



**GREATER
CAMBRIDGE
PARTNERSHIP**

Section 3

**Design and
environmental
elements**



This section provides general information for the scheme, including operating standards, considering carbon footprint, biodiversity commitment, land and property, the active travel path, bus stops, travel hub and construction.

Emerging designs and environmental issues are presented across eight area sections:

Section A - Cambourne

Section B - Bourn Airfield

Section C - Childerley Gate

Section D - Scotland Farm - Travel Hub

Section E - Hardwick

Section F - North of Coton

Section G - M11 and West Cambridge site

Section H - West Cambridge to Grange Road

Proposed route – area sections



Design drawings are included to show each section of the route, as well as more detailed layout drawings for some elements, such as proposed bus stops. Potential opportunities for measures such as landscaping and replanting, and efforts to retain, replace and create habitats, are shown and summarised, subject to assessment and landowner agreement. Where illustrated, the location and extent of landscaping is indicative only and may change.

We welcome feedback through **section 4 - Have Your Say: Public Consultation Questionnaire**.



General information for full scheme

The preferred route links Cambourne to Cambridge via the new Bourn Airfield development, Scotland Farm Travel Hub, Hardwick and the West Cambridge campus.

This is broadly the same as the preferred route approved by the GCP's Executive Board on 1 July 2021, with three main differences:

- The proposal to run buses on an existing section of St Neots Road in Hardwick, between Cambridge Road and Long Road. This on-road section would only be possible if a bus gate were to be installed west of Long Road. See Hardwick section.
- Realignment around the Waterworks site between Hardwick and Coton to reduce impacts on trees and habitats. See Hardwick section.
- Realignments north of Coton following feedback to reconcile a number of recommendations. See North of Coton section.

The proposed scheme runs on existing roads in the centre of Cambourne. Should East West Rail be confirmed as a funded project, once there is certainty about the location and timing of a Cambourne railway station, as part of the proposed rail connection between Oxford and Cambridge, plans will be updated to provide a travel hub and link to rail services.

Operating standards: limiting air and noise pollution

GCP's public transport routes are intended to be served by modern, electric public transport vehicles to limit air pollution and noise. The plan is to run fully electric vehicles from opening. As a minimum, vehicles would achieve the current Euro VI (compliant with Low Emission Zone standards) until fully electric stock is available.

Providing modern and reliable public transport and active travel routes as alternatives to car usage will help encourage and enable people to use more sustainable modes for regular journeys - decreasing congestion and pollution.

Considering carbon footprint

Limiting the impact of the scheme's carbon footprint is a priority. Greenhouse gas emissions - and the changes to the climate that result from them - affect the global environment, rather than specific areas, and are therefore assessed over the whole route. This includes both 'embodied' carbon emissions that result from the production and transport of the materials used to build the scheme, and operational carbon. Operational carbon includes both additions from busway traffic, and reductions from car journeys, through users transferring to more carbon-efficient bus or active travel journeys.

We will assess the overall net carbon impact of the scheme as well as exploring ways of limiting embodied carbon through the type and quantity of construction materials.

Biodiversity commitment

There is a commitment to deliver a minimum of 10% biodiversity net gain for the scheme overall, with the goal of achieving 20%. The route alignment has been adjusted to protect trees and other vegetation and habitats wherever possible. We will be preparing a full ecological baseline using the current government methodology for biodiversity accounting, to determine the basis from which net gain will be measured. See sections by area for more detail.

Beyond biodiversity, the scheme can contribute to the Natural Capital (elements of the natural environment that provide benefits to people) across a wide range of spatial, environmental and social values, in accordance with the Government Green Book. The scheme will be designed against these values, such as aesthetic values, recreation or flood regulation.

Land and property

We are in ongoing discussion with those landowners directly affected by the scheme about how the plans would impact them. We are seeking to reduce wherever possible the impacts on their land and activities.

The preferred route alignment has been selected to meet a range of different criteria, including avoiding buildings and minimising land take, without compromising scheme objectives. We have taken account of land ownership and access and will continue to develop landscape proposals to help integrate the scheme with existing landscape vegetation. The scheme boundary will need to be sufficiently large to provide the land needed for these landscape proposals. At this stage, the proposals represent potential maximum land take for the scheme and our thoughts on where planting and biodiversity enhancements could take place. This is subject to change as the final extents of land required will primarily be dependent on the design, and the level of mitigation needed, but also influenced by the outcome of discussions with affected parties and feedback from this consultation process.

The 11.6km long route crosses land held by multiple landowners. The Scotland Farm Travel Hub will occupy about 13.4ha (including land for landscaping). The amount of land required for bus stops along the route will vary depending on the facilities needed, space available, and landscaping provided at each stop.

In some places, the scheme may result in areas that are considered no longer viable as agricultural land being planted to create new habitats.

The route crosses several roads and paths, along with permissive and public rights of way.

Public rights of way

- Footpath from Coton to Madingley
- Bridleway east of M11
- Footpath from West Cambridge to Coton

Road crossings

- Broadway (west of Bourn Airfield)
- St Neots Road (there will be three junctions along the proposed route)
- Long Road (east of Hardwick)
- Cambridge Road (north of Coton)
- M11 (via a bridge)

None of these will be permanently closed or significantly diverted, although there will be a need for some temporary closures during construction. Once complete, traffic lights will be installed to control traffic where the scheme crosses roads.



Better walking, cycling and horse riding: active travel path

An active travel path, offering cycling and walking connectivity, as well as opportunities for horse riding, will run alongside the length of the route – separated by a verge where space allows. The provision of further active travel routes in the area, such as the Comberton Greenway or the Madingley Road foot and cycleway improvements, will play a vital role in connecting communities to the west of Cambridge and help the sustainable growth of the West Cambridge site.

The Madingley Road cycling and walking route will be a minimum of 3m wide with an all-weather surface. It will not segregate cyclists from pedestrians except where the demand is high in and around the West Cambridge campus.

