Cambourne to Cambridge

Environmental Statement - Non-Technical Summary

Table of Contents

Cambourne

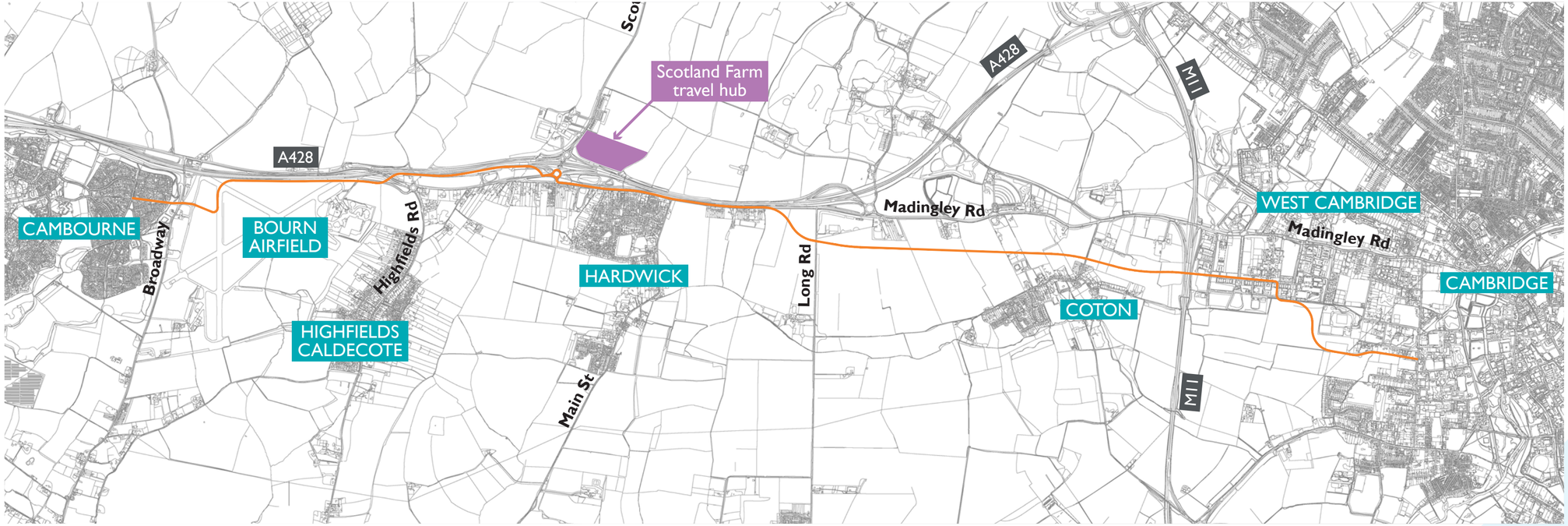
Cambridge

Section 1:
Cambourne to Cambridge and the Environment

1. Cambourne to Cambridge and the environment

The Cambourne to Cambridge Scheme is a proposed new public transport route linking Cambourne and Cambridge. It will include a dedicated busway serving communities in Cambourne and the proposed Bourn Airfield development, as well as in Hardwick, Coton and the West Cambridge campus. A service and maintenance road, to be used as a path for active travel - particularly by cyclists and pedestrians - will run alongside the busway. A new travel hub (a park and ride facility) will be provided at Scotland Farm where drivers can leave their cars and continue into the city by bus or bike.

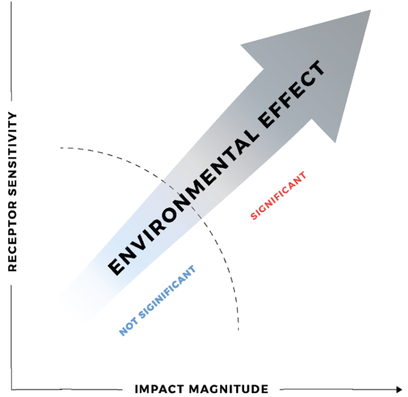
The Scheme is one of several transport interventions promoted by the Greater Cambridge Partnership (GCP) that aim to create more sustainable, accessible and reliable ways to travel in and around Cambridge.



2. The EIA

The assessment of the likely environmental impacts of the Scheme (part of a process called environmental impact assessment or EIA) has been undertaken in collaboration with a wider team of engineers and planners, as well as with the GCP. Consultation with various organisations and the public has helped shape proposals that avoid or minimise negative effects, where practicable, and that deliver environmental improvements.

The approach to the environmental assessment has followed the rules of the Transport and Works Act 1992 (TWA) and the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Cambridgeshire County Council (the Applicant), as lead local authority, is applying to the Secretary of State for an order under the TWA, and a Planning Direction under the Town and Country Planning Act 1990. If authorised, the order and deemed planning permission would provide the powers required for the construction, maintenance and operation of the Scheme.

