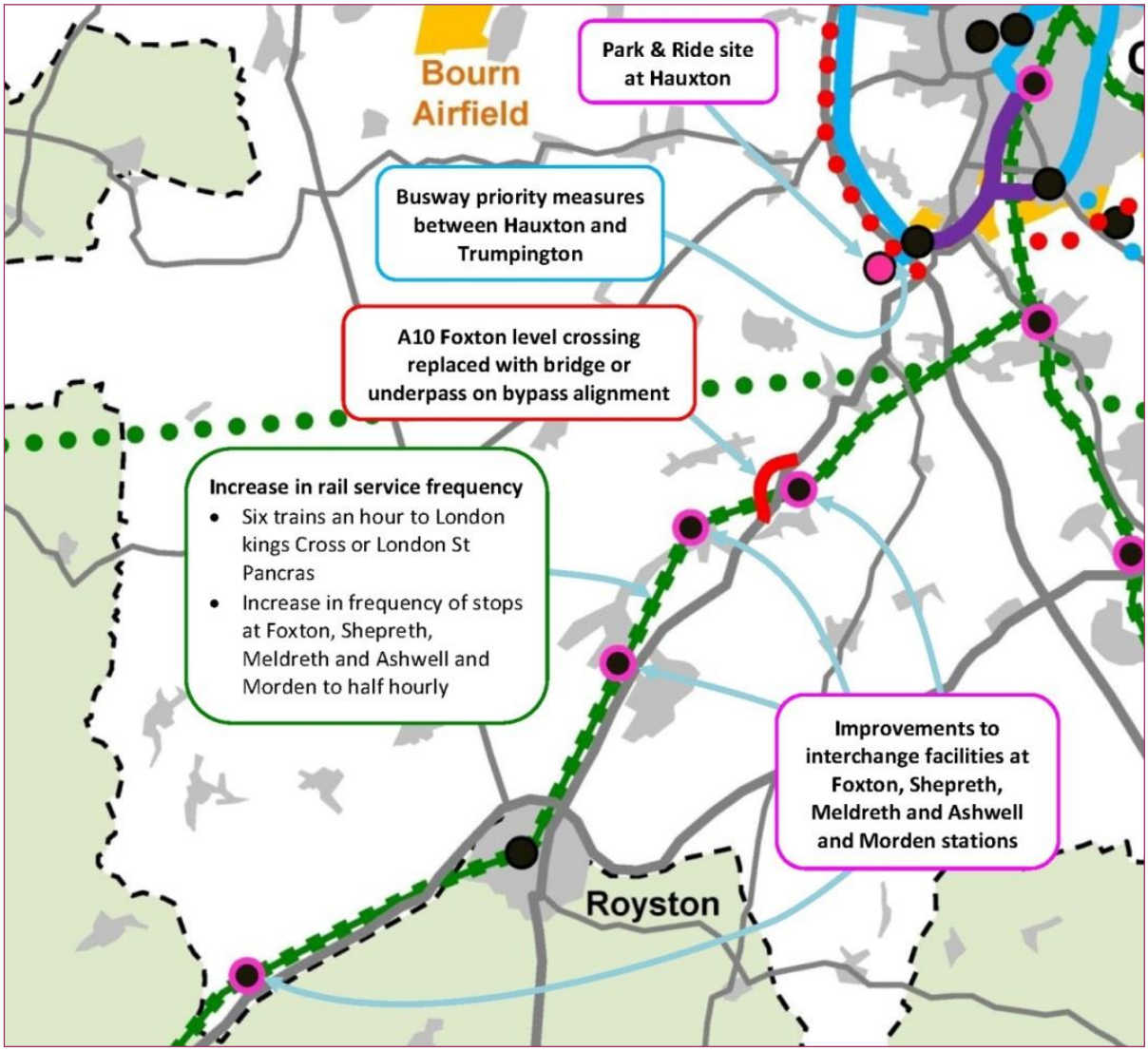
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.5 Royston to Cambridge (A10S) corridor

B.5.1 The linear corridor around the A10 (south) and the existing railway line between London Kings Cross and Cambridge links Royston (outside the study area) with the southern Cambridge City boundary, where the major development sites of the Cambridge Southern Fringe and Addenbrookes Biomedical Campus are situated. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor.

Figure B5: List of interventions on the Royston to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	A10 Foxton Level Crossing replacement with bridge or underpass on short bypass alignment	Short / Medium
	New footbridge at Foxton Station	Short / Medium
	Increased no of destinations from Cambridge and village stations through replacement of semi-fast and slow services with Thameslink timetable serving St Pancras, London Bridge, Gatwick and Brighton	Medium
	Rolling stock for Kings Lynn and Cambridge to London Kings Cross fast services to be replaced with new 10-car IEP or 12-car Thameslink Trains	Medium
	Kings Cross to Cambridge trains to be extended to Cambridge Science Park	Short / Medium
	Improve interchange facilities at Foxton, Shepreth, Meldreth and Ashwell stations	Medium
	Provision of a new Park & Ride site at Hauxton (1000 spaces)	Medium
	Bus priority measures between Hauxton and Trumpington	Medium
	Busway between Hauxton Park & Ride and Trumpington	Medium / Long
	Consideration of a new railway station at Addenbrooke's	Medium / Long
Walking and cycling	Improved links to the HQPT corridor from villages	Short
	Off-road cycle links along A10	Short / Medium
	Links to Melbourn and Bassingbourn Village Colleges	Short



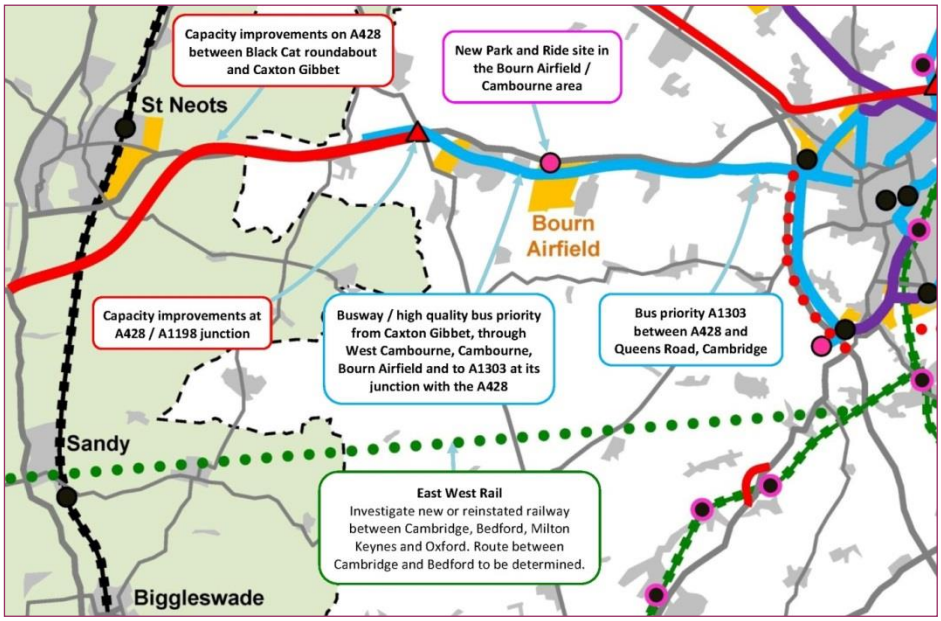
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.6 St Neots to Cambridge (A428) corridor

B.6.1 The linear corridor around the A428 (west of Cambridge) links St Neots (outside the study area) with the western Cambridge City boundary. The proposed mix of transport measures will be a key feature in supporting both the planned residential growth at West Cambourne and Bourn Airfield new settlement as well as the consented development at St Neots, the major employment site at west Cambridge and the mixed use sites of north west Cambridge and the NIAB sites.

Figure B6: List of interventions on the St Neots and Cambourne to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	Segregated bus links on the A1303 or on an offline alignment between the A428 and the M11.	Short / Medium
	Eastbound bus priority through the A428 / A1198 Caxton Gibbet roundabout	Short / Medium
	Provision of an outer Park & Ride on A428 between Cambourne and A1303	Medium / Long
	A1303 busway / HQPT infrastructure to serve Bourn Airfield / Cambourne.	Medium / Long
	A428 Caxton Gibbet to Black Cat improvements	Medium / long
Walking and cycling	Create direct cycle route along corridor, connecting Cambridge to Cambourne and onwards to St Neots	Medium / Long
	Create network connecting employment sites, including Cambourne	Short / Medium
	Create network connecting to transport interchanges along corridor	Short / Medium
	Create network focussed on catchments of Comberton Village College, Gamlingay Village College and the new secondary school at Cambourne	Short / Medium
Highway capacity	A428 Black Cat to Caxton Gibbet improvement; an on or offline capacity improvement to address the capacity constraints on the route.	Medium-Long
	A428 / A1198 Caxton Gibbet junction improvements (in the event that a full scheme for the A428 between the Black Cat and Caxton Gibbet roundabouts cannot be programmed in the short to medium term).	Medium



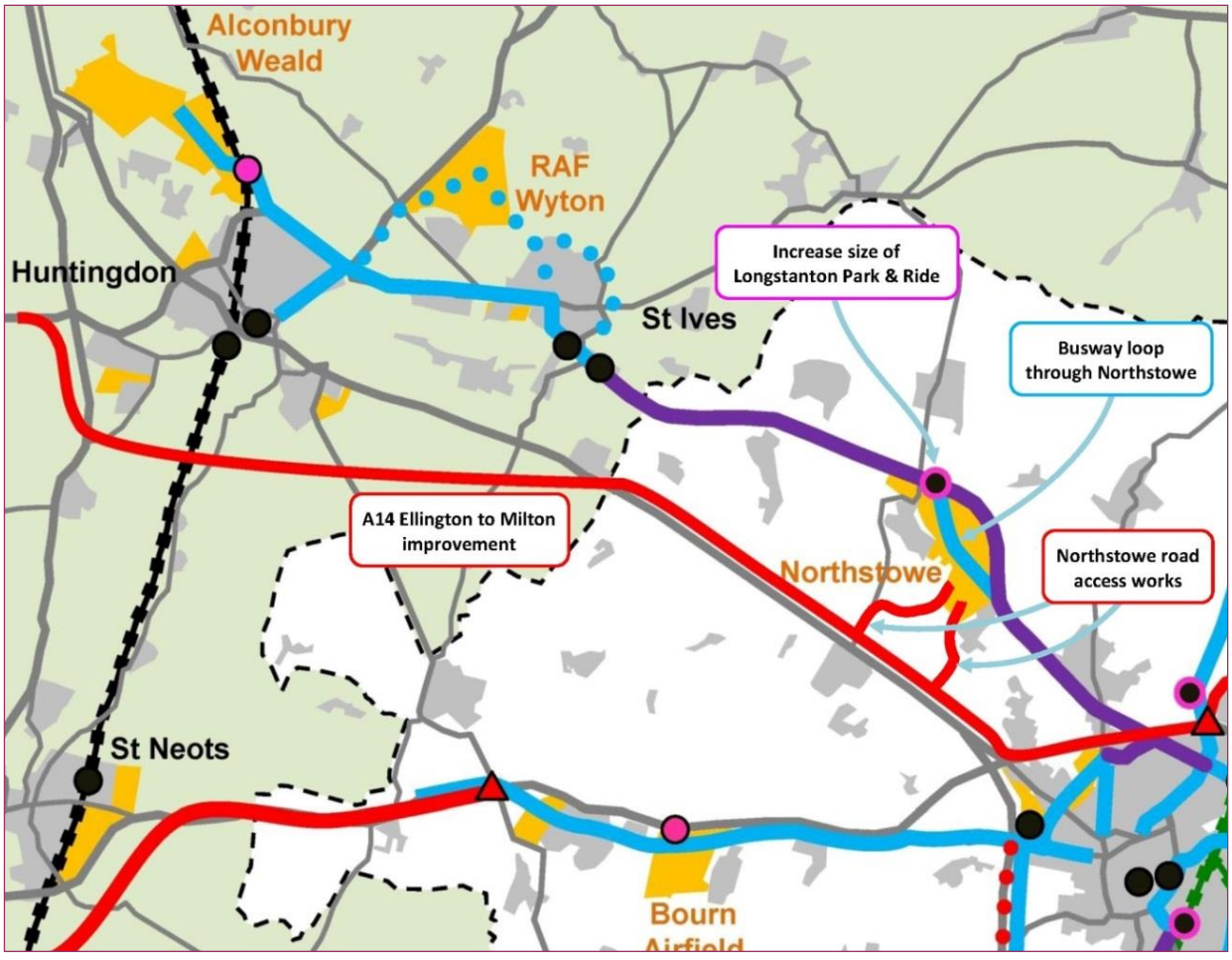
Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.7 Alconbury/Huntingdon to Cambridge (A14) corridor

B.7.1 The linear corridor around the A14 and the existing Cambridgeshire Guided Busway links Alconbury, Huntingdon, St Ives (all outside the study area) and the new town of Northstowe with the north-western Cambridge City boundary. The proposed mix of transport measures will be a key feature in supporting both the planned growth in the corridor, which includes major growth at Northstowe, which is to provide up to 9,000 new homes.

Figure B7: List of interventions on the Alconbury, Huntingdon, St Ives and Northstowe to Cambridge corridor.

Intervention		Timescale
Creating a HQPT corridor	Comprehensive bus priority measures between Huntingdon, St Ives and the Alconbury Enterprise Zone	Medium
	Expansion of Longstanton Park & Ride to 1,000 spaces	Medium
	Busway loop through Northstowe (as part of Northstowe development)	Medium
Walking and cycling	Create network connecting employment sites,	Short / Medium
	Create network connecting to transport interchanges along corridor	Short / Medium
	Create network focussed on catchments of Swavesey Village College, Cottenham Village College and Impington Village College	Short / Medium
Road	A14 Cambridge to Huntingdon improvement.	Short
	Northstowe access works (as part of Northstowe development)	Medium



Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.8 Cambridge wide area 'corridor'

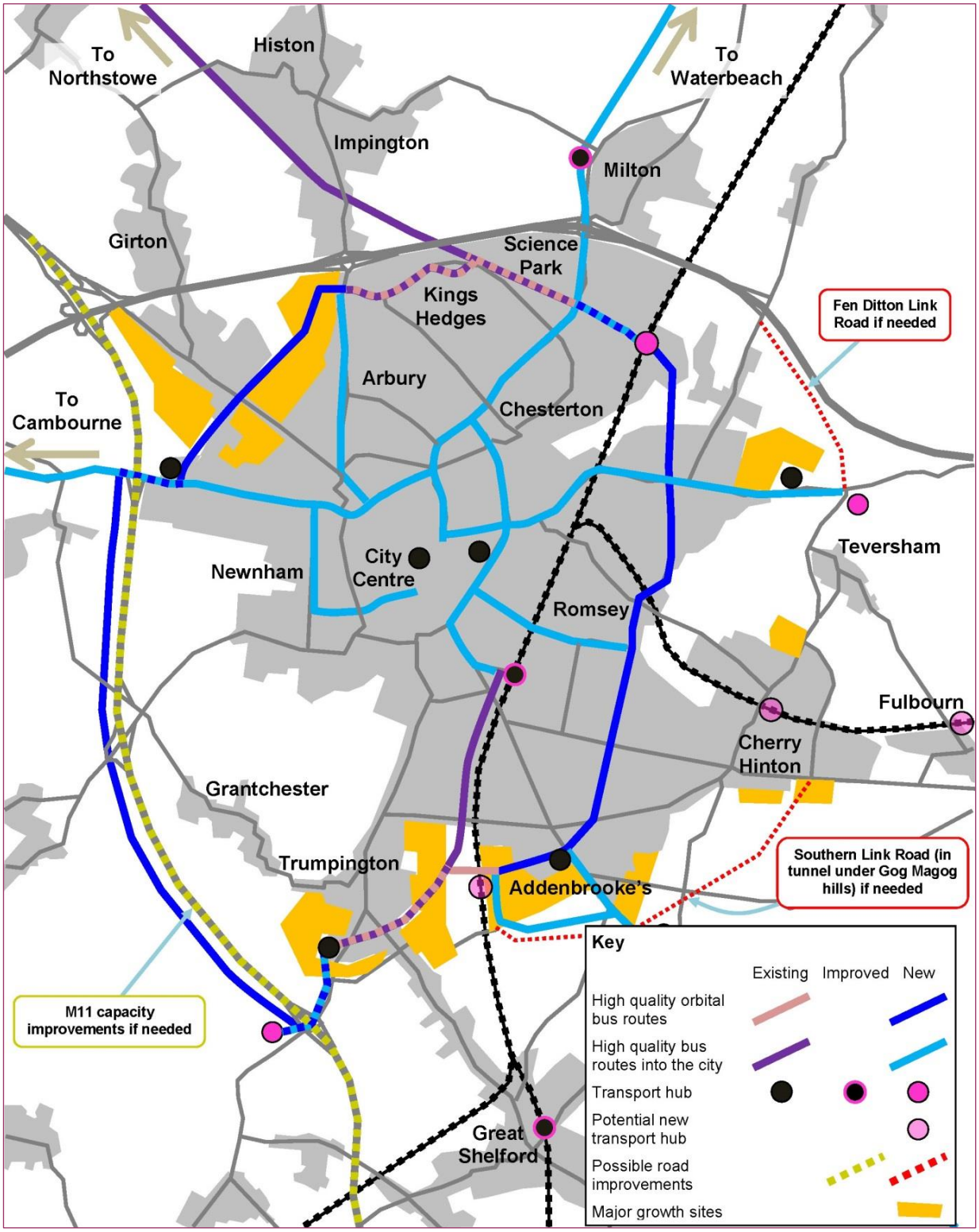
B.8.1 Though not a corridor itself, the TSCSC has separate proposals for Cambridge. Cambridge forms the hub of the network with seven main corridors feeding into the city. Four of these are along railway lines (Royston, Saffron Walden, Newmarket and Ely), one is along The Busway (St Ives and Huntingdon) and the remaining two are along road corridors (St Neots and Haverhill). The city is surrounded by a ring of villages and further out, a ring of market towns. Access to the central area of the city is controlled through a system of rising bollards; otherwise movements around the city are not restricted. Significant development is planned for the city.