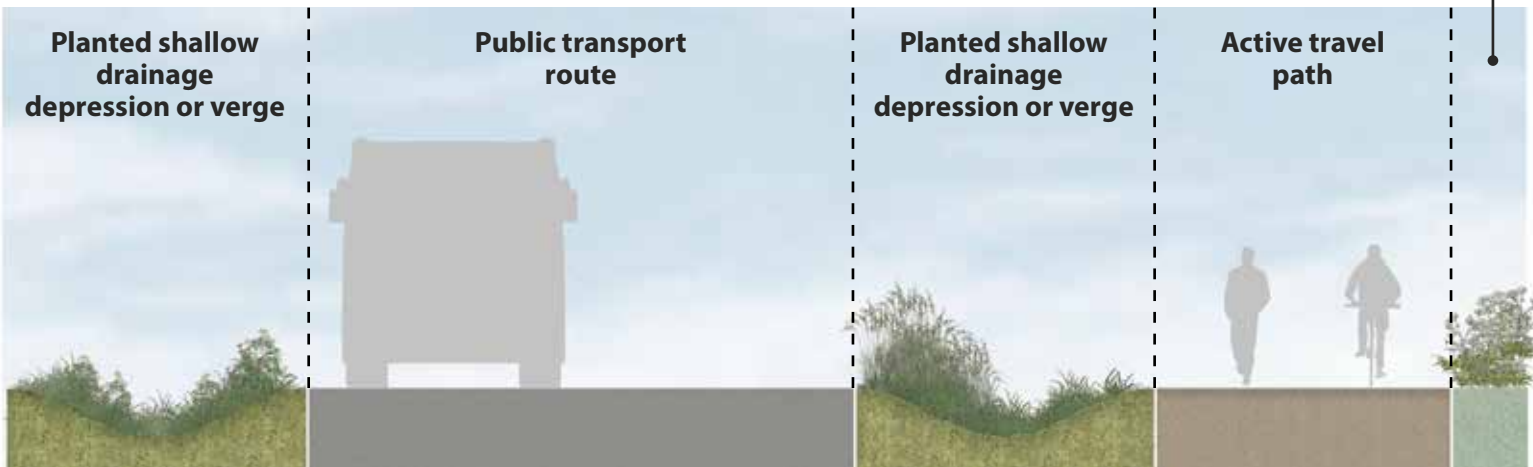
Road crossings and bus stop areas will be lit to ensure the safety of all users.

Reflective or solar stud lights will be used to provide guidance at night. The active travel path won't be fenced off from adjoining land unless there are specific local requirements.

Cycling, walking and riding routes



Typical cross section



Bus stops

We propose to provide stops along the route in Cambourne, Bourn Airfield (two stops), Scotland Farm Travel Hub, Hardwick (St Neots Road), Coton and West Cambridge Travel Hub. The exact stop locations continue to be discussed as part of the developing plans. See Design and Environmental Elements by Area for more on specific route sections.

In addition, a further travel hub may be provided at a future Cambourne railway station.

Potential bus stop locations



Bus stop designs need to consider available space and environmental sensitivity, and we will work with local communities to refine plans. The typical layout of a stop would include shelter, seating and real-time passenger information. Where space permits, 'hub' stops may also include drop-off facilities, Blue Badge holder parking bays and cycle parking and cycle lockers.

Where appropriate, each stop will have planting, designed to screen the stop from nearby residential properties, and to reduce the overall impact on the landscape character of the local area. Hedgerows or tree belts will be planted in some areas where denser screening is needed.

Stops also provide an opportunity for people to join or leave the active travel path running alongside the public transport route.

Scotland Farm Travel Hub

The Scotland Farm site was chosen as the preferred location for a travel hub because of ease of access from the A428, its low environmental sensitivity, and the need to avoid protected trees and other habitat on the Waterworks site, which was the best performing alternative. These factors were

also reflected in strong public opposition to the alternative Waterworks location. Other locations had been previously considered but rejected for a variety of reasons, such as operational challenges and environmental impacts.

Illustrative view of Scotland Farm Travel Hub



Access to the travel hub

- As the site is located close to the Scotland Road A428 roundabouts, access for cars from the west via the A428 is straightforward and easy to signpost.
- Access for buses will also be provided from the A428 roundabouts.
- As well as walking and cycling facilities along the scheme, a new active travel path to Dry Drayton is proposed, and access to the 'Blue Bridge' offering an alternative link to Hardwick via the existing footpath.

Facilities at the travel hub

- 2000 car parking spaces, with 5% for disabled parking and potential provision of electric charging points.
- 300 cycle parking spaces, including a range of cycle storage options with secure cycle boxes and space for oversized cycles.
- Cycle parking facilities protected by CCTV and located close to high footfall areas to reduce risks of bicycle theft. Lockers will be available for long-term storage.
- A small building providing shelter and seating, passenger information and toilet facilities.
- Space allocated to enable future eMobility provision.
- The site will be designed to minimise embodied carbon and operational carbon consumption.
- Solar panels on the travel hub building and elsewhere where practical.

Environmental design

Landscaping of the travel hub will be important given the generally rural Green Belt location. We will seek to integrate the travel hub within the surrounding landscape, enhancing the site within its setting through planting and habitat creation, and ensuring any drainage infrastructure is both ecologically beneficial and embedded within the overall design. We will ensure risks to the nearby watercourse are minimised and use sustainable drainage techniques. Opportunities for using photovoltaic equipment to power facilities at the travel hub, including electric car charge points, will be maximised.

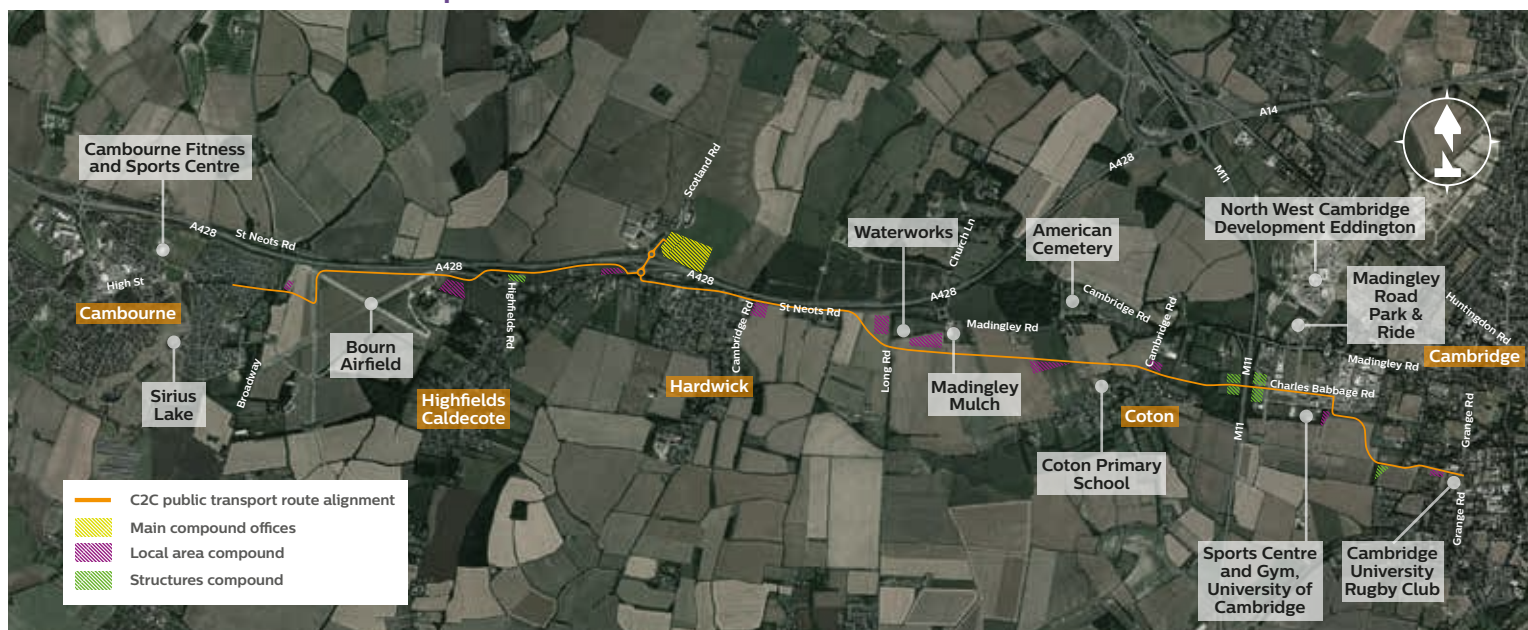
Construction

We understand that people want to know the likely impact of scheme construction on their daily lives.