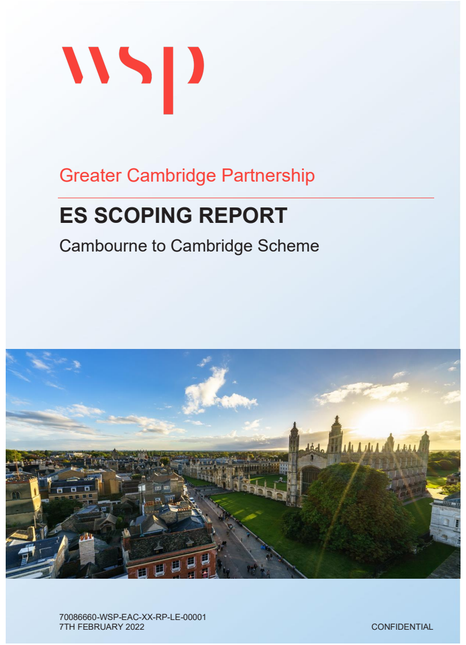


The environmental assessment has been instrumental also in shaping aspects of the alignment and design of the Scheme, as well as proposals for its construction and operation. Different strands of the assessment, each addressing specific environmental issues, have sought to identify and assess potential impacts and to evaluate their effects. As these have been determined, the assessment team has proposed measures to mitigate adverse effects and, working with the design team, to embed them into the Scheme proposals. The most important effects that remain are referred to as 'likely significant effects'.

3. Scope of the assessment

A scoping exercise was completed as an early part of the EIA to focus attention and resource where it would be most needed. By considering the characteristics of the project and the likely environmental impacts it could cause, and through an appreciation of the affected environment, scoping identified which topics to include in the assessment, which topics to prioritise and the relative importance of different aspects within each assessment topic.

WSP prepared a scoping report for an EIA of the Scheme on behalf of the GCP, which was submitted to the Transport Infrastructure Planning Unit of the Department for Transport in February 2022. In preparing their scoping opinion, the DfT sought input from a range of statutory consultees. The opinion was received by the GCP on 28th March 2022 and is published on the GCP's website, along with the scoping report. A summary of the way that comments in the scoping opinion have informed how the environmental assessment was undertaken is also available on the website.

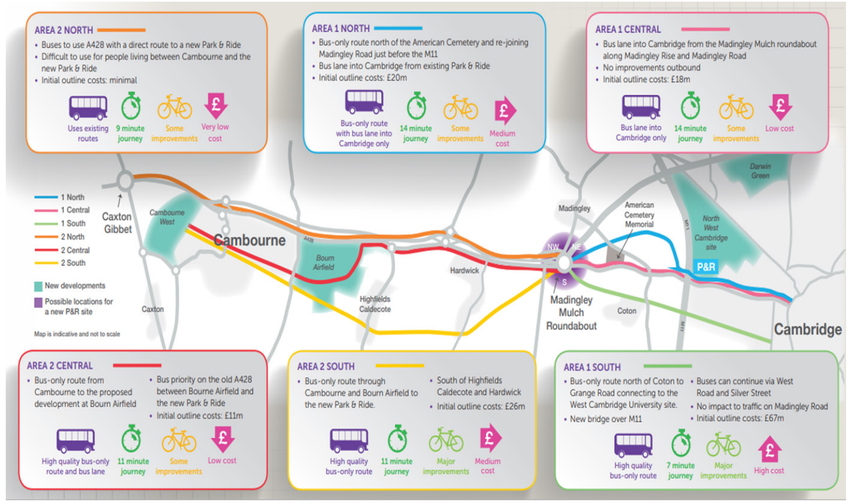


Full scoping report available to view online at on the GCP website (www.greatercambridge.org.uk)

4. Evolution of the Cambourne to Cambridge Scheme

Proposals to develop a bespoke public transport link between Cambourne and Cambridge, broadly following the A428 corridor, were first presented in the 2014 Transport Strategy for Cambridge and South Cambridgeshire. Public consultations in 2015, 2017/18 and 2019 presented options for a route between Madingley Mulch roundabout into the City, and west from Madingley Mulch. The consultation in 2015 presented initial options for routes both to the south and north of the existing A428/A1303 as well as on-road options.

Different route options were explored in subsequent consultation rounds in 2017/8 and 2019, including a bus lane on the A1303 and Madingley Road, a fully off-road option and various off-road/on-road hybrids. The fully off-road option was selected by the GCP, though modified to allow for the section west of Madingley Mulch to be routed alongside the St Neots Road rather than using a new route through farmland. This option, with high quality cycling and walking facilities and a park and ride site near Madingley Mulch roundabout, was considered to offer the best overall contribution to economic growth and the fastest bus journey time between Cambourne and Cambridge.