Figure B8: List of interventions in Cambridge.

	Intervention
Interchanges and service improvements	Short term interventions
	Cambridge Science Park Station.
	Improved passenger facilities at Cambridge Station
	Rail service frequency increases
	Improve accessibility of Babraham Road site through provision of segregated car access
	Medium to long term interventions
	Provision of new 1,000-space P&R site at Hauxton
	Expansion of Milton P&R to 2,000 spaces
	Relocation of Newmarket Road P&R site to Airport Way and expansion to 2,500 spaces
	Consideration of a new railway station at Addenbrooke's
	Consideration of a new railway station at Cherry Hinton
	Consideration of a new railway station at Fulbourn
Passenger Transport – radial links	Medium to long term interventions
	Bus Priority - Madingley Road
	Bus Priority - Histon Road
	Bus Priority - Milton Road
	Bus Priority - Newmarket Road
	Bus Priority - Hills Road
	Bus Priority - Chesterton Road
	Bus Priority - East Road
	Bus Priority - Hauxton to Trumpington
	Bus Priority - Milton P&R to Milton Road Busway junction
	Busway between new Hauxton P&R site and Trumpington P&R
	Inbound bus lane between Addenbrooke's and Cherry Hinton Road
	Comprehensive bus priority On Hills Road / Station Road between Cambridge Station and Gonville Place
	Bus priority along Mill Road
	Milton Road outbound bus lane, Mitcham's Corner to Cambridge Science Park
	Busway between Milton P&R and Cambridge Science Park
	Bus priority / busway between Airport Way and Barnwell Road
	Bus priority between Barnwell Road and Abbey Stadium

Intervention	
	Busway between Abbey Stadium and East Road
Passenger Transport – orbital links	Short term interventions
	Busway / Bus Priority between Histon Road and Madingley Road through new development
	Bus links between Chesterton, Cambridge Science Park and West Cambridge and onwards to Addenbrooke's through the city or on M11
	Medium to long term interventions
	Busway/bus priority parallel to M11 corridor
	Bus priority - Addenbrooke's - Coldham's Lane
	Busway linking Coldham's Lane to Newmarket Road
	Busway linking Newmarket Road to Cambridge Science Park Station
	Busway linking Cambridge Science Park Station to Milton Road

Intervention	
Orbital Highway Capacity	Medium to long term interventions
	M11 corridor capacity
	Highway capacity between Addenbrooke's Road and Babraham Road
	Highway capacity between Babraham Road and Cherry Hinton (Yarrow Road) including tunnel under the Gogs
	Highway capacity between Airport Way and the A14 Fen Ditton junction
City Centre improvements	Short term interventions
	Provision of a cycle park at Cambridge Station
	Improvements to the city centre streetscape and public realm
	Medium to long term interventions
	East Road bus and cycle priority
	Elizabeth Way / East Road / Newmarket Road junction, remodelling to improve priority for buses, cyclists and pedestrians at grade
	Grange Road bus priority
	Safety improvements at the Trumpington Street/Fen Causeway / Lensfield Road / Trumpington Road junction
	Provision of a third City Centre cycle park
	Investigate bus tunnels as a possible longer term option for addressing capacity constraint in city centre.
Demand Management	Medium to long term interventions
	Extension to Core Traffic Scheme to cover Maid's Causeway
	Expansion of Controlled Parking Zone across Cambridge and the South Cambridgeshire fringes
	Extension of Core Traffic Scheme principles
Walking and Cycling	Short term interventions
	Provision of the Chisholm Trail, an orbital cycle way connecting Addenbrooke's to Cambridge Science Park
	Medium to long term interventions
	Development of a comprehensive, high quality cycling and walking network



Source: Transport Strategy for Cambridge and South Cambridgeshire March 2014 Transport Strategy and High Level Programme

B.9 Extract from Appendix C of City Deal Report of 10th Jan 2015 to Greater Cambridge City Deal Joint Assembly of prioritised infrastructure investment programme – informing cost assumptions

Table 3: Summary of individual schemes

Programme area	Scheme	Est. cost (£m)
A428 corridor (Cambourne)	A428 to M11 segregated bus links High quality segregated bus priority measures between the A428 junction with the A1303 and the junction of the M11. The scheme may include on-line or off-line bus priority measures between the A428 and M11. The scheme would ensure that a bus journey between the A428/A1303 junction and the M11 is direct and unaffected by congestion caused by general traffic on the corridor. This scheme is part of the improvements along the whole of the A428 corridor to accommodate further additional growth focussed on West Cambourne and Bourn Airfield.	13.0
	A428 corridor Park & Ride One or more Park & Ride or rural interchange sites accessed from the A428, to take advantage of the bus priority measures on the A1303 between the A428 and the M11 in order to intercept more Cambridge-bound general traffic on the A428. Additional Park & Ride capacity along the corridor would improve the corridor in a number of ways. Through the provision of segregated facilities along the corridor, Park & Ride buses would benefit from the same advantages in terms of journey time and reliability as other services on the corridor, making it an attractive option for people who would otherwise drive all the way to Madingley Road Park and Ride or further into the city centre.	11.5
	Madingley Road bus priority *High quality on-line bus priority measures between M11 and Queen's Road, Cambridge. The aim of the scheme is to ensure that a bus journey between the M11 and Queen's Road, is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between the Caxton Gibbet roundabout and Cambridge, helping to facilitate development both at the West Cambourne and Bourn Airfield sites and also further afield in St Neots.*	34.6
	Bourn Airfield/Cambourne busway *Segregated bus links from the A428 at Caxton Gibbet connecting West Cambourne, Cambourne and Bourn Airfield and continuing a segregated route to the junction of the A1303/A428. The link will help to facilitate the development of strategic development sites at West Cambourne and Bourn Airfield by forming part of a longer segregated bus route between this part of the A428 and Cambridge. The route in its entirety will also help to connect strategic development sites in St Neots and also significant University-based employment sites on the west of Cambridge.*	28.8
A1307 corridor (Haverhill)	A1307 bus priority *Bus priority at key congestion points on the A1307, to include:* • *Bus priority in particular locations along the A1307* • *Segregated car access to Babraham Park & Ride site* • *Transport interchanges at key locations along the corridor*	36.0

Programme area	Scheme	Est. cost (£m)
	• *Improved bus journey times between Haverhill and Cambridge* *The scheme would help increase the attractiveness of the corridor as a place to invest and would also increase the desirability and accessibility of planned new housing in Haverhill.*	
	Additional Park & Ride capacity – A1307 *Provision of an outer Park & Ride site on the A1307, located between Linton and the A11 to provide additional Park & Ride capacity on the corridor and to intercept more car trips further out from Cambridge, thus freeing up more roadspace closer to the city. The scheme would help increase the attractiveness of the corridor as a place to invest and would also increase the desirability and accessibility of planned new housing in Haverhill.*	7.2
Pedestrian and cycle networks – City	Chisholm Trail links (cycle links parallel to the railway line north of Cambridge Station) *A high quality strategic cycle route that will extend along the rail corridor from Cambridge Station in the south of the city through to the Cambridge Science Park Station, providing connections between the Science and Business Parks in the north and the commercial hub around Cambridge Station and the Biomedical Campus.*	3.0
	Chisholm Trail bridge *A key part of the Chisholm Trail (see above) which could be delivered in advance of the entire route to provide an additional river crossing for pedestrians and cyclists between Chesterton and Ditton Meadows (Abbey Ward).*	4.5
	City centre capacity improvements *Measures to improve capacity for cycling movements in the city centre in order to encourage modal shift away from the private car and towards cycling.* • *A new or extended city centre cycle park* • *Improved surfacing of pavement and off road pedestrian and cycle provision, especially in areas where surfaces are used by servicing vehicles.* • *Streetscape enhancements and measures to improve the legibility of the pedestrian and cycle network in the city centre* *A new facility or extended cycle park facility will provide capacity for new trips, help ensure that demand is not suppressed, and reduce the number of cycles that will otherwise be attached to any available railing, lamp post or sign.*	7.2
	Cross-city cycle improvements *To encourage modal shift away from the private car and towards cycling by:* • *Developing a network of segregated cycle routes on arterial roads, safe junctions, crossings and an attractive network following quieter streets and open spaces* • *Reviewing all of the radial routes into the city to make them as safe, direct and attractive as possible* • *Enhancements through measures such as clear signage, cycle parking, public bike pumps and prominently-deployed bicycle counters*	15.5

Programme area	Scheme	Est. cost (£m)
	• *Increase in cycling numbers in the city* *The upgrade and expansion of the Cambridge cycle network will create a realistic scenario whereby less confident cyclists would be able to make the majority of their trips on routes away from motor traffic, lifting cycling levels to a figure nearing 40%. This figure means that highway capacity could be released in the city, thus making way for further growth to be accommodated.*	
Pedestrian and cycle networks – inter-urban	Bourn Airfield/Cambourne pedestrian/cycle route programme *Direct, segregated high quality pedestrian/cycle links to west Cambridge, Papworth Everard, Highfields, Hardwick, Caxton, Bourn, Caldecote, Comberton, Bar Hill and Dry Drayton. The schemes would encourage more short and medium-length journeys to be undertaken on foot or by bike through the provision of safe, high quality links which are segregated from general traffic wherever possible. A fully segregated, direct route into Cambridge from the new developments along the A428 is necessary to encourage significant numbers of people to use bike instead of their car into Cambridge.*	8.4
	Saffron Walden and Haverhill pedestrian/cycle route programme *To deliver a comprehensive integrated network for cycling and walking along and within the corridor and to ensure good access between key residential and employment centres. The proposal aims to provide direct, safe and accessible links for cycling in the corridor by constructing new paths and crossings, and by improving existing ones. Many of the business parks are notoriously difficult to access by means other than private car – although some put on shuttle buses for staff, there is evidence to suggest that there is a suppressed demand for cycling to many of these sites. Several of these sites are located within cycling distance of a bus route or rail station, but there are few options to cycle to/from these points. This represents a considerable missed opportunity and a real constraint on their growth potential.*	4.8
	Cambridge to Royston cycle link *The creation of a high-quality network of foot and cycle routes linking key destinations along the A10 corridor between Cambridge and Royston, including:* • *Completion of the strategic 'trunk' route along the A10 (south) between Cambridge and Royston* • *Links from the strategic route to employment centres, villages, railway stations/interchanges and other key destinations within the corridor* *There is great potential in this corridor to enhance multi-modal journeys by enhancing the links between cycle and bus/rail. This would increase mobility choice for people, reduce congestion and negate the need for extensive car parks at stations, as well as reducing the likelihood of residential streets being clogged with commuter cars*	7.2
	Waterbeach pedestrian/cycle route programme *A comprehensive network of high quality pedestrian/cycle routes linking the town with key destinations in Cambridge and the surrounding villages. This could include a segregated cycle lane alongside the chosen route of the bus corridor, connecting Waterbeach to Landbeach and onwards to Cambridge, and a network of rural cycle links connecting surrounding villages to the strategic cycle route into Cambridge, the Park &*	14.4

Programme area	Scheme	Est. cost (£m)
	Ride, the village colleges at Impington and Cottenham Village Colleges. Waterbeach is ideally located for cycling into Cambridge, however cycling along the A10 is not a safe or enjoyable option in its current form. Research has shown that fully segregated routes for cyclists are key to increasing the uptake of cycling. Therefore, a fully segregated, direct route into Cambridge from the new development is necessary to encourage significant numbers of people to use bike instead of their car into Cambridge.	
Cambridge radials – Milton Road / Histon Road	Histon Road, Cambridge bus priority *High quality on-line bus priority measures between the Histon Interchange and the junction of Histon Road, Huntingdon Road and Victoria Road, Cambridge. The aim of the scheme is to ensure that a bus journey between the Histon Interchange and the junction of Histon Road, Huntingdon Road and Victoria Road, is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between a new P&R site to the north of the Waterbeach development and Cambridge, helping to facilitate development both at Waterbeach and also further afield in Ely and (outside the strategy area).*	4.3
	Milton Road, Cambridge bus priority *High quality on-line bus priority measures between the Milton Interchange and Mitcham's Corner, Cambridge. The aim of the scheme is to ensure that bus journeys between the Milton Interchange and Mitcham's Corner are direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between a new P&R site to the north of the Waterbeach development and Cambridge, helping to facilitate development both at Waterbeach and also further afield in Ely (outside the strategy area).*	23.0
Cambridge radials – Hills Road	Project Cambridge, Hills Road *Connecting Cambridge rail station and the city centre using a high quality 'green link'. The aim of this scheme is to significantly improve the experience for pedestrians and cyclists travelling between the city centre and Cambridge rail station, including a much improved public realm. Measures could include:* • *Improved cycle and pedestrian connectivity between the city centre and station* • *Hills Road and Regents Street given a sense of place, not just a place to pass through – commercial and social value added* • *Widened pavements, increased cycle parking, reduced street clutter*	25.8
Cambridge radials – Newmarket Road	Newmarket Road bus priority phase 1, Elizabeth Way to Abbey Stadium *High quality on-line bus priority and segregated busway measures along the length of Newmarket Road, between the junction with East Road/Elizabeth Way and the junction with Airport Way to ensure that a bus journey between these points is direct and unaffected by congestion caused by general traffic on the corridor. Scheme likely to include a Busway between Elizabeth Way and the Abbey Stadium. The link will form part of a wider high quality bus network around the city, helping to facilitate major development both in the city and outside it.*	54.8
	Newmarket Road bus priority phase 2, Abbey Stadium to Airport Way	39.8