Construction will be undertaken in line with the Considerate Constructors Scheme Code of Practice - www.ccscheme.org.uk - which sets out five core principles to deliver excellence, by:

- keeping work sites well managed and looking professional,
- respecting local communities and those affected by the work,
- protecting the environment,
- making sure everyone is safe and,
- respecting their own work forces.

Indicative construction compounds



If consent for the proposed scheme is granted by the Secretary of State, then construction of the main works would be expected to begin in 2024.

Lighting

All parking areas, access roads and user facilities will be lit with suitable LED lighting columns designed to ensure public safety whilst minimising impacts on wildlife and the night sky generally.

Community impacts

We are working with the Dry Drayton community to understand, manage and mitigate impacts of the setting and construction of the travel hub. For more detail on noise and lighting, traffic management, walking and cycling access and drainage measures for the Dry Drayton community, see Scotland Road - Travel Hub Area section.

A construction management plan will be drawn up, together with a construction phase plan, detailing how the works will be undertaken. This will include an outline of standard hours of operation and measures put in place to protect the environment and minimise disruption to nearby residents during construction. The plan will be provided as a key element of the Environmental Statement supporting our Transport and Works Act Order application.

All temporary construction compounds will be inside the scheme boundary.

It is likely the main construction compound will be in the location of the proposed Scotland Farm Travel Hub. There will be a number of secondary construction compounds as well as smaller compounds providing welfare facilities for workers and storage for equipment.



**GREATER
CAMBRIDGE
PARTNERSHIP**

Section 3

**Design and
environmental
elements:
information by area**



Section A: Cambourne










Buses will travel through Cambourne on existing roads from a central Cambourne stop. From Sterling Way, the route follows a new bus-only link to Broadway, which is being provided as part of the Cambourne West development. In the future, should East West Rail be confirmed as a funded project, the location for a station at Cambourne would influence an additional direct link to a travel hub at the station.

Proposed Cambourne alignment



KEY

The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed bus stop location
-  Future development site
-  Route integrated with the existing or emerging public realm
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed

Environmental issues and proposed mitigations

The route alignment through Cambourne is confined to existing roads, so the addition of buses will have very little cumulative effect on residents. The route leaving Cambourne passes along what is currently a cycleway. There is room to introduce the busway, but this will affect the route's current use by pedestrians and cyclists.

Due to roads being close to properties, we could expect some minor visual and noise impacts from passing buses. Access control, likely to be Automated Number Plate Recognition (ANPR), on the bus-only link to Broadway will be needed to prevent access by unauthorised vehicles.

Short-lived and minor impacts from disturbance during construction would also be expected. There will be some disruption in central Cambourne for a short period whilst the new central stop is built.

We will use best practice techniques to ensure disturbance is minimised, but occasional occurrences of construction noise are likely, as well as interference with the movement of traffic and pedestrians.

Whilst visual impacts of the new stop will be minor, there may be opportunities for landscape and public realm interventions, such as tree planting or seating. In addition, 'wayfinding' signing would be enhanced where the active travel path meets the existing network.