Six options presented during the 2015 consultation

In parallel, options for a park and ride site were investigated. The Waterworks site by Madingley Mulch had initially been favoured as it was considered to give the best balance between congestion-free access, high attraction for users and lower operating costs. However, a site at Scotland Farm emerged as a proposal during the 2015 consultation. These and several other locations were considered, including some closer to Cambourne, and various sites around Madingley Mulch roundabout. The preference for the Scotland Farm site was based on an assessment of a range of factors, taking account also of landscape and heritage concerns over the Madingley Mulch location. Given that it otherwise performed comparably with the Madingley Mulch option, the final decision was influenced by strong local support during the 2017/8 and 2019 consultations.

An outline business case document was prepared in 2020, which confirmed the partially off-road segregated route as the preferred alignment option. The Scheme was then subject to an independent audit in early 2021 with the findings presented to the GCP's Executive Board on 1 July 2021. The arguments for a number of alternative routes were examined in the audit, which challenged the key assumptions and considerations that led to the selection of the preferred route, and to the rejection of alternatives. The audit confirmed that processes for the business case development and for stakeholder engagement had both been sound, and that the project should proceed to the next stage.

WSP was appointed in July 2021 as the lead consultant to take this single preferred option through to a TWA Order application. There have been some alterations and refinements to the Scheme recommended to the Executive Board that have addressed environmental issues and community concerns raised by stakeholders. The design detail has been developed to confirm the precise requirements for acquiring and using land, as well as to support an assessment of the Scheme's likely significant environmental effects.

5. Refinement of the preferred option

With a preferred route and park and ride site agreed, further issues have emerged from ongoing dialogue with stakeholders. Some of these are listed here:

- The route through Hardwick was realigned along St Neots Road to avoid the tree screen between the road and the A428. A bus gate added initially to increase bus priority was later omitted following local opposition as impact on local traffic was considered to outweigh the public transport benefits it offered.
- The route was diverted around the Waterworks site near Madingley Mulch to avoid ecological and landscape impacts.
- The route through the West Cambridge campus was taken onto Charles Babbage Road to avoid potential impacts on the operation of sensitive scientific equipment.
- The alignment towards Grange Road was modified to minimise land take from the West Fields. The route design was modified to retain protected mature trees along Rifle Range.

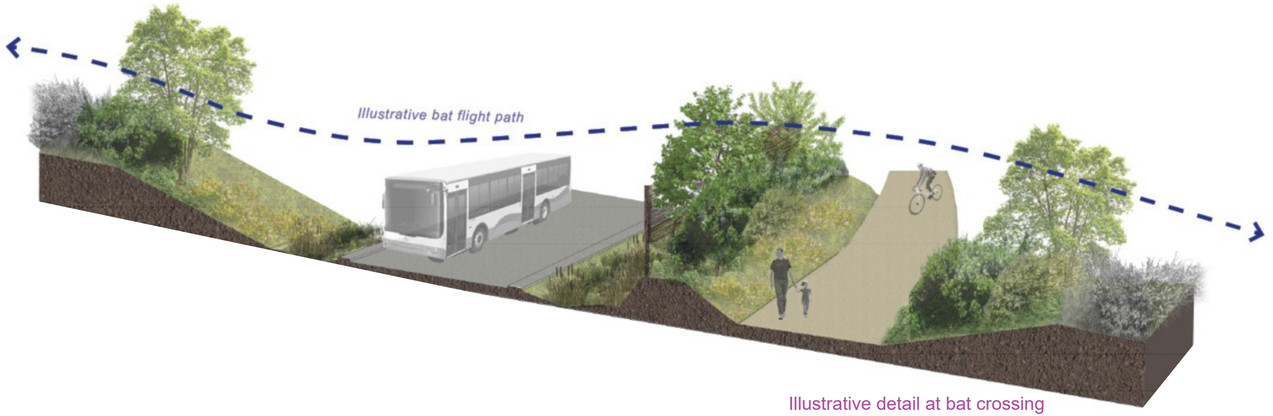
Bin Brook crossing

6. Mitigation strategy

The mitigation of potential impacts and effects is central to a successful EIA. For the environmental assessment of the Scheme, mitigation is deemed effective if it makes a potentially significant effect not significant. Mitigation is incorporated using measures that, in order of priority, avoid, minimise, rectify or compensate for potential impacts and effects.

Opportunities to avoid potential impacts tend to arise in the early stages of a project when alternative proposals are developed, compared and evaluated. Through subsequent stages of the project lifecycle - from concept design and detailed design through to implementation - opportunities to avoid and minimise adverse effects become fewer, and the emphasis shifts to rectifying and compensating.

Mitigation has included changes in the alignment, such as those described in previous sections. Other examples include embankments and planted hedges to encourage elevated bat crossing of the busway, various planted screens, and a design for the bridge over Bin Brook that lessens flood risk.



Illustrative detail at bat crossing

7. Building the Cambourne to Cambridge Scheme

The way that the Scheme will be constructed has been developed in sufficient detail to allow the environmental assessment to determine any significant effects that are likely to result from landtake, introduction of plant and temporary features, construction activity and potential emissions to air and water. The assessment considered general working practices, including use of construction worksites and access to and from the works, and access requirements on the wider road network for bringing people and materials to and from worksites.