Programme area	Scheme	Est. cost (£m)
	High quality on-line bus priority and segregated busway measures along the length of Newmarket Road, between the Abbey Stadium and the junction with Airport Way to ensure that a bus journey between these points is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a wider high quality bus network around the city, helping to facilitate major development both in the city and outside it.	
	Newmarket Road bus priority phase 3, Airport Way Park & Ride *Relocation of Newmarket Road P&R site to Airport Way and expansion to 2,500 spaces in order to intercept more car journeys before they reach the city. This scheme will help to deliver a high quality public transport corridor on this side of the city.*	17.3
A10 corridor south (Royston)	Foxton level crossing and interchange *The provision of a grade-separated crossing facility of the London King's Cross –Cambridge railway line as it crosses the A10 and the introduction of a rural interchange using the resultant road layout. The scheme would remove the disruption along the A10 (south) corridor that is regularly caused to traffic through the lowering of the barriers at Foxton level crossing, and would also provide a better means by which people living in the more rural areas can interchange between modes to access the improved rail service along the corridor. The A10 carries approximately 12,000 vehicle trips per day (12 hour count)and the level crossing barrier operates some 76 times in a 12 hour period for an average time of 2 minutes and 20 sections per operation (almost 3 hours per day). The delays caused are being compounded as growth on the rail network, and in particular rail freight, increases.*	21.6
	Hauxton Park & Ride *Provision of an outer Park & Ride site on the A10 (south) at Hauxton with capacity for 1,000 spaces to provide additional Park & Ride capacity on the corridor and to intercept more car trips further out from Cambridge, thus freeing up road capacity closer to the city. Coupled with a busway between Hauxton and Trumpington (see scheme below) which would allow buses to bypass congestion around the M11 junction, this scheme would help to create a HQPT corridor in this part of the city.*	17.3
	Hauxton-Trumpington busway *A busway link between the new Park & Ride site at Hauxton and the existing Park & Ride site in Trumpington. The success of the new Park & Ride site would depend on how easily buses can get through the M11 junction and whether there was an advantage to a car driver to leaving the car at the new facility. This scheme would allow buses to bypass congestion around the M11 junction, forming part of a HQPT corridor in this part of the city.*	15.8
Cambridge Orbital	Ring road bus priority – Addenbrooke's to Newmarket Road *To provide a means of giving priority to buses travelling orbitally between the biomedical campus in the south of the city and the eastern side of the city, without being held up in congestion caused by general traffic. The scheme is likely to include online high quality bus priority on the ring road connecting Addenbrooke's to Newmarket Road by way of Fendon Road, Mowbray Road, Perne Road, Brook's Road*	18.7

Programme area	Scheme	Est. cost (£m)
	and Coldham's Lane.	
	Newmarket Road to Cambridge Science Park Station busway *A busway linking Newmarket Road to the new Cambridge Science Park Station in order to provide a segregated means of buses travelling orbitally between the east of the city and the new Cambridge Science Park Station, without being held up in congestion caused by general traffic. The scheme will greatly improve accessibility to Cambridge Science Park Station, and the business/science parks in the area..*	64.7
	Western Orbital *To provide a segregated means for buses travelling orbitally between the university developments in the north west of the city and the biomedical campus to the south, without being held up in congestion caused by general traffic, and avoiding the congested city centre. This scheme will increase orbital capacity for public transport.*	23.0
A10 corridor north (Waterbeach)	A10 dualling and junctions *Additional capacity (on an alignment to be determined) for general traffic between the northernmost access to the new town and the Milton Interchange of the A10 with the A14. Congestion on the A10 is severe atpeak times and often during the inter-peak as well. Whilst it is intended that a high proportion of trips generated by the new development will be undertaken by public transport, cycling and walking, there will still be some trips that will be made by car and that will use this stretch of road, placing more demand on it.*	63.4
	A14/A10 Milton Interchange *Additional capacity at the Milton Interchange for general traffic movements between the A10 and A14, and the A14 and A10. The scheme is integral to the delivery of the new development at Waterbeach which will help support the economic growth of the area by providing homes for people coming to work in the area.*	66.4
	Waterbeach Park & Ride *A new Park & Ride site on A10 to intercept traffic from the north of Waterbeach, served by new busway link to Cambridge. Alignment to be determined. The scheme will intercept traffic from the north of Waterbeach and provide an opportunity for interchange onto public transport for the remainder of the journey. There is a significant volume of traffic from the north of Waterbeach that contributes to the congestion on the southern stretch of the A10. By providing an additional Park & Ride site further out, more general traffic could be intercepted before reaching the southern stretch of the road, thus helping with the capacity problem on the A10 and also freeing up capacity at the existing Milton Park & Ride.*	11.5
	Waterbeach Barracks to North Cambridge busway *A busway link from a relocated Waterbeach station and new town centre to north Cambridge, including a fully segregated crossing of the A14 Trunk Road. The scheme aims to ensure that a bus journey between the centre of the new town, the relocated railway station and the outskirts of Cambridge is direct and unhindered by congestion along the A10 or the A10/A14 junction. The scheme is integral to the delivery of the new development at Waterbeach which will help support the economic growth of the area by providing homes for people coming to work in the area.*	46.1

Programme area	Scheme	Est. cost (£m)
	Waterbeach new station *A relocated Waterbeach Station to serve the village and the new town, with platforms (capable of taking 12-carriage Thameslink trains or 10-carriage InterCity Express trains). A station already exists in the village of Waterbeach, however its current location is not ideal for encouraging residents of the new town to use the train. In addition, the rail industry is proposing significant service improvements along this line, including the introduction of 12-carriage trains. A relocated station would enable longer platforms to be provided to take advantage of the longer trains and increased capacity.*	33.1
Total		**752.7**

B.10 Extract from The Long Term Transport Strategy

Figure 4.1. Schemes that are planned for public sector delivery in the period from 2014 to 2021.

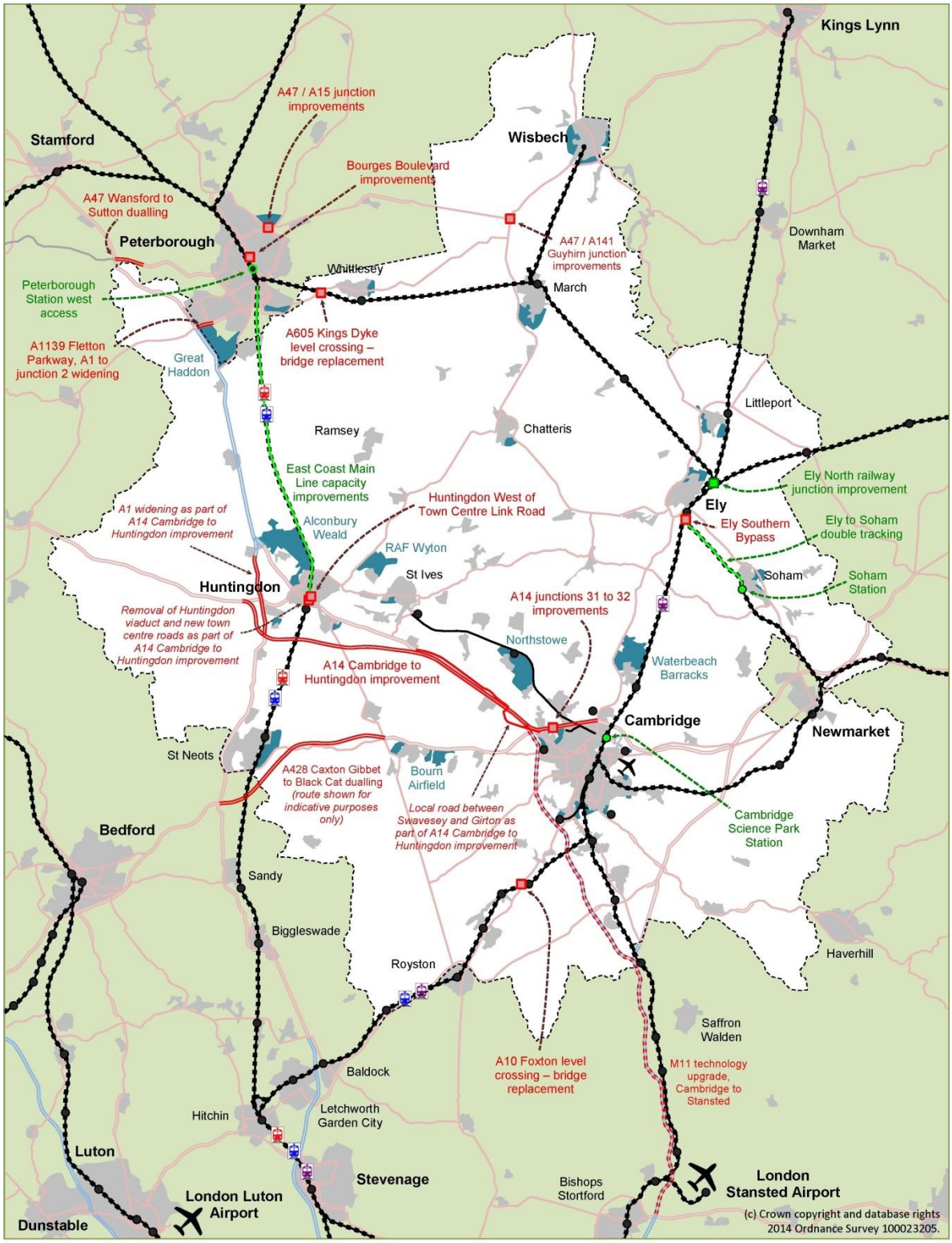


Figure 4.2. Schemes that are planned for public sector delivery in the period from 2014 to 2021. – informing assumptions

Scheme / programme	Delivery timescale	Scheme cost
Local Transport Body major scheme programme, 2015/16 to 2018/19		
Ely Southern Bypass. A southern bypass of Ely, allowing closure of the level crossing on the A142 and large increases in freight and passenger trains through Ely.	By March 2017	£35M
Bourges Boulevard improvements, Peterborough. Series of local network improvements, including signalisation of two junctions, pedestrian crossing to link development sites and public realm improvements *(scheme in Peterborough)*.	By March 2017	£7.5M
A47 / A15 junction (A47 junction 20) capacity improvements. Full signalisation of the roundabout, increase in the number of approach and circulatory lanes and construction of a shared-use pedestrian / cycle bridge over the A47 *(scheme in Peterborough)*.	By March 2019	£7M
A605 Kings Dyke level crossing replacement, Whittlesey. A bridge or underpass across the railway, removing the potential conflict between trains and vehicular traffic, as well as cyclists and pedestrians. A link to the industrial area north of the railway will also be provided.	By March 2017	£13.5M
Soham Railway Station. Reinstatement of the station at Soham, providing a direct rail link to Ely.	By March 2018	£6.15M
VMS / ITS improvements, Peterborough Introduction of Variable Message Signing strategic road network, linked back in real time to its control system *(scheme in Peterborough)*.	To be determined	£5M
Other locally promoted major schemes		
Cambridge Science Park Station. A new station serving the north side of Cambridge and the high tech business cluster centred on Cambridge Science Park. Scheme includes segregated Busway access and parking for 1,000 cycles.	2016	£44M
A1139 Fletton Parkway, A1 to junction 2 widening, Peterborough. Carriageway widening and junction improvements, to improve capacity and to provide access to Great Haddon *(scheme in Peterborough)*.	By March 2015	£11M
Huntingdon West of Town Centre link road. A link road between Brampton Road and Ermine Street, facilitating development to the west of Huntingdon town centre.	By March 2014	£10M
Highways Agency road improvements		
A14 junctions 31 to 32 capacity improvements An additional lane in each direction between Girton and Histon, and improvements to the westbound slip roads, funded through the Highways Agency's Targeted Improvements and Pinch Point programmes.	By November 2014	£15.7M
A14 Cambridge to Huntingdon improvement. Major capacity enhancement scheme in four main sections: • A Huntingdon Southern Bypass, comprising a 2/3 lane dual carriageway between Ellington and Swavesey. ○ Also incorporates widening of the A1 from 2 to 3 lanes	By 2019	Up to £1,500M

Scheme / programme	Delivery timescale	Scheme cost
between Brampton and Alconbury. ○ Huntingdon viaduct over the East Coast Main Line removed and old A14 alignment fed into Huntingdon's local road network. • On-line widening between Swavesey and Girton. ○ 3 lanes from Swavesey to Bar Hill. ○ 4 lanes from Bar Hill to Girton. ○ Single carriageway local access road running parallel to A14 between Swavesey and Girton. • Simplified Girton Interchange maintaining current major movements. • On-line widening from 2 to 3 lanes between Girton and Histon (incorporating A14 junctions 31 to 32 scheme noted above).		
A428 Caxton Gibbet to Black Cat dualling. Dualling of the single carriageway section of the A428 between Caxton Gibbet and the A1, including a grade separated junction at the A1 Black Cat roundabout.	2018-2021	£250-500M
A47 / A141 Guyhirn junction capacity improvements. Creation of a new larger junction linking the A47 with the A141.	2018-2021	Less than £25M
M11 Junction 8 (Stansted Airport) to Junction 14 (Girton) technology improvements. Technology improvements to be introduced in three phases, including emergency roadside telephones, signals on slip roads, Motorway Incident Detection and Automatic Signalling, Variable Message Signs, CCTV cameras and gantries.	2018-2021	Less than £25M
A47 capacity improvements, A1 to Wansford. Dualling of the A47 between the Wansford and Sutton *(scheme in Peterborough)*.	2018-2021	£50-100M
Rail infrastructure capacity improvements		
A10 Foxton level crossing replacement. A bridge or underpass across the railway, removing the potential conflict between trains and vehicular traffic, as well as cyclists and pedestrians. Improved interchange facilities at Foxton station will also be investigated.	By March 2019	Network Rail to fund and deliver.
Ely area rail infrastructure improvements. Increased capacity through Ely North junction for freight and passenger trains. Double tracking of the Ely to Soham line.	By March 2019	Network Rail to fund and deliver.
East Coast Main Line rail capacity improvements. Additional track capacity on the East Coast Main Line between Huntingdon and Peterborough.	Trains entre service from 2018	Network Rail to fund and deliver.
Peterborough Station western access. A new access to Peterborough Station from the Station West development *(scheme in Peterborough)*.	To be determined	£10M
Rail service capacity improvements		
Cambridge to Kings Lynn service increase in frequency to half hourly. Capacity improvements at Ely North junction – see above – are required to enable this improvement. In the Thameslink timetable (see below), these trains are likely to continue to serve London Kings Cross from 2018.	By 2015	DfT / Thameslink franchisee funded
2018 Thameslink timetable. Service improvements including: • Trains from Cambridge and Peterborough to London to serve St	Summer 2018	DfT / Rail industry funded

Scheme / programme	Delivery timescale	Scheme cost
Pancras, Farringdon, Blackfriars, London Bridge and destinations south of London including Gatwick Airport. • Longer train formations and increased number of seats.		
Intercity Express Programme. New rolling stock and longer trains on InterCity services between London and Peterborough (and potentially to Cambridge and Kings Lynn).	By 2019	DfT / Rail industry funded
Rural and cross country service enhancements. Works at Ely North junction (see above) are being undertaken on the basis of modified and new passengers services, which are likely to include: • Cambridge to Norwich service increase in frequency to half hourly. • Birmingham New Street to Stansted service run using longer trains at its current hourly frequency, with a portion detached at Ely for an onward service to Ipswich. • A new Nottingham (or Leeds or Sheffield) to Stansted Airport service at hourly frequency, interlocking with the Birmingham New Street service to provide a half hourly service between Peterborough, March, Ely, Cambridge and Stansted Airport.	By 2021	DfT / Rail industry funded

Figure 4.3. Schemes that are required to support major development allocations in current and emerging Local Plans.