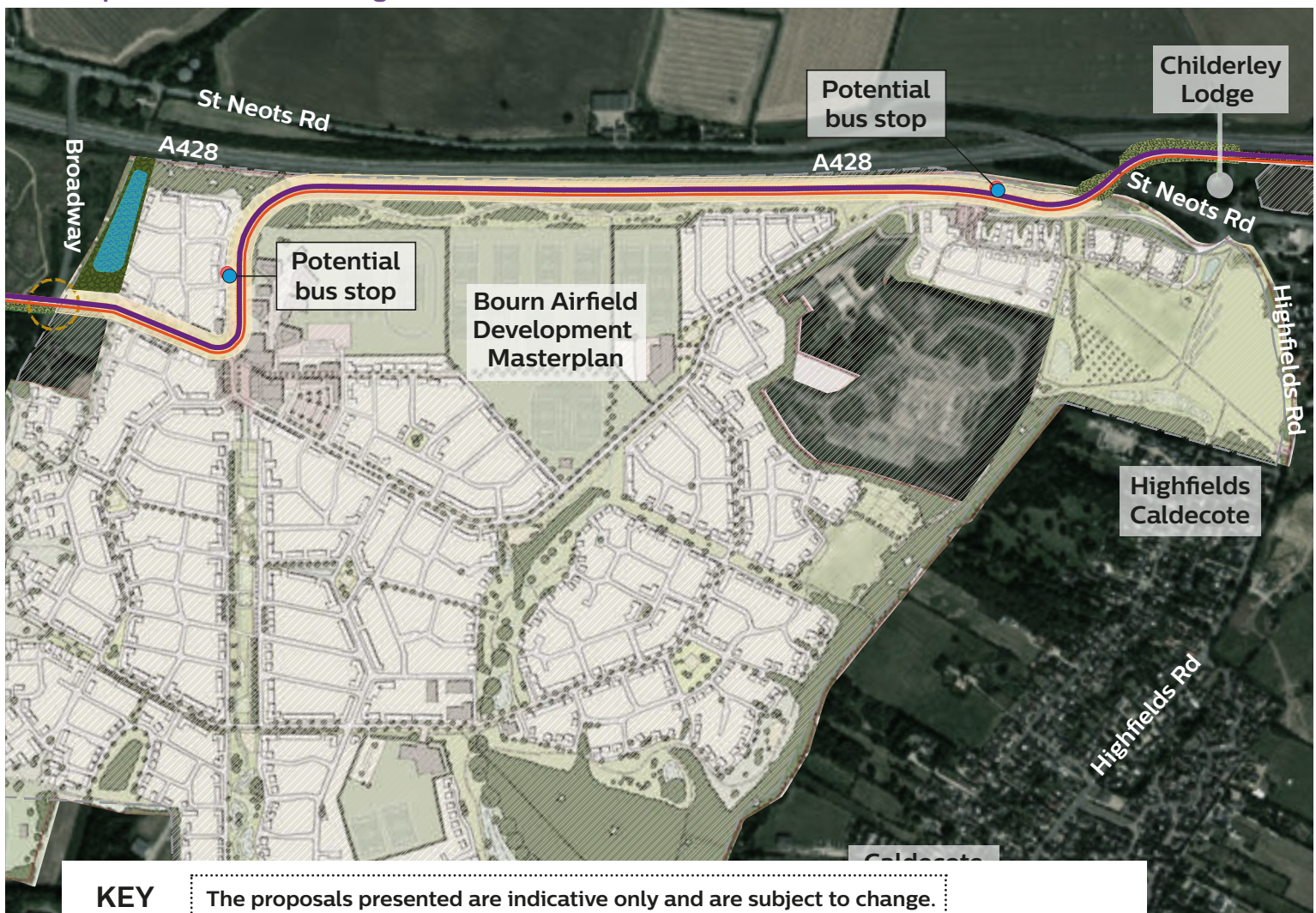


Section B: Bourn Airfield

After crossing the Broadway, the route passes through the new Bourn Airfield development, south of the A428. This section of the scheme is an integral part of Countryside's Bourn Airfield development. Find out more at www.bournairfield.co.uk









Bus stops are envisaged towards either end of the section to provide access to the new development.

Proposed Bourn Airfield alignment



KEY

The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed bus stop location
-  Future development site
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed
-  Indicative extents of new native woodland planting
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed

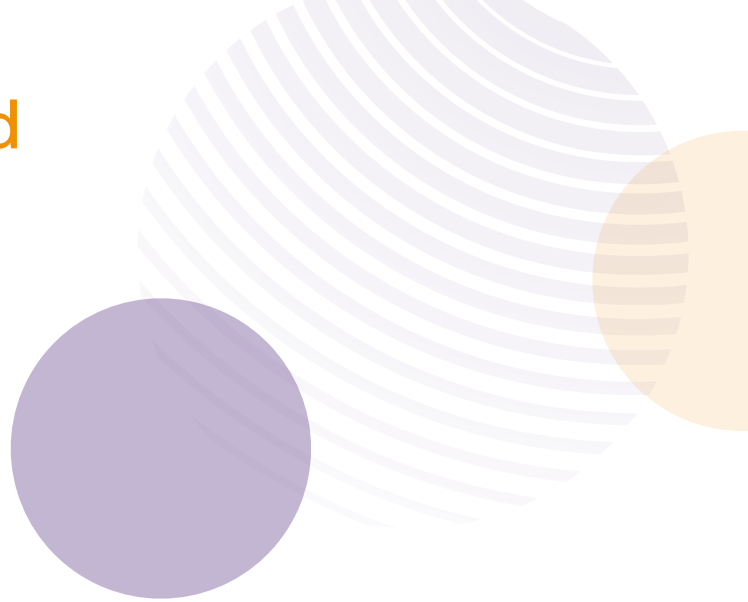
Environmental issues and proposed mitigations

Leaving Broadway, the route passes the currently open setting of Bourn Airfield. The route will run through the development site and potentially pass by newly developed houses and a generally increasingly urban environment. There may be minor impacts during construction, depending on the progress of the developer's plans at that point, but at present the site is undeveloped. Any landscaping will be incorporated into, and delivered as part of, the wider Bourn Airfield development. Similarly, the design of bus stops will be determined by the developer.

Residents of Bourn have concerns about potential rat-running through the village, and the design of junctions on the Broadway will need to minimise such risk.

As the site is currently scheduled for redevelopment, it is expected that a construction compound will be sited here. Construction traffic would need to access the site from the A428 West to avoid impact on residential areas.

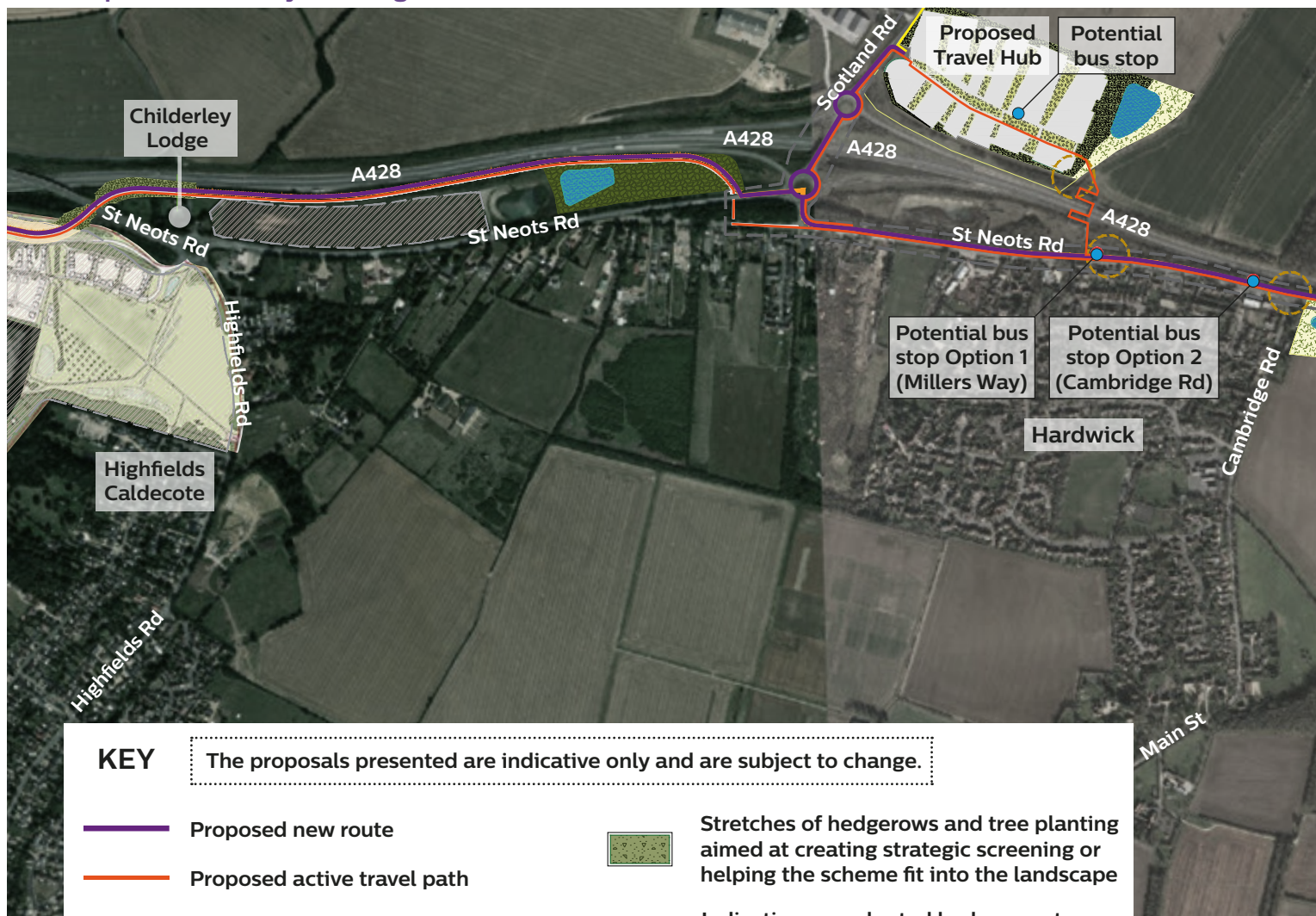
One of the possible alignments for East West Rail would cross the north-east of the Airfield site. This has not been reflected in the current drawings as the site Masterplan would need to be revisited if such a route were to be approved.