Construction work can be one of the chief causes of environmental impact. To minimise this risk, a Code of Construction Practice (CoCP) has been developed, setting out a range of measures and principles that contractors will be required to abide by. Implementation of the CoCP will be secured through a planning condition.

Should the TWA Order be granted, the GCP will appoint a principal contractor who will then work up a detailed design, construction strategy and programme within the consented parameters. This will include a local environmental management plan to reflect the contractor's more detailed design, workplan and assumptions, and which will use the CoCP as the framework for detailed control measures to be agreed with the council.

Construction will be undertaken from 16 worksites, including one main compound at Scotland Farm Travel Hub, five secondary compounds and ten local works compounds to support construction of particular elements. Construction will take place between 8am and 6pm Monday to Friday, and 8am and 1pm on Saturday, with no working on Sundays or bank/public holidays unless agreed in advance with the council.

Section 2: Environment along the route

8. Communities and homes

The route passes through or by five existing settlements, a proposed new settlement at Bourn Airfield, as well as several solitary or small groups of dwellings.

Cambourne comprises three villages. The eastern-most Upper Cambourne was largely built out by 2017. The recently approved planning application for a development west of Lower Cambourne will add a fourth village with a further 2,350 homes.

Bourn Airfield is a proposed mixed-use village on a site at the former airfield, 8km west of Cambridge. Outline planning permission was applied for in 2018, although is, at the time of writing, yet to be signed off. The development is to include 3,500 homes and Runway Park, which will form part of almost 100 hectares of open space.

Hardwick is a village about 6km west of Cambridge with a population of some 3,000 people. It has expanded greatly since the 1960s. Coton is a small village about 5km west of Cambridge with a population of about 800 people. Both villages have local community and some retail facilities.

West Cambridge is a science and research park just east of the M11 that is an important part of the University's estate and a key to its continued growth. Development at West Cambridge has been on-going since the 1960s and has a development framework that sets the context for major expansion.

A residential area, Newnham, is situated at the western edge of the city that broadly extends west from Queen's Road and south from Madingley Road up to the M11. As well as houses and colleges, the area includes several sports pitches and an athletics track, all associated with the university.

Bourn Airfield (Images: Countryside Properties)

9. Environmental quality

Road traffic is a strong determinant of local environmental quality. Noise levels along the route of the Scheme vary, though road traffic noise is prevalent along much of it, especially from the A428, the A1303 Madingley Road, and the M11 on the east side of Coton and from West Cambridge.

At a more detailed level, noise at locations such as homes or schools is characterised by specific noise sources, as well as by local screening from landform or other buildings, though not by vegetation, which has relatively little effect in reducing noise levels.

Road traffic is also the main determinant of local air quality. High traffic levels and frequent congestion in Cambridge have led to much of the City's designation as an air quality management area (AQMA) by the city council due to exceedance levels of certain pollutants. The Cambridge AQMA extends west to where the Scheme terminates, at Grange Road.

However, available monitoring data shows air quality within 2km of the Scheme to be generally good, and it is expected that air quality along much of the route of the Scheme away from major roads will also be good. Various residential areas will be sensitive to changes in air quality, as will certain sensitive habitats, including Madingley Wood Site of Special Scientific Interest (SSSI), approximately 260m north of the Scheme.

View of the Scheme from Madingley Road

10. Soils, geology and landscape

The Scheme crosses a landscape of mostly lowland farmland. The Greater Cambridge Landscape Character Assessment describes landscape generally in the area as being “gently undulating, intensively farmed arable landscape encompassing densely settled, wide, flat river valleys and their tributaries”.

The rich farmland and remnant ancient woodlands are very much a product of the area’s geology. Geological bands follow a generally north-west to south-east alignment, reflecting the southwards migration of the glaciers about 400,000 years ago. The bedrock geology is substantially clay with remnants of chalk poking through this where erosion and weathering has exposed it, particularly to the south-west of Cambridge. Overlying clay rich glacial deposits are relatively resistant and form higher ground on the Western Plateau that rises gradually west of Toft and Hardwick as far as St Neots. Springs form occasionally where water is forced up over impermeable clay.

Soils in the area have developed since the ice sheet retreated and are predominantly chalky tills, giving them a slowly permeable, calcareous clayey nature. Natural fertility is high and land is commonly used for the production of winter cereals. Agricultural soil maps record much of the land crossed by the Scheme as being of good quality.

View of the Scheme from Red Meadow Hill

11. Water environment

Passing eastwards, the route follows the low, flat ridge of the Western Plateau, with streams and field drains flowing north and south from this. Around Cambourne the Scheme lies within the catchment of the Great Ouse but enters the catchment of the River Cam eastwards from Bourn Airfield.