Scheme / programme	Delivery timescale	Indicative cost
Cambridge area development		
A1303 / A1134 Newmarket Road bus priority / Busway. Comprehensive segregated bus priority / Busway on Newmarket Road into Cambridge between Airport Way and Elizabeth Way / East Road.	By March 2022	£43M
A1309 Milton Road bus priority. Bus lanes between Busway junction and Mitchams Corner.	By March 2018	£16M
A1303 Bus priority measures, West Cambridge (see also Bourn Airfield below). High quality segregated bus priority measures between the A428 at its junction with the A1303 and Queens Road in Cambridge. Scheme includes: • On-line or off-line bus priority measures between the A428 and M11. • On-line bus priority measures between the M11 and Queens Road.	By March 2018	£25M
A1307 Hills Road, 'Project Cambridge'. Traffic restrictions, bus priority, pedestrian and cycle infrastructure and public realm enhancements on hills Road between Station Road and Gonville Place / Lensfield Road / Regent Street.	By March 2019	£25M
Newmarket Road / Airport Way Park & Ride. A new Park & Ride site at the junction of Airport Way and Newmarket Road to replace and enlarge the current Newmarket Road site and to take advantage of the bus priority measures on the A1303 between Airport Way and Elizabeth Way (see above).	By March 2023	£12M
B1049 Histon Road bus priority.	By March	£3M

Scheme / programme	Delivery timescale	Indicative cost
Bus priority measures on Histon Road.	2018	
Cambridge orbital bus priority. • Cambridge Ring Road, Addenbrooke's to Newmarket Road. • Newmarket Road to Cambridge Science Park Station. • Histon Road to Madingley Road (provided directly by development). • Madingley Road to Trumpington.	By March 2025	£13M £40M - Tbc
The Chisholm Trail. A north – south pedestrian / cycle route between Cambridge Station and Cambridge Science Park, including links to Cambridge Science Park Station and a new bridge over the River Cam.	By March 2017	£8M
Hauxton Park & Ride. A new Park & Ride site on the A10 at Hauxton, complementing the existing Trumpington site.	By March 2021	£12M
Hauxton to Trumpington Park & Ride Busway / bus priority. Segregated bus access from the new Hauxton Park & Ride site to the Busway at the Trumpington Park & Ride site and to Trumpington Road.	By March 2021	£11M
A1307 bus priority. Bus priority measures past congestion on the A1307 corridor between Haverhill and Cambridge.	By March 2020	£25M
Additional Park & Ride capacity, A1307. One or more Park & Ride / rural interchange sites accessed from the A1307 to take advantage of the bus priority measures on A1307 corridor.	By March 2020	£5M
Northstowe		
A14 Cambridge to Huntingdon improvement. See **Error! Reference source not found.** above.	By 2019	Up to £1,500M
Northstowe access roads. Access roads to Northstowe from the A14 at Bar Hill and to the A14 parallel local access road at Dry Drayton.	To be determined	Directly funded by developer
Northstowe busway loop. New Busway / segregated bus corridor through the town, linking from the Busway at the Longstanton Park & Ride to the Busway at Oakington.	To be determined	Directly funded by developer
Waterbeach Barracks, South Cambridgeshire		
Waterbeach Station relocation. A relocated Waterbeach station to serve the village and the new town, with platforms (capable of taking 12-carriage Thameslink trains or 10-carriage InterCity Express trains).	Mid to late 2020s	£25M
Waterbeach Barracks Busway. A busway link from the station and town centre to north Cambridge including a fully segregated crossing of the A14 Trunk Road.	Mid to late 2020s	£32M
A10 corridor outer Park & Ride site. Park & Ride site on A10 to intercept traffic from the north of Waterbeach, served by new busway link to Cambridge. Alignment to be determined.	Mid to late 2020s	£8M
A10 capacity improvements. Additional capacity for general traffic between the northernmost access to the new town and the Milton Interchange of the A10 with the A14.	Mid to late 2020s	£45M
A14 / A10 Milton Interchange improvements.	Mid to late	£40M

Scheme / programme	Delivery timescale	Indicative cost
Additional capacity at the Milton Interchange for movements between the A10 and A14, and the A14 and the A10.	2020s	
Mitigation of local impacts. Delivery or funding of any measures required to mitigate the traffic impact of the new town on Horningsea, Fen Ditton, Milton and Landbeach.	Mid to late 2020s	To be determined
Wider Waterbeach pedestrian / cycle network. A comprehensive network of high quality pedestrian / cycle routes linking the town with key destinations in Cambridge and the surrounding villages.	Mid to late 2020s	£12M
Bourn Airfield and West Cambourne, South Cambridgeshire		
West Cambourne bus links. Segregated bus links from the A428 at Caxton Gibbet through the West Cambourne site, linking to Great Cambourne by the Cambourne Business Park and School Lane Lower Cambourne.	By 2020/21	£20M
Bourn Airfield bus links. A segregated bus link from Cambourne to Bourn Airfield, and on through the development to the junction of St Neots Road with Highfields Road.		
Bourn Airfield to A428 / A1303 junction bus links. Any measures necessary to ensure that a bus journey between Highfields and the junction of the A428 and the A1303 is direct and unaffected by any congestion suffered by general traffic.		
A1303 Bus priority measures, A428 to M11. On-line or off-line bus priority measures between the A428 and M11.	By 2016/17	£9M
A1303 Bus priority measures, M11 to Queens Road, Cambridge. On-line bus priority measures between the M11 and Queens Road.	By 2018/19	£24M
A1303 / A428 corridor outer Park & Ride capacity. One or more Park & Ride or rural interchange sites accessed from the A428, to take advantage of the bus priority measures on the A1303 between the A428 and the M11.	By 2016/17	£8M
Wider Cambourne pedestrian / cycle network. Direct, segregated high quality pedestrian / cycle links to west Cambridge, Papworth Everard, Highfields, Hardwick, Caxton, Bourn, Caldecote, Comberton, Bar Hill and Dry Drayton.	By 2018/19	£10M
A428 / A1198 Caxton Gibbet junction improvements (see also Wintringham Park below). Scheme to be identified informed by Highways Agency's Midlands to Felixstowe Route Strategy. May be delivered as part of the 'A428 Caxton Gibbet to Black Cat dualling scheme' detailed in **Error! Reference source not found.**.	To be determined	To be determined
Mitigation of local impacts. Delivery or funding of any measures required to mitigate the traffic impact of the developments on Bourn, Caldecote, Toft, Comberton and Barton.	To be determined	To be determined
Huntingdon, St Ives, Alconbury Weald and Wyton Airfield development, Huntingdonshire		
A14 Cambridge to Huntingdon improvement. See **Error! Reference source not found.** above.	By 2019	Up to £1,500M
High Quality Bus Network Infrastructure, St Ives (Busway) to Wyton Airfield and Alconbury Weald. A high quality bus corridor providing quick and reliable journeys between the end of the Busway at Station Road St Ives and the	To be determined	Directly funded by developer

Scheme / programme	Delivery timescale	Indicative cost
Enterprise Zone at Alconbury.		
High Quality Bus Network Infrastructure, St Ives (Busway) to Huntingdon. A high quality bus corridor providing quick and reliable journeys between the end of the Busway at St Ives and Huntingdon town centre / station.	To be determined	To be determined - funding from various sources
High Quality Bus Network Infrastructure, Alconbury Weald to Huntingdon. A high quality bus corridor providing quick and reliable journeys between the Enterprise Zone at Alconbury and Huntingdon town centre / station.	To be determined	
Alconbury Weald station. A new station at Alconbury Weald on the East Coast Main Line (this would be one of the two transport hubs for Alconbury Weald noted above).	To be determined	Rail industry / developer funded
Alconbury Weald Transport Interchange. A second transport interchange to the west / centre of the Alconbury Weald / Enterprise Zone site to serve the new development.	To be determined	Directly funded by developer
Wyton Airfield Transport Interchange. A transport interchange in the centre of the new settlement at Wyton Airfield.	To be determined	Directly funded by developer
Hartford Transport Interchange. A transport interchange to intercept car trips and provide access to the St Ives to Wyton Airfield and Alconbury and St Ives to Huntingdon High Quality Bus Network routes..	To be determined	To be determined
A141 capacity enhancements around Huntingdon. Junction capacity enhancements on the A141 Huntingdon northern bypass at the following locations. • Ermine Street. • Washingley Road. • St Peter's Road. • A1123 Huntingdon Road / B1514 Main Street. • B1090 Sawtry Way.	To be determined	To be determined – funding from various sources
A141 Alconbury Weald / Enterprise Zone southern access. A new access junction for Alconbury Weald on the A141 to the west of the bridge over the East Coast Main Line.	To be determined	Directly funded by developer
A141 future Huntingdon Bypass alignment. The safeguarding of an alignment for the possible future re-routing of the A141 Huntingdon northern bypass. This route would separate the strategic and local functions of the current route, and provide capacity for further growth. It would only be delivered if conditions on the network required it, or if it were needed to support growth.	Late 2020s / early 2030s if needed	To be determined
Wyton Airfield Access. Further measures (to be determined by additional study work) to identify the most sustainable way to provide for the anticipated transport demand from the development of Wyton Airfield, and mitigate impacts on St Ives and Huntingdon.	Late 2020s / early 2030s if needed	To be determined
A141 capacity improvements between the B1090 Sawtry Way junction and the A141 future Huntingdon Bypass alignment if needed. Capacity upgrades on the existing A141 alignment between Huntingdon and Wyton Airfield if needed, in concert with the A141 future Huntingdon bypass (see above).	Mid 2020s	To be determined

Scheme / programme	Delivery timescale	Indicative cost
A1096 capacity enhancements around St Ives. Junction capacity enhancements on the A1096 around St Ives at the following locations. • Low Road. • Busway. • Meadow Lane. • Compass Point.	To be determined	To be determined
B1090 traffic management. Measures to manage speed and capacity of traffic on the B1090 Sawtry Way. Precise details of measures to be undertaken to be considered in tandem with the development of detailed proposals for Wyton Airfield site access in the context of the interventions noted above.	To be determined	To be determined
Wider Huntingdon / St Ives area pedestrian / cycle network. A comprehensive network of high quality pedestrian / cycle routes linking the new town with key destinations in Huntingdon, St Ives, Alconbury Weald, Wyton Airfield and the surrounding ring of villages.	To be determined	To be determined
Wintringham Park and Love's Farm, St Neots, Huntingdonshire		
A428 / A1198 Caxton Gibbet junction improvements. (see also Bourn Airfield / West Cambourne above). Scheme to be identified, informed by Highways Agency's Midlands to Felixstowe Route Based Strategy. May be delivered as part of the 'A428 Caxton Gibbet to Black Cat dualling scheme' detailed in Figure 4.2	To be determined	To be determined
Ely area development, East Cambridgeshire		
Ely Southern Bypass. A southern bypass of Ely (see **Error! Reference source not found.**).	By March 2017	£35M
North Ely Highway Improvements. Site access from the A10, B1382 and Lynn Road. • Fourth arm at the B1382 Ely Road / Prickwillow Road / Kings Avenue Roundabout • A new access road from the B1382 Prickwillow Road / Kings Avenue roundabout to the A10 including a new junction with Lynn Road. • A new access road from Cam Drive to a new roundabout on the A10.	2018	Directly funded by developer
Improved parking and interchange facilities at Ely Station. Measures to improve accessibility of the station and cater for more southbound trips from Ely by rail, reducing pressure on the A10.	2018	£1M
Cambridge Science Park Station. A new station serving the north side of Cambridge and the high tech business cluster centred on Cambridge Science Park (see **Error! Reference source not found.**).	2016	£44M
Bus improvements. Measures to provide reliable and timely bus links to Ely North, including: • The closure of New Barnes Avenue to through traffic • Bus gate on Brays Lane • Improvements to bus services and interchange facilities, particularly Ely City Centre • Real-time bus information and improvements to bus infrastructure	2018	£2.7M
Dualling of the A10 between the A142 Witchford Road and the A142 Angel Drove.	2020	£3M

Scheme / programme	Delivery timescale	Indicative cost
Capacity improvements on the busiest section of the A10 Ely bypass, including additional selective entry arm widening at the roundabouts at either end of the section.		
A14 / A10 Milton Interchange improvements. Additional capacity at the Milton Interchange for movements between the A10 and A14, and the A14 and the A10 (see Waterbeach barracks above).	To be determined	£40M
Wider Ely area pedestrian / cycle network. A comprehensive network of high quality pedestrian / cycle routes linking the Ely north development with key destinations in and around Ely.	2018	To be determined
Fenland Market Town development		
A47 Wisbech junction capacity improvements package. • A47 / B198 Cromwell Road roundabout, Wisbech. • A47 / A1101 Elm High Road roundabout, Wisbech *(scheme in Norfolk)*. • A47 / Broad End Road, Wisbech; priority junction replaced with a roundabout *(scheme in Norfolk)*.	2013-2017	£7M
Wisbech river crossing and link road. A link road between the B198 South Brink / Cromwell Road and the B1169 Dowgate Road / A1101 Leverington Road, incorporating a new bridge crossing the River Nene Route to be determined.	To be determined	To be determined
Freedom Bridge junction modifications and Wisbech bus station access. Removal or partial removal of exit on the south arm of the Freedom Bridge roundabout to Horse Fair, and providing a new signalised junction on Nene Quay for bus and car park access (dependant on redevelopment in area).	To be determined	To be determined
Regeneration of Fenland Railway Stations. New car parking and station forecourt improvements at March. • Implementation of Whittlesea Station Masterplan. • Platform lengthening and new car park at Manea. • Support increased frequencies of trains serving the three stations.		
Wisbech south access road. A new access road to provide development access to allocations to the south of Wisbech on the current alignment of Newbridge Lane, with a new priority junction linking to an extension of Boleness Road.	To be determined	To be determined
March junction improvements package. • A141 / Hostmoor Avenue junction. • A141 / B1099 Wisbech Road junction. • A141 / Gaul Road junction. • A141 / Burrowmoor Road junction. • Station Road / Broad Street / Dartford Road junction. • B1101 High Street / St Peters Road junction.	To be determined	£5.9M

C Additional schemes that are necessary to provide new capacity for growth and to address existing problems on the transport network

The schemes in **Error! Reference source not found.** are required to provide capacity for growth across the transport network as a whole. While development may be required to directly contribute towards the delivery of some schemes, the measures in this table are generally more strategic in nature, and will have wider benefits than simply providing capacity for development.

Figure 4.4. Additional schemes that are not currently programmed, but that are necessary to provide new capacity or to address existing problems on the transport network.

Scheme / programme	Delivery timescale	Indicative cost
Locally promoted major schemes		
March to Wisbech rail reinstatement Reinstate March to Wisbech rail services. A shuttle service between the towns should be viable, but further work is needed to consider in more detail the case for direct services to Cambridge, and for freight services to use the line.	To be determined	£50-75M
March Northern Link Road. A link road between Hostmoor Avenue and Elm Road, March.	To be determined	To be determined
Cambridge to Haverhill High Quality Passenger Transport. High quality bus priority – Haverhill to edge of Cambridge. Options that will be considered include: • A1307 comprehensive bus priority, Cambridge to Haverhill • Single track Busway parallel to A1307. • Twin track Busway, Haverhill to Shelford / Addenbrooke's on alignment of the old Haverhill to Cambridge railway. • Hybrid A1307 / railway alignment Busway.	To be determined	To be determined
A605 Whittlesey Access, Peterborough. Improves resilience, address existing and long standing congestion issues.	To be determined	To be determined
Strategic Pedestrian / Cycle Network		
Cambridge cycle network. Upgrade and development of the pedestrian and cycle network in Cambridge, providing new links and upgrading existing links to provide a higher quality, more comprehensive network.	Ongoing	To be determined
Third city centre cycle park, Cambridge. A third secure, accessible, high capacity city centre cycle park	To be determined	To be determined
Town cycle networks. Investment in pedestrian and cycle networks in the towns of Cambridgeshire, focusing on safety, amenity, and achieving more comprehensive networks that serve a greater number of destinations.	Ongoing	To be determined
Rural pedestrian cycle network development. Networks of shorter distance routes between villages around key destinations in the rural area such a larger village centres, village colleges, doctor's surgeries and major employment sites.	To be determined	To be determined
Interurban cycle network.	To be	To be

Scheme / programme	Delivery timescale	Indicative cost
High quality pedestrian and cycle links between Cambridge, Peterborough, towns in Cambridgeshire and towns in neighbouring counties.	determined	determined
Community led transport solutions		
Locally led solutions. Rolling programme of review of rural bus services to deliver locally led and appropriate transport services for rural communities.	Ongoing	Ongoing revenue funding
Highways Agency road improvements		
A1 capacity improvements at Buckden Consideration of options for relieving congestion at the Buckden roundabout on the A1. Options considered will need to include a bypass feeding into the stretch of the A1 that will be widened as part of the A14 Cambridge to Huntingdon scheme. Work to be incorporated in the 'A1 east of England feasibility study' announced on 1 December 2014.	To be determined	Highway Agency funded
A47 capacity improvements, Peterborough to Thorney bypass. Dualling of the A47 between Peterborough and the Thorney Bypass *(scheme in Peterborough)*.	To be determined	Highway Agency funded
A47 capacity improvements, Thorney bypass to Walton Highway. Dualling of the A47 between Thorney Bypass and Walton Highway *(scheme primarily in Cambridgeshire, but with sections in Peterborough and Norfolk)*.	To be determined	Highway Agency funded
A14 / A142 junction capacity improvements, Newmarket, Capacity to support growth in East Cambridgeshire and in Newmarket *(scheme in Suffolk)*.	To be determined	To be determined
Rail infrastructure capacity improvements		
Electrification of rural rail routes in Cambridgeshire and surrounding counties. • Felixstowe to Nuneaton (Newmarket to Peterborough in strategy area). • Cambridge to Newmarket. • Ely to Norwich. Electrification will allow electrically powered freight trains to serve Felixstowe Port from the north. It will also allow passenger services between Cambridge and Ipswich, Cambridge and Norwich, Peterborough and Ipswich and Stansted Airport and Birmingham New Street to be run using more widely available and flexible electric powered rolling stock.	Lobbying for delivery in Network Rail Control Period 6 (2019-24)	Network Rail to fund and deliver.
Addenbrooke's station. A new station at Addenbrooke's to serve the Cambridge Biomedical campus. Additional track capacity is likely to be needed between Cambridge Station and Shelford junction to facilitate this work, but growth in patronage on the railway and future growth are likely to necessitate such work. The station could be served by trains to London Kings Cross, London Liverpool Street and Stansted Airport, and trains on the Thameslink core route through central London. In addition, East West Rail services could serve the station.	Early to mid-2020s	To be determined
Rail service capacity improvements		
Additional opportunities arising from the Thameslink programme.	To be determined	Rail industry funded

Scheme / programme	Delivery timescale	Indicative cost
Possibilities include: • Increase in frequency of semi fast and slow services between Cambridge and London (from two to four trains an hour). • Additional destinations to the south of London to be served direct from Cambridge, such as Maidstone East and Brighton.		
Cambridge to Ipswich service increase in frequency to half hourly. Additional double track capacity between Cambridge and Newmarket may be required to allow trains to pass.	To be determined	Rail industry funded
New rolling stock on rural rail routes. New electric powered rolling stock on the rural routes noted above.	To be determined	Rail industry funded

D Further schemes that may be needed, including in the longer term

The schemes set out in this section fall in two categories. Firstly, there are schemes that may be needed to address capacity or congestion issues as a result of growth, but which the need for has not yet been established. If they are needed, they are more likely to be delivered in the medium to longer term, but depending on need, may be brought forward.