Section C: Childerley Gate

Leaving the Bourn Airfield development, the route crosses St Neots Road and continues southwards of the A428 to the north side of Childerley Lodge, re-joining St Neots Road to the west of the Scotland Road junction.

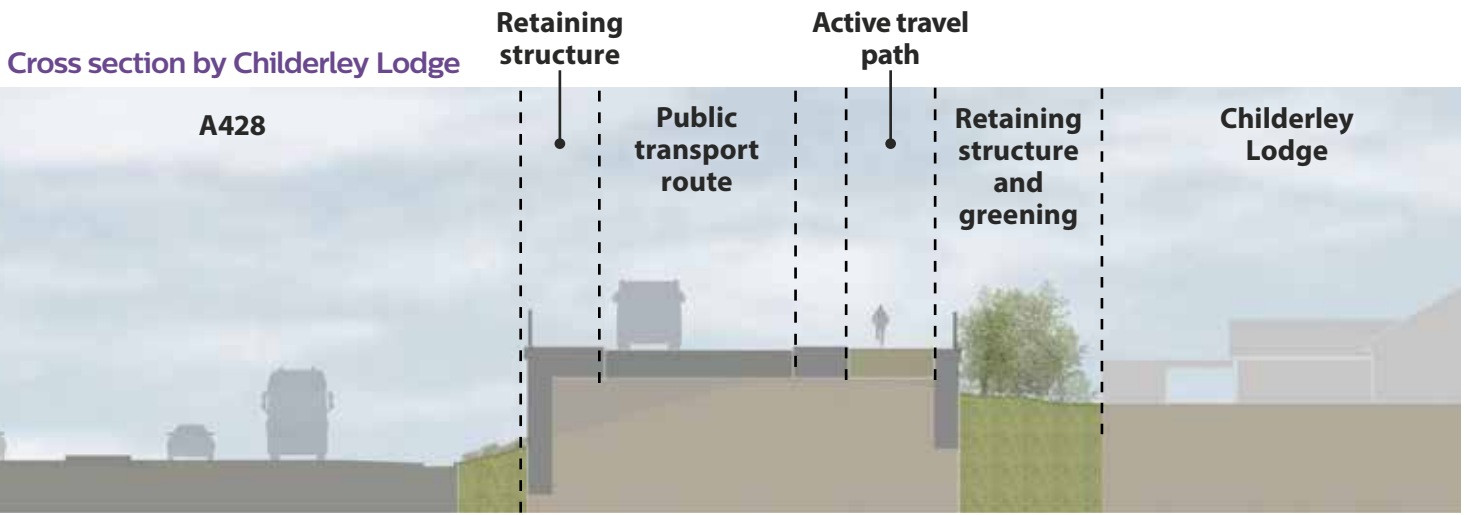
Proposed Childerley Gate alignment



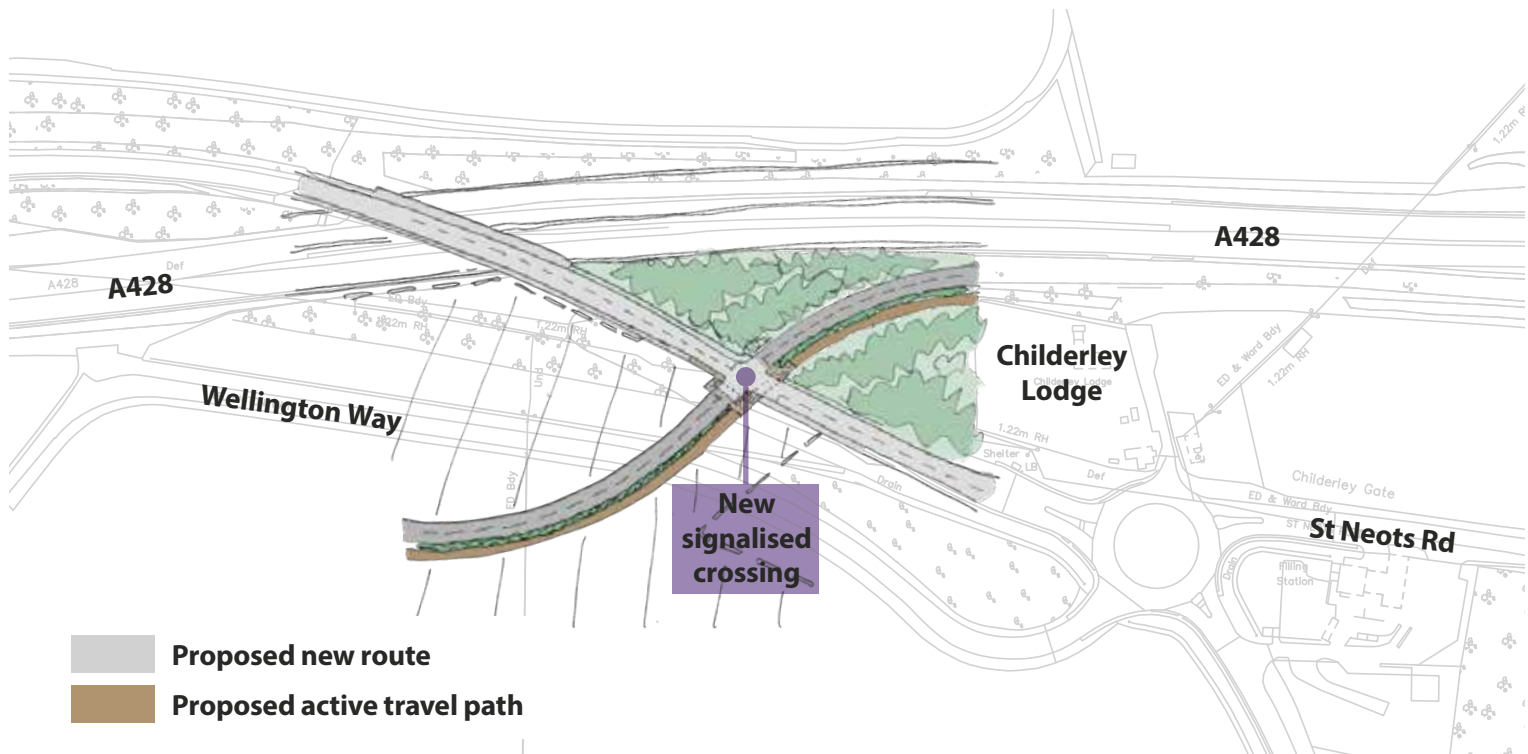
KEY

The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed links to Dry Drayton subject to agreement with landowners
-  Proposed bus stop location
-  Future development site
-  Indicative extents of new rich grassland planting
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Indicative new planted hedgerows to provide wildlife corridors between existing habitats
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed



Proposed St Neots Road crossing and Childerley Gate alignment



Environmental issues and proposed mitigations

Leaving the Bourn Airfield site, the route follows a confined alignment between the houses at Childerley Gate and the A428. Residents at these properties would be affected by views of the busway.