Callow Brook runs northwards through Hardwick and is culverted below the St Neots Road and A428. It flows near to the eastern edge of the travel hub continuing northwards to become the Old West river at Dry Drayton. Bin Brook flows from the plateau south-eastwards passing through Coton south of the Scheme before bearing north at Newnham where its course and the route alignment intersect west of Grange Road. Neither Callow Brook nor Bin Brook are chalk streams. Various other drainage ditches along field edges are crossed by the Scheme. The route is largely routed over low permeability formations with limited groundwater potential. Two principal aquifers underlie Bourn Airfield, and the route between Madingley Mulch and Coton Orchard respectively. No source protection zones - where groundwater abstraction points are vulnerable to pollution - are crossed by the Scheme.

Most of the Scheme crosses land of very low flood risk. There is a small area in high flood risk, where the risk of flooding from the Bin Brook, associated with the floodplain of the River Cam, is greater than a 1 in 100 year event.

There are pockets of land at high flood risk from surface water flooding, typically from natural overland flows and local depressions in topography where surface water runoff can accumulate from heavy rain.

Scotland Farm Travel Hub with attenuation ponds

12. Nature

The habitats and wildlife that occur along the Scheme have been characterised through desk research and a programme of almost 250 surveys undertaken over the preceding years and months. As well as habitat surveys that have classified the land according to different habitat types, there have been surveys for bats, birds, reptiles, aquatic fauna and invertebrates. Surveys of species, including badgers, otters, great crested newts, water voles, white clawed crayfish and barn owls have also informed the assessment. The surveys have focused on the areas where the species or groups are likely to be found. Survey scopes were agreed by both the county and city ecologists, and the bat survey strategy was endorsed by Natural England.

Badger and water vole have been identified within the survey areas, as well as a range of wintering and breeding bird species associated with the habitats found in the local area. No great crested newts have been recorded within any of the water bodies surveyed.

Most of the open land crossed by the Scheme is arable farmland, including the footprint of the travel hub. This is generally of little importance for wildlife. Coton Orchard, the scrubland and young woods on the east side of the M11 (designated a city wildlife site), and Bin Brook (also a city wildlife site) are locations of greater importance and interest. The 100-year-old Coton Orchard, though now much depleted, is of local importance for insects and other invertebrates, as well as providing a refuge for a range of animals and birds.

There are also several hedgerows crossed by the Scheme that are in various conditions. The Coton path hedgerow crossed by the Scheme is designated a county wildlife site.

Madingley Wood is a SSSI north of the A1303 Madingley Road, approximately 260m north and uphill of the Scheme. The importance of this and similar more distant habitats for bats, including the rare barbastelle bat, is recognised, and an extensive programme of bat surveys has been a feature of the ecological assessment. A special assessment of potential impacts on barbastelles has been undertaken, using radio tracking assessments to allow more precise information on their movements.

13. Heritage

Information about the history of the area and its potential to yield archaeological remains, as well as about surface structures and landscapes of heritage interest, has been developed through extensive documentary research, including findings from 16 previous archaeological investigations completed within the vicinity of the route of the Scheme, notably at the eastern and western ends. Research has used aerial photographs, ground level data from laser imaging (LiDAR) and geophysical survey, as well archaeological fieldwork such as trial trenching, targeted archaeological excavation and archaeological watching briefs.

There is little evidence for activity before the Iron Age, though the Iron Age landscape would have been dotted with small-ditched farmsteads and associated field systems.

Remains of Roman settlement are likely, with previous investigations having identified Romano-British field systems and settlements at both the western and eastern ends of the Scheme. Evidence of a substantial Roman settlement has been identified within the site either side of Long Road, and this is likely to extend beyond the areas that were investigated.

At the eastern end of the Scheme, at the edge of modern Cambridge, an early medieval site used for funerals and other activity, was identified 70m south-east of the route, and may extend up to and across it. Otherwise, little is expected from this period of settlement.

In contrast, later medieval and post-medieval remains are more likely to be found. There is extensive evidence of former ridge and furrow field systems and former field boundaries, ditches and trackways.

Evidence of the former 19th century university rifle range may be present at the eastern end of the site. The likelihood of finding buried World War II remains at the former Bourn airfield is also high.

With respect to historic surface features and structures, as well as general heritage designations, the site contains no nationally protected assets, such as scheduled monuments, listed buildings or registered parks and gardens. The far eastern end of the Scheme extends into the West Cambridge conservation area. This includes within the study area one Grade II* listed building (Clare Hall around 25m north of the Scheme) and 11 Grade II listed buildings, the closest of which is 48 Grange Road 20m to the east. The Scheme passes to the north of the Coton conservation area. The Church of St Peter in Coton is Grade I listed.

The American Military Cemetery at Madingley is a Grade I Registered Park and Garden that extends to within 240m north of the site boundary, and includes a Grade II* listed memorial.