Figure 4.5. Further schemes that may be needed, including in the longer term

Scheme / programme	Delivery timescale	Indicative cost
Locally promoted major schemes		
Cambridge orbital highway capacity. Schemes that may needed could include: • Additional capacity on M11 corridor between Trumpington and Girton. • Highway capacity between Addenbrooke's Road and Babraham Road • Highway capacity between Babraham Road and Cherry Hinton (Yarrow Road) including tunnel under the Gogs. • Highway capacity between Airport Way and the A14 Fen Ditton junction.	Longer term	To be determined
A505 capacity improvements. Consideration of measures that may be needed to provide additional capacity on the A505, particularly the busiest stretch between the A11 and M11 in the Duxford / Whittlesford / Pampisford area.	Longer term	To be determined
A10 Harston and Hauxton capacity and access improvements Consideration of measures that may be needed to address the impacts of high traffic flows on the A10 in the villages of Harston and Hauxton, in the context of the overall strategy objectives to focus on provision of new transport capacity on public transport, walking and cycling.	Longer term	To be determined
A1123 Earith. Monitor the impact and effectiveness of recent improvements to A1123 (which include raising levels, electronic signage & telemetry)	Longer term	To be determined

Scheme / programme	Delivery timescale	Indicative cost
in Earith aimed at reducing impacts of flooding on accessibility. Depending on the results, further investigation of options may be needed to resolve traffic problems associated with the closure of the A1123 when the floodplain between the Old and New Bedford Rivers is flooded. Potential solutions would be considered in the context of the underlying trend of closures and the economic impact of those closures compared to the cost of a permanent solution.		
Highways Agency road improvements		
M11 capacity in Cambridge area. Consideration of need for capacity improvements between M11 junctions 11 and 14 (Trumpington to Girton) in the medium to longer term, including consideration of junction capacity, and of hard shoulder running (Smart Motorways).	To be determined	Highway Agency funded
M11 capacity improvements south of Cambridge. Consideration of need for capacity improvements between M11 junctions 8 and 11 (Stansted Airport / Bishop's Stortford to Trumpington) in the medium to longer term, including consideration of junction capacity, and of hard shoulder running. Work to be led by Highways Agency's London to Leeds Route Strategy.	To be determined	Highway Agency funded
A14 capacity improvements east of Cambridge. Consideration of need for capacity improvements between Milton Interchange and Newmarket in the medium to longer term. Work to be led by Highways Agency's Midlands to Felixstowe Route Based Strategy.	To be determined	Highway Agency funded
Rail infrastructure capacity improvements		
East West Rail. Subject to a business case for a route demonstrating a compelling economic case, support for the completion of the East West Rail central section on a route to be determined.	Early to mid-2020s	Rail industry funded
Cherry Hinton and Fulbourn stations. Consideration of new station(s) in the Cherry Hinton / Fulbourn area. Line speed improvements might be required to enable stops at station(s) to be fitted into existing timetable. Additional double track capacity between Newmarket and Cambridge might also be required if Ipswich to Peterborough service were running at a half hour frequency as per the proposal in **Error! Reference source not found.**.	To be determined	To be determined
Newmarket west curve Reinstatement of the west curve at Newmarket between the Ely to Ipswich and Cambridge to Ipswich railway lines, allowing direct services to be run between Ely and the new station at Soham to Newmarket and Cambridge.	To be determined	Rail industry funded

Appendix C Other infrastructure assumptions

C.1 Education

C.1.1 Child yield assumptions based on service provider interview with Paul van de Bulk of Cambridgeshire County Council's education team held on 9th October 2015. Other assumptions based on PBA 2012 study.

Education infrastructure requirements

C.1.2 Whilst the child yield assumption for the pre-school age group has been revised since the 2012 Infrastructure Delivery Study (IDS), other age range yield assumptions remain unchanged. The new pupil yield assumptions where the housing mix is not known are as follows:

- Pre school - 23-33 children aged 0-3 per 100 dwellings
- Primary school - 25-35 children aged 4-10 per 100 dwellings
- Secondary school -18-25 children aged 11-16 per 100 dwellings

C.1.3 See report of 8th September 2015 of the Children and Young People Committee – at the following link:

http://www2.cambridgeshire.gov.uk/CommitteeMinutes/Committees/AgendaItem.aspx?agendaItemID=12029

C.1.4 Cambridgeshire County Council's preference for new school provision is as follows:

- Primary school 1 FE – 2FE – 210 - 420 pupils
- Secondary school 4 to 11 FE – 600 to 1,750 pupils (excluding Sixth Form)

Education cost assumptions

C.1.5 Cost information provided by the County Council has identified a cost per pupil for the construction of accommodation to provide for additional pupil places:

- 420 place Primary School - £8m (£19,050 per place) (based on Clay Farm Primary School Costs at Q4 2015);
- 750 place Secondary School - £24.8m (£33,000 per place) (based on Trumpington Secondary School Costs at Q4 2015);
- Early Years 60 place Pre School - £1.2m (£19,957 per place) (based on a stand alone children's centre/pre-school setting at Q1 2014) ;
- Children's Centre - £500,000 - It is acknowledged that costs will vary dependent on location size, facilities and timescales.

Education funding assumptions

C.1.6 The Department of Education (DfE) allocates funding New Pupil Places (Basic Need) Funding) to support local authorities in their statutory duty to ensure sufficient school places, by ensuring the provision of new school places where they are needed.

C.1.7 The resources available are allocated to local authority areas on the basis of relative need. For this purpose 'need' is measured in terms of forecast pupil growth for the period (provided by local authorities through the School Capacity returns). Weightings are applied to take account of whether places are in primary or secondary schools, and are also adjusted to reflect the relative costs of building work in different regions across the country.

C.1.8 Basic Need grants are paid in nine monthly instalments – May 2011 to January 2012. These grants are not ring-fenced. For Cambridgeshire County Council, the 2011-2012 allocation was £7,312,599. It is considered that this is the core source of funding for new education infrastructure and based on this year's allocation could represent funding in the region of £110 million over fifteen years.

C.1.9 Funding is also allocated by the DfE each year to primary and secondary schools for priority work on building, ICT and other capital needs.

C.2 Health

C.2.1 Assumptions based on service provider interview with Iain Burns of NHS Property held on 14th October 2015.

Health infrastructure requirements and cost assumptions

C.2.2 A standard ratio of GP per patients can be used to indicate the number of GPs that future development is likely to require:

- 2.3 people per household
- 1,800 people per GP (Department of Health standard)
- 1 GP assumed to require 210 sq. m (including clinical consulting and waiting area)
- £2,100 cost assumed per sq. m

C.2.3 The current trend is to provide co-location with other services such as libraries, community hall, social services, residential developments etc. thus reducing capital costs.

Health infrastructure funding assumptions

C.2.4 Developer funding varies from 100% to zero contribution depending on site and viability. The recent developments in the fringe settlements have provided a purpose built development with rent free periods ranging from 8 years to 15 years.

C.3 Recreation and Leisure

C.3.1 Assumptions based on PBA 2012 IDS report, which was based on Cambridge City Council's Planning Obligations Strategy SPD and South Cambridgeshire Open Space in New Developments SPD.

Recreation and leisure infrastructure requirements and cost assumptions

C.3.2 The tables below set out the standards of provision used to identify infrastructure requirements.

Table C1: South Cambridgeshire Leisure Standards

Type of Open Space	Description	Standard
Outdoor Sports	Facilities such as grass pitches for a range of sports, bowling greens, tennis courts, athletics tracks and multi-use games areas	1.6 ha per 1,000 people

Table C2: Cambridge City Leisure Standards

Type of Open Space	Description	Standard
Outdoor Sports	Playing Pitches, Courts and Greens	1.2 ha per 1,000 people
Indoor Sports	Formal provision such as Sports Halls and Swimming Pools	1 Sports Hall for 13,000 people 1 Swimming Pool for 50,000 people

C.3.3 Cambridge City Council Planning Obligations Strategy SPD (2010) identifies the costs of off-site open space and recreation provision. The document defines the following costs on a per person basis:

- Outdoor Sports Facilities - £238 per person; and
- Indoor Sports Facilities - £269 per person

C.3.4 South Cambridgeshire Open Space in New Development SPD (2009) sets out the costs of offsite outdoor sport provision on a per person basis:

- Outdoor Sport - £372 per person

C.3.5 Cost information on refurbishment and improvements to leisure facilities provided by stakeholder has been supplemented by the Sport England Facility Calculator. This provides an indication of built leisure facility costs, including swimming pool, sports halls, indoor bowls and artificial pitches.

Table C3: Built Leisure Infrastructure Costs

Facility	Sport England Estimated Costs
Swimming Pool	£2,630,000
Sports Halls	£2,790,000
Indoor Bowls	£1,700,000
Artificial Pitch	£800,000

C.3.6 The cost of leisure facilities has also been benchmarked based on examples of recent built and planned leisure facilities locally. This illustrates the wide variation in costs depending on the content and scale of facilities.

C.4 Libraries

C.4.1 Assumptions based on PBA 2012 IDS report. Key documents informing the assumptions include:

- Cambridgeshire County Council Library Service Standards;
- Museum and Library Archive Council – Public Libraries, Archives and New Development (2008);

Library infrastructure requirements assumptions

C.4.2 Cambridgeshire County Council Library Service Standards identified an indicative catchment population for four different sizes of library. These include;

- City Centre library 4,000 sqm for a population greater than 50,000;
- Hub Library – 1,400 sqm for a population greater than 14,000;
- Key library – 350 sqm for a population greater than 7,000; and
- Community Library – 180 sqm for a population greater than 4,000.

C.4.3 Cambridgeshire County Council identifies a standard of 30 sqm per 1000 people.

C.4.4 The minimum size for a viable standalone community library is approximately 180 sqm, but in general, key and hub libraries consist of between 350 to 1,000 sqm, with central facilities being larger at approximately 4,000 sqm or larger.

Library infrastructure cost assumptions

C.4.5 Library building costs are derived from the Building Costs Information Service (BCIS) of the Royal Institution of Chartered Surveyors.

C.4.6 Construction and initial fit out cost can vary by site and area. Using the BCIS data, this can be from £3,233 per square metre to £3,929 per square metre. A recommended benchmark figure for East Anglia is £3,233 per sq. m.

C.4.7 However, costs for enhancements and / or expansions to existing provision the cost will be lower. Cambridgeshire County Council have identified that the costs represents 35% of the total construction figure, e.g. £1,135 per sqm

Community and faith spaces

C.4.8 Assumptions based on PBA 2012 IDS report. Key documents informing the assumptions include:

- South Cambridgeshire District Council Community Facilities Audit (2009);
- Cambridge City Council Community Facility Audit (2004);

- Cambridgeshire Horizons, Facilities for Faith Communities in New Developments in the Cambridge Sub-Region (Three Dragons 2008);

Community and faith space infrastructure requirement assumptions

C.4.9 South Cambridgeshire District Council Community Facilities Audit (2009) identifies a standard of 111 square metres of community space per 1,000 people. Cambridge City Council has no defined standards for the provision of community space.

C.4.10 The Facilities for Faith Communities report (2008) suggests an indicative standard of 0.5 ha per 3,000 dwellings based on case studies of existing premises to population ratios. The report highlights the dual use provided by many community centres and provides indicative premises sizes for Cambridge as follows:

- 300 sq. m will accommodate a small community centre with a hall, office, kitchen and toilets; and
- 3,000 sq. m will accommodate a community centre with large and small hall, health centre, cafe, youth facility and library.

Community and faith space infrastructure cost assumptions

C.4.11 South Cambridgeshire District Council Community Facilities Audit (2009) identifies a standard cost of £1,500 per sq. m. Though comparisons indicate this estimate is to be low.

C.5 Cemeteries

C.5.1 Assumptions based on PBA 2012 IDS report.

Cemetery infrastructure requirement and cost assumptions

C.5.2 The Institute of Crematorium and Cemetery Management (ICCM) have confirmed that nationally 28% of people choose to be buried and identified an indicative standard for the size of new cemetery as:

- 1 acre (0.4 ha) provides 700 cemetery plots (with access road, paths and parking).

C.5.3 Peter Brett Associates (2012) used the phasing of the planned provision during 2012 to identify the annual population growth facilitated by new development to identify an indicative number of additional deaths per year and therefore additional cemetery plots needed over the period to 2031. Overall the requirement is for approximately 3,100 cemetery plots. This equates to 4.4 acres (1.8 ha) of new cemetery provision.

Cemetery infrastructure cost assumptions

C.5.4 The indicative costs of a new purpose built cemetery or cemetery extension has been provided by the ICCM based on previous examples. The cost reflects approximately 3 times current agricultural land price at £23,000-28,000 per hectare. The cost include land purchase and layout of access/landscaping.

C.6 Police and Fire Services

Police and fire infrastructure requirements and cost assumptions

C.6.1 Assumptions on the level of police services applied to the growth scenarios in the 2012 IDS study are set out in the tables below.

Table C4: Police standards

Infrastructure	Standard
Police officers	1 police officer per 564 households
Police Support Staff	1 Police Support Staff per 757 households
Custody Accommodation	1 sq m per 370 households

Source: Cambridgeshire Police 2009

Table C5: Police resource requirements

Infrastructure	Indicative Resource Requirements
Police officers	63 police officers
Police Support Staff	46 Police Support Staff
Custody Accommodation	94 sq m of custody provision

C.6.2 Cambridgeshire Fire and Rescue Service have also used a modelling and risk assessment toolkit, to identify specific infrastructure requirements.

C.6.3 The costs of infrastructure requirements were identified directly by service providers to inform the 2012 IDS study. Peter Brett Associates has sought to benchmark the costs of emergency facilities to illustrate the costs involved. Due to the increasing trend of emergency facilities co-locating with other community and health facilities identifying specific costs is becoming increasingly complex, Indicative infrastructure costs include:

- New police section station (without custody facilities) - £4 million;
- Neighbourhood policing post – £250,000:
- New fire station - £750,000 excluding land; and
- Pumping appliance (Fire Engine) - £220,000.