Existing noise levels are high here due to road traffic. Initial work shows that it is expected that the scheme will need to include noise mitigation measures at this point, reducing noise levels overall. It is also expected that there will be modest private land-take in this area.

The route through this section follows land that would have been disturbed during construction of the A428 and which has now been replanted as part of the associated landscaping. Buried archaeology is considered unlikely to be present and habitats are not expected to be sensitive. We will assess both issues in

more detail, including potential impacts on bats which may use the spaces to feed and navigate across.

The western half of the land between St Neots Road and the route has been scheduled for employment in the draft Greater Cambridge Local Plan. The active travel route will add amenity to the site and the case for a bus stop will be assessed if the site is eventually consented for development. A bus stop at that location might also add amenity for Highfields Caldecote residents, although there will be a stop at the east of Bourn Airfield. We will work with the third-party developer to agree any landscaping required to screen the scheme.

East of the land scheduled for development, and a National Highways drainage pond, we propose to create an additional pond for surface run-off and complementary landscaping.

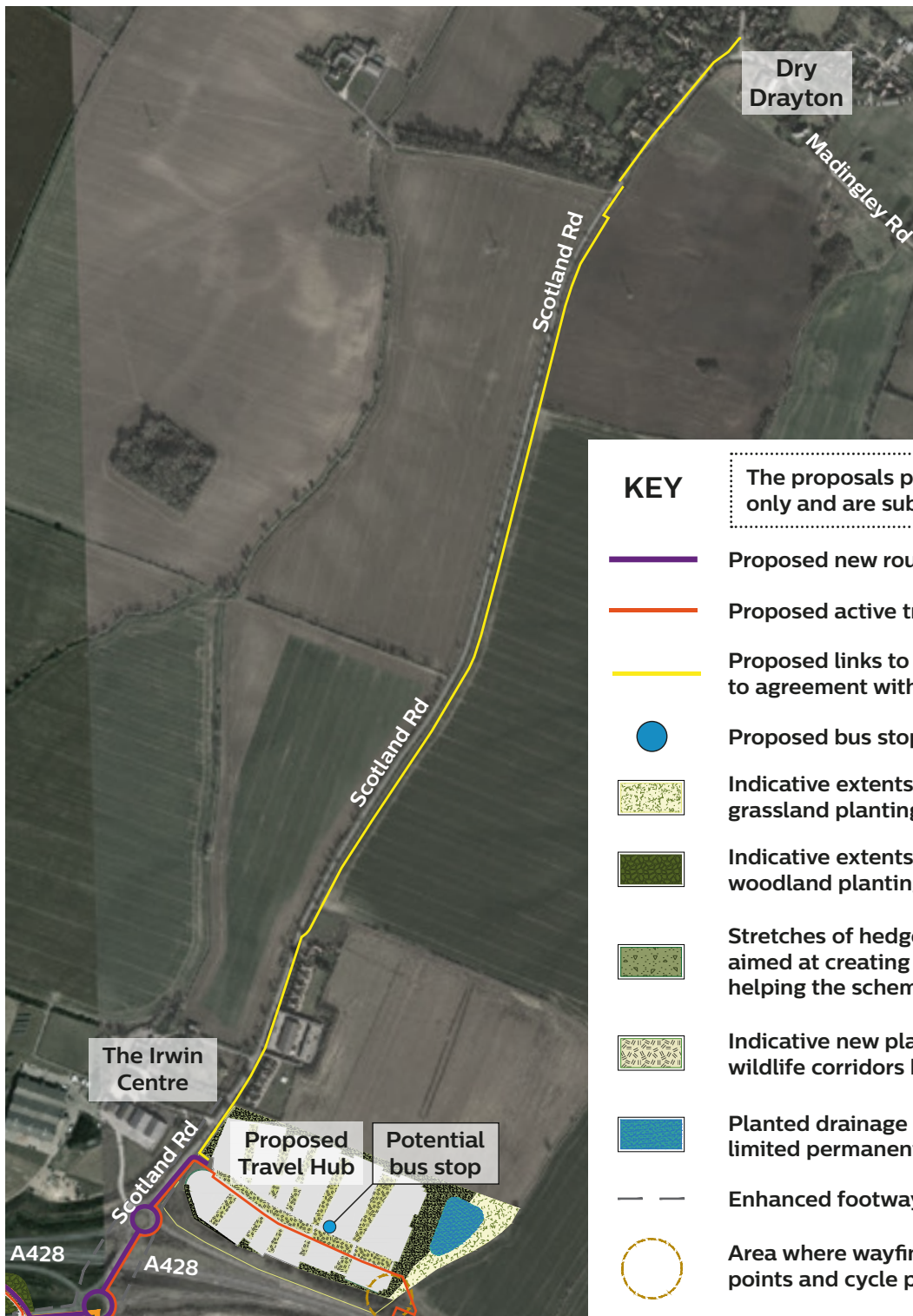
Section D: Scotland Road – Travel Hub

From St Neots Road, the route passes on-road through the St Neots Road roundabout to access the Scotland Farm Travel Hub, north of the A428 between Hardwick and Dry Drayton. On leaving the travel hub, the route

returns through the roundabout again to continue south of the A428 through Hardwick.

An additional section of active travel path is proposed to connect the travel hub to Dry Drayton.

Proposed active travel path between Dry Drayton and the proposed travel hub



KEY

The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed links to Dry Drayton subject to agreement with landowners
-  Proposed bus stop location
-  Indicative extents of new rich grassland planting
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Indicative new planted hedgerows to provide wildlife corridors between existing habitats
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Enhanced footways or a new public right of way
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed

Typical cross section of new Dry Drayton active travel path



Environmental issues and proposed mitigations

The travel hub will occupy an area of currently intensively farmed land. Located alongside the A428, at the west of the Cambridge Green Belt, it is not considered to be environmentally sensitive, and the ecological value of arable land lost will be offset by greater biodiversity of landscape measures. However, we are aware of the need to design the site carefully to ensure that its impact on the landscape, and particularly on views from nearby properties, is mitigated by new landscaping.