Section 3: Environmental effects of Cambourne to Cambridge

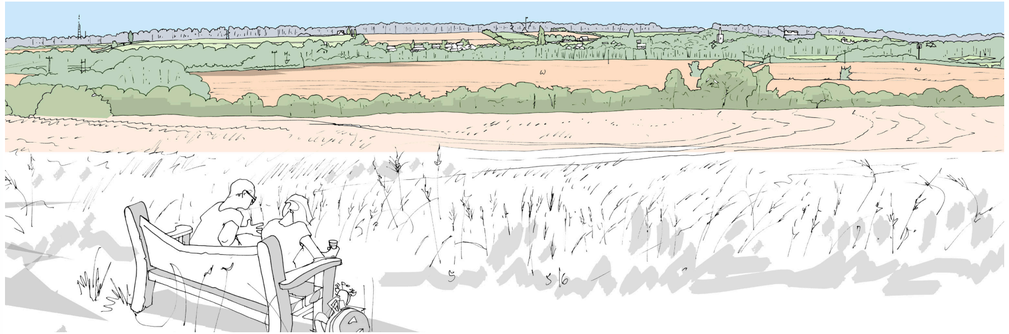
14. Effects on people and communities

The Cambourne to Cambridge Scheme will offer significant benefits to people through the transport opportunities and links it brings. As well as supporting the provision of new housing and employment, it will introduce new and quicker journeys for people in Cambourne, Hardwick and Coton, and for new residents at Bourn Airfield. The Travel Hub will allow people living west of Cambridge but away from the route to access alternative and direct bus services or to use cycle facilities. And the footpath and cycleway that uses the service road alongside the busway will widen opportunities for travelling by foot and bike, with associated health benefits.

The Scheme will greatly increase the ability of the area to accommodate new houses, particularly at Bourn Airfield, as well as at Cambourne West, and this will in turn help local businesses and other employees attract their workforce.

Landtake from farmland will be limited to a practicable minimum and with provision of new access across the Scheme, there will be no significant effects on farm viability.

Part of the City Wildlife site east of the M11, designated as open space, will be displaced by the overbridge and require diversion of a bridleway, adding 300m to its length. Replacement open space provided on land west of the M11 will be larger and of superior quality, representing a significant benefit.



View to Coton from Red Meadow Hill

The route generally avoids more sensitive environments or it uses existing roads, and this will help to limit impacts from noise or visual impact. It diverges from the highway east of Hardwick and passes south across open countryside towards and past the built part of Coton. The landscaping that will be introduced with the Scheme will greatly help to soften and mitigate impacts on views here.

Some people living in Coton will have views of the busway, but existing vegetation provides an effective screen for many, and the landform will also be effective in screening much of the route, especially from the north. As planting matures, impacts will lessen.

Some residents on Whitwell Way and along Cambridge Road will be adversely affected by views of the Scheme, especially during construction. Users of the footpath to Madingley will be similarly affected, although these impacts will reduce for most as planting matures.

Further west, people living on Scotland Road, and those using the footpath along Callow Brook will have close views of the travel hub and of the construction site that precedes it. Screen planting will be important in reducing these impacts with time.

Noise impacts from the operating bus services will be limited. Buses will generate similar noise impacts to the existing dominant source from road traffic where the route is on or alongside existing roads. Significant noise for short periods (6.00am to 7.00am and 11pm to midnight) from buses may affect residents at the eastern edge of Cambourne and students in Newnham assuming the most intense timetable of 10 buses an hour in each direction. In practice, there will be fewer bus services in the early morning and evening and at

Cambridge Road Junction, Coton

weekends, so actual noise effects are likely to be less. The timetable will be decided later by the bus operators.

Noise impacts from the travel hub could arise from, for example, car doors and engines, but will be below levels that are considered significant. Noise impacts that result from changes in road traffic will be negligible.

Impacts on air pollution during operation (from NO_2 and particulates) will be generally beneficial, with three times as many receptors experiencing a decrease in pollution as would experience an increase, when compared to the situation without the Scheme, due to reduced road traffic and the Scheme's use of low emission or electric buses. However the overall impacts, both positive and negative, will not be significant.

15. Health effects and construction impacts

There are clear health benefits from the Scheme, including better connectivity and easier access with health facilities in Cambridge, such as Addenbrooke's and Papworth hospitals; facilitated active travel through provision of cycling and walking along the length of the Scheme; and by improved air quality in most parts of the study area.

There are several adverse effects predicted temporarily during construction, including noise and vibration impacts and reductions in visual amenity. Occasional construction noise impacts will occur at different locations along the route. However, the effects will occur intermittently, with only occasional periods of higher noise levels from particular activities close to sensitive receptors. At six locations the impacts will be of sufficient duration to result in a significant effect, including Childerley Gate, a few locations along Scotland Road and immediately adjacent to the Bin Brook bridge. None of these effects is expected to affect health adversely.