C.7 Formal Green Space, including Children's Play

C.7.1 Assumptions based on PBA 2012 IDS report. Key evidence documents that informed these assumptions include:

- Cambridge City Council Open Space Strategy (2011);
- Recreation Study Audit and Assessment of Need for Outdoor Playspace and Informal Open Space in South Cambridgeshire;
- Cambridge City Council's Planning Obligations Strategy SPD;

- South Cambridgeshire Open Space in New Developments SPD; and
- Cambridge Allotments – A Management Policy.

Formal green space and children's play space infrastructure requirements

C.7.2 The South Cambridgeshire Open Space in New Developments SPD (2009) identifies the standards of provision. The table below shows the standards used to identify infrastructure requirements across South Cambridgeshire.

Table C6: South Cambridgeshire Open Space Standards

Type of Open Space	Description	Standard
Children's Play Space	Formal equipped play areas and provision for teenagers including wheeled sports parks and macadam kick-about areas. Also includes areas for informal play, including grass kick-about areas	0.8 ha per 1,000 people
Informal Open Space	Informal recreation space for walking and relaxing, ranging from formal planted areas and meeting places to wilder, more natural spaces, including green linkages.	0.4 ha per 1,000 people

C.7.3 The Cambridge City Council Open Space Strategy (2011) identifies the standards applicable in the city. The table below shows the standards used to identify infrastructure requirements within cross boundary urban extensions of Cambridge:

Table C7: Cambridge City Council's Open Space Standards

Type of Open Space	Description	Standard
Provision for children and teenagers	Equipped children's play areas and outdoor youth provision	0.3 ha per 1,000 people
Informal Open Space	Recreation Grounds, parks and common land excluding equipped play areas and pitches and nature conservation sites.	2.2 ha per 1,000 people
Allotments	Allotments (urban extensions only)	0.4 ha per 1,000 people

C.7.4 In addition to open space, allotments and children's play space, the infrastructure schedule includes some green infrastructure projects which have been identified in the Cambridgeshire Green Infrastructure Strategy and Cambridge City Nature Conservation Strategy.

Formal green space and children's play space infrastructure costs

C.7.5 Cambridge City Council Planning Obligations Strategy SPD (2010) identifies the costs of off-site open space provision. The document defines the following costs:

- Provision for Children and Teenagers - £316 per person

- Informal Open Space - £242 per person; and
- Allotments (Urban Extensions only) - £52 per person.

C.7.6 South Cambridgeshire Open Space in New Development SPD (2009) also sets out the costs of offsite outdoor sport provision on a per person basis:

- Children's Play space (equipped / formal) - £458 per person;
- Children's Play space (unequipped / informal) - £32 per person; and
- Informal Open Space - £69 per person.

C.8 Household waste and recycling

C.8.1 Cambridge City Council and South Cambridgeshire District Council now operate a joint waste service, officers from the service have updated information on the cost of refuse and recycling collection vehicles as at October 2015. Cambridgeshire County Council provided updated information on the size and cost of household recycling centres. All other information has not changed since the 2012 IDS.

Household waste and recycling infrastructure requirements and cost assumptions

C.8.2 New residential development will affect:

- Household recycling centres (HRC) – new sites will typically be on 1.25 ha of land with an estimated cost of £3m to £5.5m
- Refuse and recycling collection vehicles at £179,500 per recycling vehicle and £157,500 per refuse vehicle, based on servicing 1,000 households a day.
- Bring sites – the RECAP Design Guide SPD standard is for one additional Bring site per 800 dwellings. No cost identified.
- Kerbside collection – involves new wheelie bin, recycling boxes, kitchen caddy and publicity material. Cost of £75 per dwelling assumption adopted but these do vary for Cambridge City Council dependent on whether the development provides houses or flats.

Appendix D Infrastructure projects in IDS 2015

This appendix lists the projects that have informed the 2015 IDS. The focus has been on refining the transport, education and health information from the 2013 IDS study. Other infrastructure inputs will be refined as part of ongoing work with service providers by the local authorities

D.1 Transport – busway / buses

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015	City Deal or not?
234	**Histon Road bus priority (B1049) -** bus priority measures between Histon Interchange and junction of Histon Rd, Huntingdon Rd, and Victoria Rd	Essential mitigation	2016-21	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Cambridge radials	£4,300,000	YES
235	**Milton Road bus priority (A1309)** - between Milton Interchange and Mitcham's corner, Cambridge	Essential mitigation	2016-21	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Cambridge radials	£23,000,000	YES
236	**Madingley Road bus priority (part of the wider** A428 corridor(Cambourne) City Deal Corridor. Referred to as the A1303 bus priority M11 to Queens Road Cambridge scheme in the LTP). High quality on-line bus priority measures **between M11 and Queen's Road Cambridge**. This link will form part of a longer segregated bus route between the Caxton Gibbet roundabout and Cambridge, helping to facilitage development both at West Cambourne /Bourn Airfield and further afield in St Neots.	Essential mitigation	2016-21	Transport busway/bus	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£34,600,000	YES
237	**Cambridge orbital bus priority** - Histon Road to Madingley Road	Desirable	2016-21	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Cambridge orbital	£0	NO
238	**A1307 Hills Road 'Project Cambridge**' - Connecting Cambridge rail station and city centre using a high quality green link.	Essential mitigation	2016-21	Transport busway/bus	Cambridge Urban Area	Cambridge city centre	Cambridge	£25,800,000	YES
239	**Cambridge orbital bus priority** - Newmarket Road to Cambridge Science Park Station	Essential mitigation	2021-26	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Cambridge orbital	£64,700,000	YES
240	**Cambridge orbital bus priority** - Cambridge Ring Road, Addenbrooke's to Newmarket Road	Essential mitigation	2021-26	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Cambridge orbital	£18,700,000	YES
399	**Cambridge orbital bus priority** - Western Orbital busway/bus priority parallel to M11 corridor	Essential mitigation	2021-26	Transport busway/bus	South Cambridgeshire	Cambridge fringe	Cambridge orbital	£23,040,000	YES
241	**Newmarket Road bus prioirty / busway (A1303) - phase 1** - comprehensive segregated bus priotiy / busway on Newmarket Road into Cambridge between Airport Way / East Road ((Elizabeth Way to Abbey Stadium)	Essential mitigation	2021-26	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Newmarket/Cambridge corridor	£54,800,000	YES
241b	**Newmarket Road bus prioirty / busway (A1303) - phase 2** - comprehensive segregated bus priotiy / busway on Newmarket Road into Cambridge between Abbey Stadium and junction with Airport Way	Essential mitigation	2021-26	Transport busway/bus	Cambridge Urban Area	Cambridge fringe	Newmarket/Cambridge corridor	£39,800,000	YES
410	**A1307 corridor bus priority** - bus priority measures past congestion on the A1307 corridor between Haverhill and Cambridge	Essential mitigation	2016-21	Transport busway/bus	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£36,000,000	YES
417	**A428 to M11 segregated bus links** High quality segregated bus priority measures between the A428 junction with the A1303 and the junction of the M11. May includes on-line and off line bus priority measures between the A428 and M11.	Essential mitigation	2016-21	Transport busway/bus	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£13,000,000	YES
772	**Hauxton to Trumpington Busway / bus priority** - segregated bus access from the new Hauxton PR site to the busway at the Trumpington PR site and to Trumpington Rd	Essential mitigation	2021-26	Transport busway/bus	South Cambridgeshire	Northstowe	Royston/Cambridge corridor	£15,800,000	YES
782	**Bourn Airfield / Cambourne busway** (growth area bus links) Segregated bus links from A428 at Caxton Gibbet connecting West Cambourne, Cambourne and Bourne Airfield and continuing a segregated route to the junction of the A1303/A428. The link will help to facilitate the developemnt of the strategic sites at West Cambourne and Bourn Airfield by forming part of a	Essential mitigation	2021-26	Transport busway/bus	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£28,800,000	YES
1395	**Waterbeach to North Cambridge busway** - a busway link from the station and town centre to north Cambridge including a fully segregated crossing of the A14 Trunk Road	Essential mitigation	2026-31	Transport busway/bus	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£46,100,000	YES
243	Bus priority - Chesterton Road	Desirable	2021-26	Transport busway/bus	South Cambridgeshire	Cambridge fringe	Cambridge	£0	NO
244	Bus priority - East Road	Desirable	2021-26	Transport busway/bus	South Cambridgeshire	Cambridge fringe	Cambridge	£0	NO
785	Network focused on catchments of Comberton Village College, Gamlingay Village College and the new secondary school at Cambourne	Desirable	2016-21	Transport busway/bus	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO
786	Network connecting transport interchanges along corridor	Desirable	2016-21	Transport busway/bus	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO
787	Network connecting employment sites on corridor	Desirable	2016-21	Transport busway/bus	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO

D.2 Cycleways

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015	City Deal or not?
338	Provision of a third City Centre cycle park	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£2,000,000	NO
356	**Chisholm trail links and bridge** - Provision of a strategic cycle way connecting Addenbrooke's to Cambridge Science Park and the Biomedical campus. River crossing between Chesteron and Ditton Meadows	Essential mitigation	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£7,500,000	YES
404	Direct, segregated pedestrian and cycle route from north Cambridge to the Cambridge Research Park	Desirable	2021-26	Transport cycleways	South Cambridgeshire	Rural settlements	Non transport corridor	£5,000,000	NO
405	**Wider Waterbeach pedestrian / cycle network** - a comprehensive network of high quality pedestrian / cycle routes linking the town with key destination in Cambridge and surrounding villages	Essential mitigation	2026-31	Transport cycleways	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£14,400,000	YES
753	Create network focused on catchment of Linton Village College	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£2,000,000	NO
754	Create cycle network connecting to transport interchanges along the corridor	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£2,000,000	NO
755	Complete direct cycle route from Cambridge to Babraham Research Campus and Granta park outwards towards Haverhill	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£2,000,000	NO
764	**Cambridge to Royston cycle link** - Off road strategic cycle link between Cambridge and Royston - A10 (south).	Essential mitigation	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Royston/Cambridge corridor	£7,200,000	YES
765	Improved links to transport interchanges, village colleges	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Royston/Cambridge corridor	£2,000,000	NO
774	Create network focused on catchment of Sawston Village College	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Saffron Walden/Cambridge corridor	£2,500,000	NO
775	Create network connecting to transport interchanges along A1301 corridor	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Saffron Walden/Cambridge corridor	£2,500,000	NO
776	Create network connecting employment sites at Babraham, Granta Park and Genome campus	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Saffron Walden/Cambridge corridor	£2,500,000	NO
777	Continue cycle route outwards from Shelford along corridor towards Saffron Walden	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Saffron Walden/Cambridge corridor	£2,500,000	NO
779	**Bourn Airfield/ wider Cambourn pedestrian / cycle** route programme links to west Cambridge, Papworth Everard, Highfields, Hardwick, Caxton, Bourn, Caldecote, Comberton, Bar hill and Dry Draton. A fully segregated direct route to Cambridge from the new developments along the A428 is necessary to encourage significant numbers of people to use bike instead of car into Cambridge.	Essential mitigation	2016-21	Transport cycleways	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£8,400,000	YES
1398	Saffron Walden and Haverhill corridors cycle and pedestrian routes - comprehensive network of cycling and walking along the corridor to link residential with employment centres.	Essential mitigation	2021-26	Transport cycleways	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£4,800,000	YES
1399	**City Centre capacity improvements/ cross city cycle improvements** (phases 1 and 2) - capacity improvements in the city centre including an extended city centre cycle park, improved surfacing, streetscape enhancements to improve legibility, a nework of segregated routes on arterial roads, safe junctions, crossings and newtork of quieter streets	Essential mitigation	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£22,700,000	YES
new	Cycle link from Darwin Green to Welbrooke Way	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Improved pedestrian facilities at Barton Rd/Grantchester Street junction	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£300,000	NO
	Ring Fort Path: link from Orchard Park to B1049/A14 rbt	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£350,000	NO
new	Cycle route connecting Histon and Girton to Darwin Green via NIAB bridge over A14	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Cambridge fringe	Non transport corridor	£500,000	NO
	Pedestrian and cycle crossing on B1049 Cambridge Rd, Impington	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£100,000	NO
new	Upgrade cycle path from Darwin Green to Histon Rd via path at Cavesson Court/Tavistick Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Non transport corridor	£165,000	NO
	Chesterton Rd cycle improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,000,000	NO

	Bridge St pedestrian improvements: Jesus Lane and Round Church Street	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£75,000	NO
	Green End Rd cycle improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£725,000	NO
	Cycle improvements at Elizabeth Way/Chesterton Road rbt	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£650,000	NO
new	Milton Rd to Cambridge North station pedestrian/cycle route	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Improvements to Coldham's Lane cycle facilities	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Jesus Green Lock new cycle bridge	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,800,000	NO
	Improvements to Barnwell Rd/ Newmarket Rd/ Wadloes Rd for cyclists	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,000,000	NO
	Ditton Lane crossing improvements for cyclists	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£400,000	NO
	Riverside cycling and walking improvements between Priory Road and Stanley Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,000,000	NO
	Ditton Lane/Ditton Meadows cycle and pedestrian route improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Replace bridge over railway on Tins cycle path	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£600,000	NO
	Coleridge Rd, Mill Rd junction improvement for pedestrians	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£100,000	NO
	Mill Rd/Devonshire Rd junction improvements for cyclists	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£200,000	NO
new	Extension to Grand Arcade cycle park	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£200,000	NO
	Improvements to cycle route between Addenbrooke's and The Shelfords	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Cherry Hinton Rd/Mowbray Rd to Cherry Hinton Rd/Wulfston Way cycle safety improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£400,000	NO
	Ramp/steps from Long Road Bridge to CGB cycle route	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£300,000	NO
	Lighting of The Busway maintenance/cycle track: Addenbrooke's spur	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£100,000	NO
	Cycle improvements to Cherry Hinton High Street phase 2	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Improvements for cyclists to Sainsbury's rbt	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Cherry Hinton Rd cycleway improvements: between Hills Rd & Perne Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Cherry Hinton Rd cycleway improvements: between Perne Rd & Queen Edith's Way	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,000,000	NO
	Fulbourn: cycle improvements along Cambridge Rd - new lighting	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Cycling improvements at Brooklands Avenue/Trumpington Rd junction linking to New But and Coe Fen cycle routes	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£600,000	NO
	A1301 Shelford Rd/Cambridge Rd cycleway widening and improvements between A1309 and Shelfords	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£2,000,000	NO
	Improvements to Fen Causeway/Trumpington Rd/Lensfield road junctions	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£300,000	NO
	Improvements to path between Chery Hinton and Fulbourn (along railway)	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£400,000	NO
	Queen Edith's Way/Fendon Rd rbt - cycle safety improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Queen Edith's Way cycleway widening	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£2,000,000	NO
	Hills Rd/Long Rd junction improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	cycle improvements Budgens rbt, Perne Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£500,000	NO
	Inbound cycle lane on Girton Rd to link with new cycle route on Huntingdon Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£250,000	NO
	Cycle and pedestrian crossing of Girton Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£50,000	NO
	Widened shared cycle and pedestrian footpath on Milton Rd between CGB and Science Park	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£100,000	NO
	Segregated cycle lanes along King's Hedges Rd on approach to Milton Rd	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£130,000	NO
232	Provision of a cycle park at Cambridge Station	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge fringe	Cambridge	£2,500,000	NO
760	Interurban cycle network	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	Huntingdon/Cambridge corridor	£0	NO
778	Improve interchange facilities at Shelford, Whittlesford Parkway and Great Chesterford stations	Desirable	2021-26	Transport cycleways	South Cambridgeshire	Rural settlements	Saffron Walden/Cambridge corridor	£0	NO
785	Network focused on catchments of Comberton Village College, Gamlingay Village College and the new secondary school at Cambourne	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO
786	Network connecting transport interchanges along corridor	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO
787	Network connecting employment sites on corridor	Desirable	2016-21	Transport cycleways	South Cambridgeshire	Rural settlements	St Neots/Cambridge corridor	£5,000,000	NO
	Castle Street improvements for cyclists and pedestrians. Between Mount Pleasant/ Huntingdon Rd/ Victoria Rd and Chesterton Lane/Magdelene Street/ Northampton St junctions	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Tenison Rd/Devonshire Rd traffic calming	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Mill Rd, Brookfields, Perne Rd junction improvements for pedestrians and cyclists	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Improvements to Robin Hood junction	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Addenbrooke's Rd/Shelford Rd junction improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Silver Street improvements for pedestrians and cyclists	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Silver Street/Queen's Rd Junction Improvements	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
	Cherry Hinton to Shelfords orbital cycle route	Desirable	2016-21	Transport cycleways	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO

D.3 Transport – highways, public realm, park & ride

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015	City Deal or not?
14	**Newmarket Road/ Airport Way Park & Ride (A1303) phase 3** - A new PR site at the junction with Airport Way and Newmarket Road to replace and enlarge the current Newmarket Road site and take advantage of bus priority measures on the A1303 / A1134 between Airport Way and Elizabeth Way.	Essential mitigation	2021-26	Transport park and ride	Cambridge Urban Area	Cambridge fringe	Newmarket/Cambridge corridor	£17,300,000	YES
15	Murketts Corner Junction Enhancement	Desirable	2011-16	Transport highway	Cambridge Urban Area	Cambridge fringe	Cambridge	£0	NO
143	Mill Road - public realm and highways improvements to support this retail-focused area.	Desirable	2011-16	Transport publc realm	Cambridge Urban Area	East area - CUA	Cambridge	£2,000,000	NO
144	Fitzroy/Burleigh St/Grafton Area of Major Change. Main works would be to the frontage of East Road and to Burleigh St in order to improve the public realm.	Desirable	2011-16	Transport publc realm	Cambridge Urban Area	West /Central - CUA	Cambridge	£1,000,000	NO
145	Mitcham's Corner improvements - TBC subject to City Deal	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	West /Central - CUA	Cambridge	£0	NO
146	Old Press/Mill Lane highways improvements to over-congested and dangerous junctions and public realm improvements on the back of redevelopment and infilling of this historic 1-2 block area.	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	West /Central - CUA	Cambridge	£1,000,000	NO
147	Public Realm Improvements to Riverside	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£4,109,000	NO
148	Neighbourhood Centre Public Realm Improvements (Arbury Court, Trumpington High Street, Barnwell Road Shops, Carlton Way Shops and Cambridge Leisure Park)	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£7,346,500	NO
149	Public Realm City Centre Projects 1: Market Square incl. Market Hill (Guildhall north) & St. Mary's St	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£5,523,750	NO
150	Public Realm City Centre Projects 2: St Mary's Passage	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£306,000	NO
151	Public Realm City Centre Projects 3: Sidney Street (Hobsons St to Jesus Lane)	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£2,833,500	NO
152	Public Realm City Centre Projects 4: Market Street	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£720,750	NO
153	Public Realm City Centre Projects 5: Market Passage	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£273,000	NO
154	Public Realm City Centre Projects 6: Petty Cury	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£666,000	NO
155	Public Realm City Centre Projects 7: Guildhall area incl. Guildhall Street, Wheeler St & Peas Hill	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,748,250	NO
156	Public Realm City Centre Projects 8: Rose Crescent	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£435,750	NO
157	Public Realm City Centre Projects 9: Corn Exchange Street	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£1,419,000	NO
158	Public Realm City Centre Projects 10: St. John's Street	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£2,767,500	NO
159	Public Realm City Centre Projects 11: Bridge Street (Jesus Lane to St. John's Street)	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	Cambridge city centre	Cambridge	£862,500	NO
340	Safety improvements at the Trumpington Street/Fen Causeway/Lensfield Road/Trumpington Road junction	Desirable	2021-26	Transport highway	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
344	Extension to Core Traffic Scheme to cover Maid's Causeway	Desirable	2021-26	Transport highway	Cambridge Urban Area	Cambridge city centre	Cambridge	£0	NO
406	**Mitigation of local impacts** - Measures required to mitigate the traffic impact of the new town on Horningsea, Fen Ditton, Milton and Landbeach	Essential mitigation	2026-31	Transport highway	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£0	NO
409	Improved interchange at Ely and Waterbeach	Desirable	2021-26	Transport park and ride	South Cambridgeshire	Rural settlements	Ely/Cambridge corridor	£0	NO
410b	**An outer Park & Ride site on A1307** - located between Linton and the A11 to provide additional PR capacity on the corridor and intercept car trips further out from Cambridge.	Essential mitigation	2016-21	Transport park and ride	South Cambridgeshire	Rural settlements	Haverhill/Cambridge corridor	£7,200,000	YES
417b	**A428 corridor Park & Ride -** One or more Park & Ride or rual interchange sites accessed from the A428 to take advantage of the bus priority measures on the A1303 between the A428 and the M11	Essential mitigation	2016-21	Transport park and ride	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£11,500,000	YES
752	Expansion of Milton P&R to 2,000 spaces	Desirable	2021-26	Transport park and ride	South Cambridgeshire	Rural settlements	Ely/Cambridge corridor	£0	NO
761	Longstanton P&R expansion	Desirable	2021-26	Transport park and ride	South Cambridgeshire	Rural settlements	Huntingdon/Cambridge corridor	£0	NO
766	A10 Foxton level crossing replacement with bridge or underpass on short bypass alignment	Essential mitigation	2021-26	Transport highway	South Cambridgeshire	Rural settlements	Royston/Cambridge corridor	£21,600,000	YES
769	**Hauxton (A10 South) Park & Ride** - new provision complementing the existing Trumpington PR site (coupled with scheme 772 busway)	Essential mitigation	2021-26	Transport park and ride	South Cambridgeshire	Rural settlements	Royston/Cambridge corridor	£17,300,000	YES
780	**Mitigation of local impacts**- measures required to mitigate the traffic impact of the strategic sites on Bourn, Caldecote, Toft, Comberton and Barton	Essential mitigation	2016-21	Transport highway	South Cambridgeshire	Cambourne West/Bourn Airfield	St Neots/Cambridge corridor	£0	NO
1395b	**A10 corridor outer Park & Ride site** - PR sites on the A10 to intercept traffice from the nort of Waterbeach, served by new busway link to Cambridge, Alignment tbd	Essential mitigation	2026-31	Transport park and ride	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£11,500,000	YES
1396	**A10 dualling and junctions (on an alignment tbd)** for general traffic between the northernmost access to the new town and the Milton Interchange of the A10 and the A14	Essential mitigation	2026-31	Transport highway	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£63,400,000	YES
new	Remodelling of Elizabeth Way rbt' inline with Eastern Gate SPD	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	East area - CUA	Cambridge	£0	NO
new	Comprehensive movement and place based design strategy for Newmarket Rd & East Rd' as outlined within Eastern Gate SPD	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	East area - CUA	Cambridge	£0	NO
new	Remodelling of St Matthew's Street junction' as outlined in Eastern Gate SPD	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	East area - CUA	Cambridge	£0	NO
new	Remodelling of Coldham's Lane/Newmarket Rd jct' inline with Eastern Gate SPD	Desirable	2016-21	Transport publc realm	Cambridge Urban Area	East area - CUA	Cambridge	£0	NO
new	Improvements to Gonville Place, Mill Rd, East Rd, Parkside jct	Desirable	2016-21	Transport highway	Cambridge Urban Area	Cambridge city centre	Cambridge	£850,000	NO
1396b	A14 / A10 Milton Interchange improvements - additional capacity at the Milton Interchange for general traffic movement between A10 and A14 and vice versa.	Essential mitigation	2026-31	Transport highway	South Cambridgeshire	Waterbeach New Town	Ely/Cambridge corridor	£66,400,000	Yes

D.4 Education

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015
230	Morley Memorial - provision of early years day care	Essential mitigation	2016-21	Education primary & secondary	Cambridge Urban Area	South area - CUA	N/A	£3,000,000
326	Additional 4FE Secondary school provision to be linked to solution for existing shortfall in City	Essential mitigation	2016-21	Education primary & secondary	Cambridge Urban Area	East Area - CUA	N/A	£20,000,000
1377	Cambourne VC Secondary School expansion by 2FE	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£4,600,000
135	1 FE Primary School and early years provision (new schools or expansions to be determined in the South of the City)	Essential mitigation	2016-21	Education primary & secondary	Cambridge Urban Area	South area - CUA	N/A	£14,200,200
136	Up to 2 FE Primary School and early years provision (new schools or expansions to be determinedin the East of the City)	Essential mitigation	2021-26	Education primary & secondary	Cambridge Urban Area	East area - CUA	N/A	£7,100,100
569	2 FE Primary School with Early Years provision for first phase of Bourne Airfield new settlement	Essential mitigation	2021-26	Education primary & secondary	South Cambridgeshire	Bourn Airfield new settlement	N/A	£8,510,000
570	New Primary School (2 Form Entry) & Early Years provision to serve the Cambourne West New Settlement	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Cambourne West	N/A	£8,510,000
580	6FE Secondary School Bourn Airfield new settlement	Essential mitigation	2031-41	Education primary & secondary	South Cambridgeshire	Bourn Airfield new settlement	N/A	£24,000,000
706	Orchard Park - additional Early Years and Childcare provision	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Cambridge fringe	N/A	£400,000
572	Phase 2 - 2FE Primary Schoolwith early years Bourn Airfield new settlement (second primary school)	Essential mitigation	2031-41	Education primary & secondary	South Cambridgeshire	Bourn Airfield new settlement	N/A	£8,510,000
573	Phase 2 - 2FE Primary School with early years Bourn Airfield new settlement (third primary school)	Essential mitigation	2031-41	Education primary & secondary	South Cambridgeshire	Bourn Airfield new settlement	N/A	£8,510,000
581a	2FE Primary School and Early Years to serve Waterbeach	Essential mitigation	2021-26	Education primary & secondary	South Cambridgeshire	Waterbeach New Town	N/A	£8,510,000
581b	2FE Primary School and Early Years to serve Waterbeach	Essential mitigation	2026-31	Education primary & secondary	South Cambridgeshire	Waterbeach New Town	N/A	£8,510,000
new	Post 2031 10FE worth of Primary Schools and Early Years to serve Waterbeach	Essential mitigation	2031-41	Education primary & secondary	South Cambridgeshire	Waterbeach New Town	N/A	£42,550,000
new	4FE Secondary School to serve Waterbeach	Essential mitigation	2026-31	Education primary & secondary	South Cambridgeshire	Waterbeach New Town	N/A	£16,000,000
new	10FE of additional Secondary School provision to serve Waterbeach beyond 2031	Essential mitigation	2031-41	Education primary & secondary	South Cambridgeshire	Waterbeach New Town	N/A	£36,000,000
new	2 FE Primary School with Early Years provision to serve Land north of Cherry Hinton	Essential mitigation	2016-21	Education primary & secondary	Cross border	North of Cherry Hinton	N/A	£8,510,000
new	2FE Secondary School need to serve Land north of Cherry Hinton via expansion of a new 6 FE school at Cherry Hinton	Essential mitigation	2021-26	Education primary & secondary	Cross border	North of Cherry Hinton	N/A	£8,000,000
New	2FE expansion of the existing Secondary School at Cambourn West to serve plan growth	Essential mitigation	2021-26	Education primary & secondary	South Cambridgeshire	Cambourne West	N/A	£8,000,000
869	Bottisham Village Expansion 1FE Secondary School	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£3,250,000
874	Fulbourn - Primary School expansion	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£1,750,000
875	Harston Primary School expansion	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£2,000,000
876	Melbourne Primary School expansion	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£2,200,000
878	Sawston Primary School - 1FE expansion	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£1,800,000
1386	Hardwick Second Campus (Cambourne) - 1 FE Primary expansion	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£2,360,000
New	Hatton Park (1Form Entry) Primary and Early Years School	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£2,000,000
New	Meldreth expansion to 1 FE primary and Early Years	Essential mitigation	2016-21	Education primary & secondary	South Cambridgeshire	Rural settlements	N/A	£2,000,000

Libraries and health

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015
57	Small scale alterations of Milton Road library/ Rock Road libraries (20 Sqm)	Desirable	2016-21	Libraries	Cambridge Urban Area	North Area - CUA	N/A	£22,640
58	Small scale alterations of Milton Road library/ Rock Road libraries (20 Sqm)	Desirable	2021-26	Libraries	Cambridge Urban Area	North Area - CUA	N/A	£22,640
59	Small scale alterations of Milton Road library/ Rock Road libraries (14 Sqm)	Desirable	2026-31	Libraries	Cambridge Urban Area	North Area - CUA	N/A	£15,848
80	Extension and/or Improvements to Cherry Hinton library (20 Sqm)	Desirable	2016-21	Libraries	Cambridge Urban Area	South Area - CUA	N/A	£22,640
81	Extension and/or Improvements to Cherry Hinton library (19 Sqm)	Desirable	2021-26	Libraries	Cambridge Urban Area	South Area - CUA	N/A	£,21,508
82	Extension and/or Improvements to Cherry Hinton library (16 Sqm)	Desirable	2026-31	Libraries	Cambridge Urban Area	South Area - CUA	N/A	£18,112
110	Improvements to city-wide health infrastructure	Desirable	2021-26	Health	Cambridge Urban Area	Cambridge fringe	N/A	£0
127	Extension/alteration/relocation to existing library provision (14 Sqm)	Desirable	2021-26	Libraries	Cambridge Urban Area	Station Area - CUA	N/A	£15,848
269	Extend or improve to East Barnwell Health Centre or reprovide new facility (Newmarket Road)	Desirable	2016-21	Health	Cambridge Urban Area	East Area - CUA	N/A	£2,200,000
308	Extension, alterations or relocation of existing library provision	Desirable	2016-21	Libraries	South Cambridgeshire	Cambridge fringe	N/A	£13,900
486	Community Health facility for provision of a range of Primary and Community services. Approx 1000 sm, GIA plus parking and access.	Desirable	2021-26	Health	South Cambridgeshire	Bourn Airfield new settlement	N/A	£440,000
495	New key library 350 sqm	Desirable	2031-41	Libraries	South Cambridgeshire	Bourn Airfield new settlement	N/A	£1,131,550
505	Community Health facility improvements or new facility	Desirable	2016-21	Health	South Cambridgeshire	Cambourne West	N/A	£825,000
509	Extension, alterations or relocation of existing library provision	Desirable	2026-31	Libraries	South Cambridgeshire	Bourn Airfield new settlement	N/A	£267,251
547	Extension, alterations or relocation of existing library provision	Desirable	2016-21	Libraries	South Cambridgeshire	Rural settlements	N/A	£9,056
548	Extension, alterations or relocation of existing library provision	Desirable	2021-26	Libraries	South Cambridgeshire	Rural settlements	N/A	£6,792
549	Extension, alterations or relocation of existing library provision	Desirable	2026-31	Libraries	South Cambridgeshire	Rural settlements	N/A	£7,924
561	Extension, alterations or relocation of existing provision/ mobile library stop	Desirable	2021-26	Libraries	South Cambridgeshire	Rural settlements	N/A	£7,924
577	Extension, alterations or relocation of existing library provision	Desirable	2016-21	Libraries	South Cambridgeshire	Rural settlements	N/A	£6,792
578	Extension, alterations or relocation of existing library provision	Desirable	2021-26	Libraries	South Cambridgeshire	Rural settlements	N/A	£4,528
579	Extension, alterations or relocation of existing library provision	Desirable	2026-31	Libraries	South Cambridgeshire	Rural settlements	N/A	£4,528
597	Extension, alterations or relocation of existing library provision	Desirable	2016-21	Libraries	South Cambridgeshire	Rural settlements	N/A	£1,264
618	Extension, alterations or relocation of existing library provision	Desirable	2021-26	Libraries	South Cambridgeshire	Rural settlements	N/A	£16,980
619	Extension, alterations or relocation of existing library provision	Desirable	2026-31	Libraries	South Cambridgeshire	Rural settlements	N/A	£19,244
677	New community hub with 180 sq m library	Desirable	2016-21	Libraries	South Cambridgeshire	Rural settlements	N/A	£1,250,000
704	Extension, alterations or relocation of existing library provision	Desirable	2021-26	Libraries	South Cambridgeshire	Rural settlements	N/A	£5,660
705	Extension, alterations or relocation of existing library provision	Desirable	2026-31	Libraries	South Cambridgeshire	Rural settlements	N/A	£7,924
723	New Community Health facility	Desirable	2026-31	Health	South Cambridgeshire	Waterbeach New Town	N/A	£2,900,000
728	New hub library 1,400 sqm	Desirable	2031-41	Libraries	South Cambridgeshire	Waterbeach New Town	N/A	£4,526,200