Initial works show that the impact of noise associated with travel hub users and of lighting is a potential impact on residents to the north of the site and mitigation will be part of design, through measures such as planted screens and potentially fencing.

We will develop the site with landscaping as a key consideration, using planting to soften the edges and screen views. There may be potential for habitat creation at the site, and we are aware of Callow Brook located to the east where the land falls slightly.

Drainage from the travel hub will be an important consideration, including prevention of pollution. We will look to use sustainable techniques for discharging clean water, with protection of the brook a priority. We propose a drainage pond at the east of the site where run-off can be filtered and stored before release.

We are proposing a new active travel path from the hub to Dry Drayton. This will be parallel to the existing road and could impact on the verge and hedgerow. We will therefore look at opportunities to align it behind the hedge for most of its length along the field edge to protect these features and establish a more pleasant environment for users.

The travel hub site is likely to be the principal works compound. All construction traffic access will be via the A428 and not allowed via Dry Drayton. The Transport Assessment will consider whether any additional traffic management is needed to address concerns raised by Dry Drayton residents and to prevent construction and operational access to the travel hub via Dry Drayton.

Section E:

Hardwick

From the A428 junction to Cambridge Road, Hardwick, the current preferred route is proposed to run off-road through a green corridor separating St Neots Road from the A428. At Hardwick, to the east of Cambridge Road, it was proposed to run on a dedicated route along a green corridor separating St Neots Road from the A428. This would then cut south across the end of Long Road to run around the Waterworks site on a dedicated bus lane.

There has been considerable concern in the in the St Neots Road area or on St Neots Road and local community about the loss of trees between the A428 and St Neots Road, which at the narrowest point would mean the loss of all existing screening, albeit that some lower planting would be provided.

In 2021, Cambridgeshire County Council consulted on active travel proposals to close St Neots Road to the west of Long Road to through traffic. This proposal, along with local community feedback, has influenced the development of, and this consultation on, a potential update to the preferred route, to run along St Neots Road. This could only be achieved through use of a bus gate to the east of Cambridge Road, which would restrict access to only buses and specific permitted vehicles (i.e. emergency services). St Neots Road residents and employees/customers/visitors to the St Neots Road businesses to the west of the bus gate would access to and from St Neots Road via Cambridge Road through Hardwick, or via Scotland Farm roundabout. There would be no access to St Neots Road west of Long Road from the A428/Madingley Mulch Roundabout. Traffic using Long Road could turn right for the Madingley Mulch roundabout but not left onto St Neots Road.

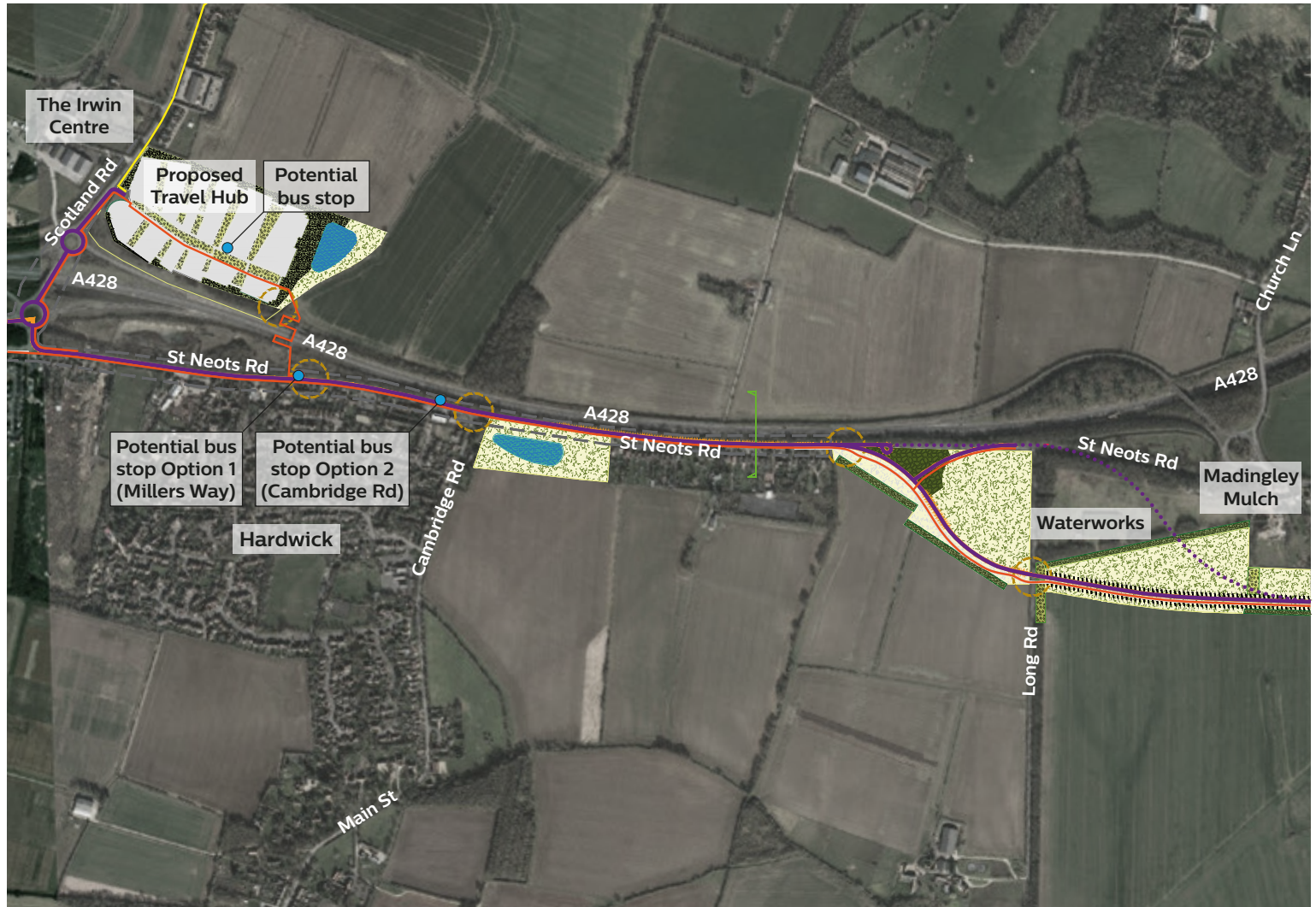
The bus gate proposal would significantly mitigate the loss of trees on St Neots Road. Consultation results and assessment of other factors will influence a decision on whether to proceed with an on-road with bus gate proposal, or the preferred route which would ensure that services are segregated from the through traffic but would require tree loss. Both approaches are illustrated.