A construction site alongside Bin Brook will displace around 1.5ha of farmland temporarily, which, at around 15% of the holding, is considered a significant adverse effect for the tenant farmer.

There are several commercial and research facilities at West Cambridge that will be close to construction work and which could have particularly vibration-sensitive equipment and may be subject to significant effects. The principal contractor will be required to consult with the relevant organisations well in advance of potentially disruptive work to agree the approach to construction that will minimise risk of vibration impacts.

Existing view along footpath and cycle path at West Cambridge

16. Effects on the natural environment

The Scheme crosses two watercourses, Bin Brook and Callow Brook. Neither watercourse will be significantly adversely affected and best practice will be followed to ensure the streams are protected from pollution and other impacts during construction.

The ecological assessment has been important in shaping the design of the Scheme and the mitigation that will be included with it. The GCP is committed to developing new habitat as part of the Scheme that will in time result in an overall gain in biodiversity of at least 10% and with the aim of achieving 20%. Proposals for these have not, at the time of writing, been confirmed and will require some close working and agreement with landowners, but there are several options for potential habitat creation, some near to the route.

The area of greatest ecological value is Coton Orchard. Although dating from 1922, most of its apple trees are of more recent origin, though 11 original trees remain. Up to six may be lost to the Scheme, though retention of as many as possible will be prioritised during detailed design.

The orchard is locally valued for its habitats and the different animals these support. The Scheme will require the removal of around 500 trees, affecting about a fifth (1.5 hectares) of the remaining orchard, which is already greatly diminished from its original 1922 extent. The Scheme will include fencing to minimise risk of collision with animals, as well as underpasses to allow badgers and other wildlife to cross safely. The orchard supports a notable range of insects, including some nationally rare species. The remaining part of the orchard will continue to support these, and new habitat along the route and in adjacent areas will also provide an important continued habitat for insects and other wildlife.

The loss of a little under half a hectare of traditional orchard habitat is predicted to be a likely significant effect, as is the loss at various locations across the Scheme of hedgerows (around 1.3km). There will be a net increase by almost 6ha in the area of lowland mixed deciduous woodland, and although it will take 10 years for this habitat to mature, this scale of replacement will mitigate the impact.

The significant effects on traditional orchard and hedgerows could be compensated through habitat creation offsite, although as the location for this is unconfirmed at the time of writing this remains a mitigation option only at this stage. The plan for securing an overall gain in biodiversity is discussed later.

Potential impacts on bats have been the focus of much of the assessment work, not least due to the ancient woods in the wider area that provide roosts for them, including the rare barbastelle bat. Although the Scheme affects no bat roosts, and the habitat it displaces will be more than replaced, there are certain commuting routes that bats use when travelling between roosts and feeding areas. Surveys have identified where these routes are and, as a result, the Scheme includes specific tree planting and mounding to ensure that bats can cross the busway with little risk of collision. The service will, in any case, mostly operate during the daytime when bats will be relatively inactive.

17. Effects on the cultural environment

Cultural resources include structures and archaeology that are of importance to local or national heritage, as well as the landscape.

Much of the Scheme's alignment will affect areas of relatively lower landscape sensitivity, such as around Bourn Airfield, or will result in relatively small change, such as past Hardwick. However, turning southwards towards Coton, the Scheme crosses land of higher visual, historical and cultural significance whose character is important to the setting and character of Cambridge.

There would be some noticeable change to existing landscape elements and landscape character; however the landscape mitigation proposals will be essential to the Scheme's integration in the landscape, including the introduction of new earth bunds and planting alongside the busway.

The Scheme will alter the local character of the rolling open farmland near Coton, though maturing planting will increasingly help to tie the Scheme into the landscape. The Scheme and buses will be visible from the important viewpoint at Red Meadow Hill but, at some 2km distance, northward views from this location will not be greatly affected.

In terms of heritage, the Scheme will have no physical impact on any designated features, such as listed buildings or scheduled monuments. It passes close to a conservation area in Coton and through the edge of another at West Cambridge, though impacts on the character of these areas will be minor. Equally, although passing several listed buildings, the infrastructure of the busway will not be prominent and will have no more than a minor and non-significant effect on the character of buildings such as the Schlumberger Gould Research Centre on the West Cambridge science park, and Clare Hall college off Grange Road. There will be no views from the American Cemetery.

The previous archaeological investigations, as well as those commissioned for the EIA, have given a good understanding of the extent of past human activity along the route, but with many potential remains hidden from view, it cannot be known with certainty what the impacts of the Scheme will be.

For this reason, archaeological investigations will continue prior to construction. This will allow good records to be kept for any features that are found, and for works to be revised if any features of national importance are unearthed. Impacts on archaeological remains have the potential to give rise to a likely significant effect.