D.5 Community facilities

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015
92	New community facility at Brunswick site, Newmarket Road	Desirable	2011-16	Community facilities	Cambridge Urban Area	West /Central - CUA	N/A	£300,000
109	Provision of new or extended cemetery (1.3 ha)	Desirable	2016-21	Community facilities	Cambridge Urban Area	Cambridge fringe	N/A	£30,000
262	On site allotments and community gardens (0.71 ha)	Desirable	2016-21	Community facilities	Cambridge Urban Area	East Area - CUA	N/A	£91,287
263	On site allotments and community gardens (0.75 ha)	Desirable	2021-26	Community facilities	Cambridge Urban Area	East Area - CUA	N/A	£98,288
264	On site allotments and community gardens (0.15 ha)	Desirable	2026-31	Community facilities	Cambridge Urban Area	East Area - CUA	N/A	£19,338
277	On site allotments and community gardens (0.08 ha)	Desirable	2011-16	Community facilities	Cambridge Urban Area	Cambridge fringe	N/A	£10,811
278	On site allotments and community gardens (0.81 ha)	Desirable	2016-21	Community facilities	Cambridge Urban Area	Cambridge fringe	N/A	£105,105
279	On site allotments and community gardens (1.10 ha)	Desirable	2021-26	Community facilities	Cross border	Cambridge fringe	N/A	£142,943
299	On site allotments and community gardens (0.14 ha on site provision)	Desirable	2011-16	Community facilities	South Cambridgeshire	Cambridge fringe	N/A	£18,138
300	On site allotments and Proposed Development community gardens (0.05 ha on Development site provision)	Desirable	2016-21	Community facilities	South Cambridgeshire	Cambridge fringe	N/A	£6,246
303	Community meeting space provision for new development	Desirable	2011-16	Community facilities	South Cambridgeshire	Cambridge fringe	N/A	£62,839
304	Community meeting space	Desirable	2016-21	Community facilities	South Cambridgeshire	Cambridge fringe	N/A	£21,640
319	On site allotments and community gardens (0.42 ha)	Desirable	2021-26	Community facilities	Cambridge Urban Area	Cambridge fringe	N/A	£54,335
321	Community meeting space	Desirable	2021-26	Community facilities	Cambridge Urban Area	Cambridge fringe	N/A	£188,242
443	Improvements to community meeting space for new development	Desirable	2026-31	Community facilities	South Cambridgeshire	Rural settlements	N/A	£32,460
462	Improvements to community meeting space for new development	Desirable	2011-16	Community facilities	South Cambridgeshire	Rural settlements	N/A	£10,404
463	Improvements to community meeting space for new development	Desirable	2016-21	Community facilities	South Cambridgeshire	Rural settlements	N/A	£126,094
464	Improvements to community meeting space for new development	Desirable	2021-26	Community facilities	South Cambridgeshire	Rural settlements	N/A	£45,777
465	Improvements to community meeting space for new development	Desirable	2026-31	Community facilities	South Cambridgeshire	Rural settlements	N/A	£54,932
481	On site allotments and community gardens (0.14 ha)	Desirable	2021-26	Community facilities	South Cambridgeshire	Bourn Airfield new settlement	N/A	£18,018
482	On site allotments and community gardens (1.22 ha)	Desirable	2026-31	Community facilities	South Cambridgeshire	Bourn Airfield new settlement	N/A	£158,558
485	New Community Centre	Desirable	2026-31	Community facilities	South Cambridgeshire	Bourn Airfield new settlement	N/A	£1,475,455
491	On site allotments and community gardens (1.88 ha)	Desirable	2031-41	Community facilities	South Cambridgeshire	Bourn Airfield new settlement	N/A	£243,844
504	New Community Facility or improvements to existing facilities	Desirable	2021-26	Community facilities	South Cambridgeshire	Cambourne West	N/A	£1,475,455
519	Improvements to community meeting space for new development	Desirable	2016-21	Community facilities	South Cambridgeshire	Rural settlements	N/A	£81,566
520	Improvements to community meeting space for new development	Desirable	2021-26	Community facilities	South Cambridgeshire	Rural settlements	N/A	£62,423
521	Improvements to community meeting space for new development	Desirable	2026-31	Community facilities	South Cambridgeshire	Rural settlements	N/A	£74,908

D.6 Waste

2015 Ref	Infrastructure Description	priority	Phasing	Infrastructure category	Local Authority area	Sub area	Transport Corridor	IDS cost input Nov 2015
175	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2011-16	Waste	Cambridge Urban Area	East Area - CUA	Cambridge	£1,125
176	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2016-21	Waste	Cambridge Urban Area	East Area - CUA	N/A	£20,250
177	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2021-26	Waste	Cambridge Urban Area	East Area - CUA	N/A	£42,225
178	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2026-31	Waste	Cambridge Urban Area	East Area - CUA	N/A	£37,725
180	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2016-21	Waste	Cambridge Urban Area	North Area - CUA	N/A	£19,575
181	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2021-26	Waste	Cambridge Urban Area	North Area - CUA	N/A	£20,100
182	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2026-31	Waste	Cambridge Urban Area	North Area - CUA	N/A	£13,950
183	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2016-21	Waste	Cambridge Urban Area	South Area - CUA	N/A	£19,500
184	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2026-31	Waste	Cambridge Urban Area	South Area - CUA	N/A	£15,450
185	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2021-26	Waste	Cambridge Urban Area	South Area - CUA	N/A	£18,375
186	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2016-21	Waste	Cambridge Urban Area	West /Central - CUA	N/A	£20,400
187	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2021-26	Waste	Cambridge Urban Area	West /Central - CUA	N/A	£19,125
188	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2026-31	Waste	Cambridge Urban Area	West /Central - CUA	N/A	£13,875
189	One new Refuse Collection Vehicle (RCV) £140,000 each	Essential mitigation	2016-21	Waste	Cambridge Urban Area	Cambridge wide	N/A	£140,000
195	One new Bring Site (Cambridge City wide)	Essential mitigation	2021-26	Waste	Cambridge Urban Area	Cambridge wide	N/A	£0
196	One New Recycling Collection Vehicle £80,000 each	Essential mitigation	2021-26	Waste	Cambridge Urban Area	Cambridge wide	N/A	£80,000
197	One new Bring Site (Cambridge City wide)	Essential mitigation	2026-31	Waste	Cambridge Urban Area	Cambridge wide	N/A	£0
198	Four new Bring Sites (Cambridge City wide)	Essential mitigation	2011-16	Waste	Cambridge Urban Area	Cambridge wide	N/A	£0
200	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2021-26	Waste	Cambridge Urban Area	Station Area - CUA	N/A	£13,500
201	Kerbside recycling equipment, including bins, boxes and promotional material etc.	Essential mitigation	2026-31	Waste	Cambridge Urban Area	Station Area - CUA	N/A	£28,125
359	One new Bring Site (Cambridge East - Wing)	Essential mitigation	2011-16	Waste	Cambridge Urban Area	East area - CUA	N/A	£0
360	Kerbside recycling equipment, including bins, boxes and promotional material etc (Wing)	Essential mitigation	2016-21	Waste	Cambridge Urban Area	East area - CUA	N/A	£53,600
369	One new Bring Sites (NW Cambridge)	Essential mitigation	2016-21	Waste	Cambridge Urban Area	Cambridge fringe	N/A	£0
370	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Cambridge fringe	N/A	£60,813
371	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Cambridge fringe	N/A	£82,705
372	Four new Bring Sites (NW Cambridge)	Essential mitigation	2021-26	Waste	South Cambridgeshire	Cambridge fringe	N/A	£0
373	One new recycling collection vehicle to support development at North West Cambridge	Essential mitigation	2021-26	Waste	South Cambridgeshire	Cambridge fringe	N/A	£80,000
377	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2011-16	Waste	South Cambridgeshire	Cambridge fringe	N/A	£10,495
378	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Cambridge fringe	N/A	£3,614
379	One new Bring Site (Orchard Park)	Essential mitigation	2016-21	Waste	South Cambridgeshire	Cambridge fringe	N/A	£0
385	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Cambridge fringe	N/A	£32,250
790	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£3,128
791	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£4,518
792	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£5,421
793	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2011-16	Waste	South Cambridgeshire	Rural settlements	N/A	£1,738
794	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£21,059
795	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£7,645
796	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£9,174
797	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£10,425
798	Waste water treatment of surface water drainage for Bourn Airfield	Essential mitigation	2021-26	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£0
799	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£91,740
800	One new recycling collection vehicle to support development	Essential mitigation	2031-41	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£80,000

801	One new refuse collection vehicle	Essential mitigation	2031-41	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£140,000
802	Kerbside recycling equipment,including bins, boxes andpromotional material etc	Essential mitigation	2031-41	Waste	South Cambridgeshire	Bourn Airfield new settlement	N/A	£141,085
803	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Cambourne West	N/A	£24,325
804	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Cambourne West	N/A	£52,125
805	Kerbside recycling equipment,including bins, boxes andpromotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Cambourne West	N/A	£27,800
806	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£13,622
807	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£10,425
808	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£12,510
809	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£7,576
810	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£5,908
811	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£7,089
812	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£6,255
813	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£5,491
814	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£3,475
815	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£4,170
816	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£2,919
817	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£4,170
818	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£5,004
819	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£14,248
820	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£13,900
821	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£16,680
837	Kerbside recycling equipment,including bins, boxes andpromotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£25,229
838	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£31,970
839	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£21,615
840	Five new Bring Sites (SouthCambridgshire Wide)	Essential mitigation	2011-16	Waste	South Cambridgeshire	South Cams wide	N/A	£0
843	One new Bring Site (South Cambridgshire Wide)	Essential mitigation	2016-21	Waste	South Cambridgeshire	South Cams wide	N/A	£0
844	One New Recycling Collection Vehicle £80,000 each	Essential mitigation	2021-26	Waste	South Cambridgeshire	South Cams wide	N/A	£80,000
845	One new Refuse Collection Vehicle (RCV) £140,000 each	Essential mitigation	2021-26	Waste	South Cambridgeshire	South Cams wide	N/A	£140,000
846	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2011-16	Waste	South Cambridgeshire	Rural settlements	N/A	£973
847	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2016-21	Waste	South Cambridgeshire	Rural settlements	N/A	£7,854
848	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2021-26	Waste	South Cambridgeshire	Rural settlements	N/A	£5,213
849	Kerbside recycling equipment, including bins, boxes and promotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Rural settlements	N/A	£6,255
850	Waste water treatment of surfacewater drainage for Waterbeach	Essential mitigation	2021-26	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£0
851	Kerbside recycling equipment,including bins, boxes andpromotional material etc	Essential mitigation	2026-31	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£97,300
852	Kerbside recycling equipment, including bins, boxes and promotional material etc in addition to what is needed for minimum development	Essential mitigation	2031-41	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£69,500
853	Two new recycling collectionvehicles to support Waterbeach£80.000 each	Essential mitigation	2031-41	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£160,000
854	Two new refuse collection vehicles	Essential mitigation	2031-41	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£280,000
856	Kerbside recycling equipment,including bins, boxes andpromotional material etc	Essential mitigation	2031-41	Waste	South Cambridgeshire	Waterbeach New Town	N/A	£458,700

Appendix E Joint statement of foul water and environmental capacity

Joint Position Statement on foul water and environmental capacity in relation to proposed development within South Cambridgeshire District

Purpose & objectives

This Joint Position Statement confirms our current understanding of the waste water treatment issues within the District and its associated environmental implications.

The Issue

The Cambridgeshire Horizons Water Cycle Study (WCS) Phase 1 Outline, September 2008, and Phase 2 Detailed Strategy Report, April 2011, identified potential constraints to development and demonstrated these constraints could be overcome with upgrades to Cambridge Water Recycling Centre (WRC) and Uttons Drove WRC.

However, the scale and direction of growth for the period up to 2031 has now been reviewed in the South Cambridge Local Plan 2013 and additional growth and has been proposed for existing development sites and at new locations.

The Solution

Anglian Water Services Ltd (AWS) and the Environment Agency (EA) will work closely with South Cambridgeshire District Council (SCDC) and with developers to identify any potential constraints and to secure an agreed approach to enable delivery of the proposed quantum of development in a sustainable manner and in compliance with environmental legislation.

Through early consultation we have already established potential solutions that will allow several sites to proceed within wastewater and environmental capacity constraints. In partnership we will continue to look for options for the remaining sites but we agree that until capacity is created, or a solution to create capacity is identified, development may be delayed.

Agreed position for Development Locations

Sawston, Melbourn, Gamlingay, Over and Haslingfield WRCs have capacity to accept foul water flows from proposed growth without the need for increased capacity of water recycling (previously referred to as wastewater treatment) infrastructure. Growth is therefore not constrained by water recycling in these locations. However, no assessment has yet been made regarding the environmental impact of this growth, so all parties will work together in order to confirm that there will be no detriment to local water quality.

Northstowe New Settlement

Additional development identified in the Local Plan is not expected to raise any new concerns. The strategy to serve Northstowe continues in line with the WCS and will be served by Utton's Drove WRC. A Memorandum of Understanding is in place to address local land drainage issues.

Cambourne West

The growth proposed for Cambourne West could potentially be served by Bourn, Papworth Everard and/or Utton's Drove WRC. Initial assessments carried out in conjunction with the proposed development at Bourn Airfield have indicated that development is deliverable. All parties will continue working together to ensure the most sustainable solution within environmental parameters is achieved.

Waterbeach New Town

The location of the proposed new town is currently served by a small WRC that has insufficient capacity to serve this proposal. The preferred option is to build a new WRC to serve the proposed development, and initial assessment suggests that final effluent could be discharged into the River Cam without causing environmental damage. All parties continue to work at developing the most sustainable strategy within environmental parameters.

A Water Cycle Study (known as Denny St Francis WCS) specifically to look at the Waterbeach development proposal has commenced, the outcome should provide guidance on sustainable solutions for water supply and drainage.

According to Local Plan policy SS/5, no more than 1,400 dwellings of the total 8,000-9,000 dwellings will be completed by 2031. The current strategy for serving the development may need to be reviewed to ensure that it continues to offer the most sustainable solution *at the appropriate time*.

New Village at Bourn Airfield

The proposed development is in the catchment of Bourn WRC. The existing WRC has limited capacity but could take a portion of foul flows from the new site. Alternative WRCs in the vicinity are Papworth Everard and Utton's Drove, and each may be able to accommodate some or all of the foul water flows from the development.

Work is ongoing to assess the foul drainage options in conjunction with other development sites at Cambourne West and Northstowe. Initial assessment indicates that capacity could be made available at Papworth Everard within environmental parameters. Utton's Drove is less favourable at this time as the expansion of Cambourne and Northstowe would likely take precedence. Whichever option is taken, upgrades to the foul network will be required to convey the flows to the serving WRC.

Local Plan policy SS/6 dictates development will not commence until 2022 and will be phased so that approximately 50% of the total proposed number of 3,500 will not be completed before 2031. The strategy for serving the development may be reviewed to ensure it offers the most sustainable solution at the appropriate time.

Pre-application Services

EA and AWS provide a pre-application process. It is highly recommended that developers seek pre-application advice in order to understand the environmental infrastructure constraints and opportunities. For more information please see http://www.anglianwater.co.uk/developers/planning and

http://environment-agency.gov.uk/research/planning/33580.aspx.

Liaison and Working Arrangements

We are keen to ensure that water recycling infrastructure and environmental impact is adequately considered ahead of development commencing. Developers will need to engage with all relevant parties in order to identify any potential constraints and agree relevant solutions. Without the upfront engagement delays may impact on the development. We are committed to work with all parties in order to find solutions that will enable all proposed development in South Cambridgeshire District to go ahead.

Agreed by

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Anglian Water

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