18. Effects on global issues and resources

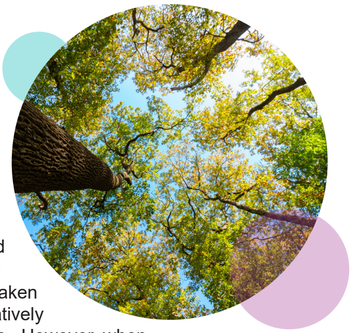
Global issues and resources include climate change, land, building materials and waste capacity.

Much of the land affected by the Scheme is agricultural and of high quality. Up to 45 hectares of this will be lost as a result of the Scheme, although 6 hectares of this will be used only temporarily during construction and will be restored. Nevertheless, despite the extensive resource in the area, this scale of loss will be a significant effect.

The Scheme will affect no mineral resources. The potential for impacts on contaminated land is limited, though more notable at Bourn Airfield. Risks from this would be addressed during the regeneration of this site, following all legal requirements to protect people and the environment. More generally, good practice, in line with the CoCP, will ensure that the risks of effects from contamination on human health and controlled waters during the construction and operation of the Scheme will be negligible.

The balance of carbon emissions will reflect both those that result from the construction and operation of the Scheme (infrastructure emissions) and the savings that will arise as people move from more carbon polluting forms of travel (road vehicle) to less polluting (public transport, foot and cycle).

Over 60 years, operational savings (from people switching how they travel and changes in traffic flows) are estimated to reduce emissions by around 36,000 tonnes of CO_2 equivalent (denoted as tCO_2e). These benefits need to be compared against the carbon embedded in the construction materials used to build the Scheme (about 29,000 tCO_2e) and from changes in vegetation (about 2,000 tCO_2e), resulting in a net savings of about 5,000 tCO_2e over the 60-year period assessment period. This is a minor benefit given the time taken to reach net zero and the relatively small overall carbon reduction. However, when combined with numerous other measures that are expected to be introduced by the GCP to limit car use in and around Cambridge, there is potential for net savings of about 47,000 tCO_2e, making the Scheme carbon neutral around 2045. This would be a significant beneficial effect.



The CoCP will impose requirements for using building materials and generating waste in accordance with principles of sustainable development. This means maximising the reuse of excavated soil within new earthworks and ensuring that waste management accords with best practice. There is an assumed need to export some waste to landfill, although the contractor assigned to design and build the Scheme will be incentivised to minimise this.

19. Cumulative effects

The environmental assessment has also considered how effects from the Scheme might be experienced along with those of other related nearby (within 2km) schemes. The assessment teams considered potential developments whose impacts might intensify, broaden or prolong those of the Scheme, based on available information, and whether significant cumulative effects would be likely.

No significant cumulative effects are predicted other than from construction noise due to works at Bourn Airfield, West Cambridge and St Chad's in Cambridge should these occur at or around the same time as those for the Scheme.

New housing in Cambourne

20. Biodiversity net gain

As stated earlier, GCP is committed to delivering a minimum of 10% BNG, with the aim of achieving 20%. BNG is a way of making sure the habitat for wildlife is in a better state than it was before a development takes place. Opportunities to increase biodiversity have been assessed. These include increasing hedgerow and woodland connectivity through additional planting to link existing or proposed open spaces, hedgerows and other ecological corridors. Any swales included within the drainage strategy provide the opportunity for planting or sowing with wetland species. This will also help manage run off rates and limit flooding risk.

The initial BNG assessment has been completed and has identified how different habitat types will either be lost or gained by the current proposals. As the Scheme moves through the next phases of design, consideration will be made to improve the BNG outcomes, focusing on creation of hedgerow and woodland habitats within the Scheme limits. It will also be necessary to secure offsite habitat creation, including new mixed deciduous woodland, traditional orchard and hedgerows. There will be different ways of achieving the 20% net gain and different locations where the habitat units may be located. This will be the subject of ongoing discussion with local landowners to find the best solution to achieving this.

Coton Orchard

Cambourne

Cambridge

Section 4:
Taking the Scheme forwards

21. Taking the Scheme forwards

The GCP (through Cambridgeshire County Council as lead local authority) is making an application for an order under the Transport and Works Act 1992 and planning permission over land required for the Scheme.

If there is opposition to the application, the Secretary of State will decide whether to hold a public inquiry, with an inspector appointed to oversee this. A public inquiry allows everyone involved to present their cases, and to test the arguments of others. An inspector will normally allow anyone to speak who has something relevant to say.

The public inquiry would consider both the TWA order application and the request for planning permission. The inspector would hear evidence about the planning merits of the Scheme and about any conditions that should be set. The inspector's report would include conclusions and recommendations on whether or not planning permission should be given, and on what conditions should be set if permission is given.

The Secretary of State should be in a position to consider what decision to take on the TWA order application and request for a planning permission following receipt of the inspector's post-inquiry report. The TWA order usually comes into force three weeks after it is made.

If consented, construction is expected to start in 2025 and continue over approximately 24 months, for a Scheme opening in early 2027.

Visualisation of proposed busway where it crosses Cambridge Road in Coton