A new bus stop will be provided on St Neots Road, either by Millers Way or west of Cambridge Road, to provide high frequency C2C services, but existing stops will be kept along St Neots Road for legacy local services.

On-street parking along St Neots Road through Hardwick will be removed to accommodate the new active travel path.













The route would then cut south across a new junction at the end of Long Road to run around the Waterworks site towards Coton. This alignment has also been amended at the recommendation of stakeholders to mitigate the ecological impact of the preferred route on protected trees and wildlife habitats on the Waterworks site. The previous route through the Waterworks is shown as a dashed line for reference.

Proposed Hardwick alignment



KEY

The proposals presented are indicative only and are subject to change.

- | | | | |
|---|--|---|---|
|  | Proposed new route |  | Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape |
|  | Previous route alignment |  | Indicative new planted hedgerows to provide wildlife corridors between existing habitats |
|  | Proposed active travel path |  | Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife |
|  | Proposed links to Dry Drayton subject to agreement with landowners |  | Area where wayfinding features, lighting, seating points and cycle parking may be proposed |
|  | Proposed bus stop location |  | Indicative extents of new native woodland planting |
|  | Indicative extents of new rich grassland planting |  | Low earth mounds helping the scheme fit into the landscape |

Hardwick cross section 1 – default off-road proposal



Hardwick Cross section 2 – on-road with bus gate proposal



Environmental issues and proposed mitigations

We propose landscaped drainage ponds at several locations along the route; each would be in a landscaped area. Further planting would be provided to reinforce the existing trees around the Waterworks and to provide screening for properties to the north. Sections of north-south tree line would help to reinforce existing hedge-lines and to stitch together existing habitat corridors. There would be opportunities for further planting along the path to the travel hub via the Blue Bridge.

East of Cambridge Road we are now proposing to take the route along St Neots Road. The reduction in through traffic would yield road safety, noise and air quality benefits for residents, at the cost of a loss of car access to the east. Maintaining access for residents and others in Hardwick will be important and will be discussed in detail.

The proposed change in the route will not affect the noise levels currently experienced from the A428. In response to local concerns regarding existing noise levels, we have committed to work with National Highways to ensure improvement to the A428 noise barriers that will result in overall noise reductions.

We believe this changed alignment offers clear environmental advantages. It protects the tree belt alongside the A428 and the views of residents. By restricting the way that traffic uses the route (including as a rat run by many) we would expect an overall quieter, cleaner and safer environment.

There will be temporary and occasional disturbance from construction activities in Hardwick, including some construction traffic. The details will be developed so that necessary mitigation measures can be defined and stipulated within construction plans and contracts.

Section F: North of Coton

Travelling south from the Waterworks after crossing Long Road, the route continues further south of the A1303 on a dedicated route through agricultural land. To the north of Coton, the route crosses Cambridge Road, running no closer than 40m from the nearest home and through the Coton Orchard and Rectory Farm to a new crossing over the M11.













The alignment north of Coton has been refined in response to feedback to maintain distance from properties, reduce the visual impact of the scheme, and to maintain viability of land parcels which the route crosses.

Proposed alignment north of Coton



KEY

The proposals presented are indicative only and are subject to change.

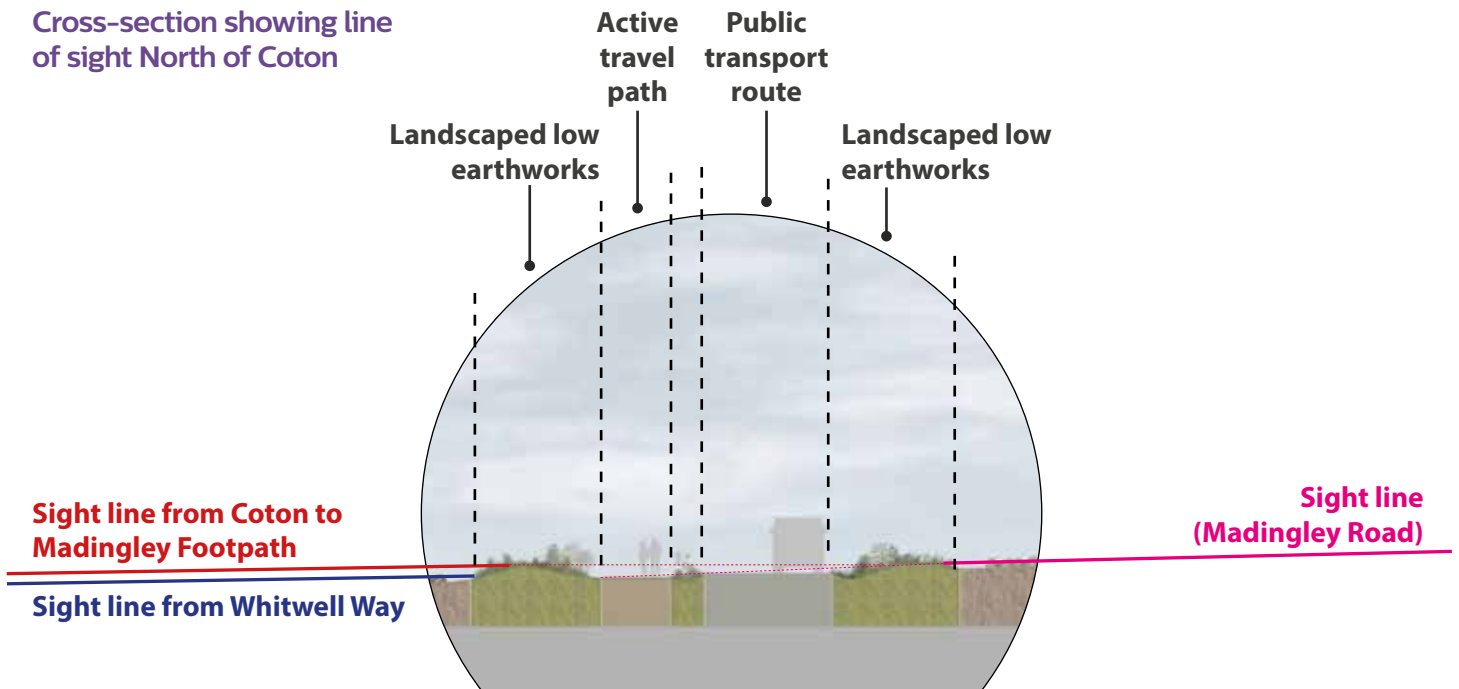
-  Proposed new route
-  Previous route alignment
-  Proposed active travel path
-  Proposed bus stop location
-  Indicative extents of new rich grassland planting
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Indicative new planted hedgerows to provide wildlife corridors between existing habitats
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Potential area for enhanced orchard planting
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed
-  Low earth mounds helping the scheme fit into the landscape

Illustrative view of the new infrastructure route as seen from Red Meadow Hill



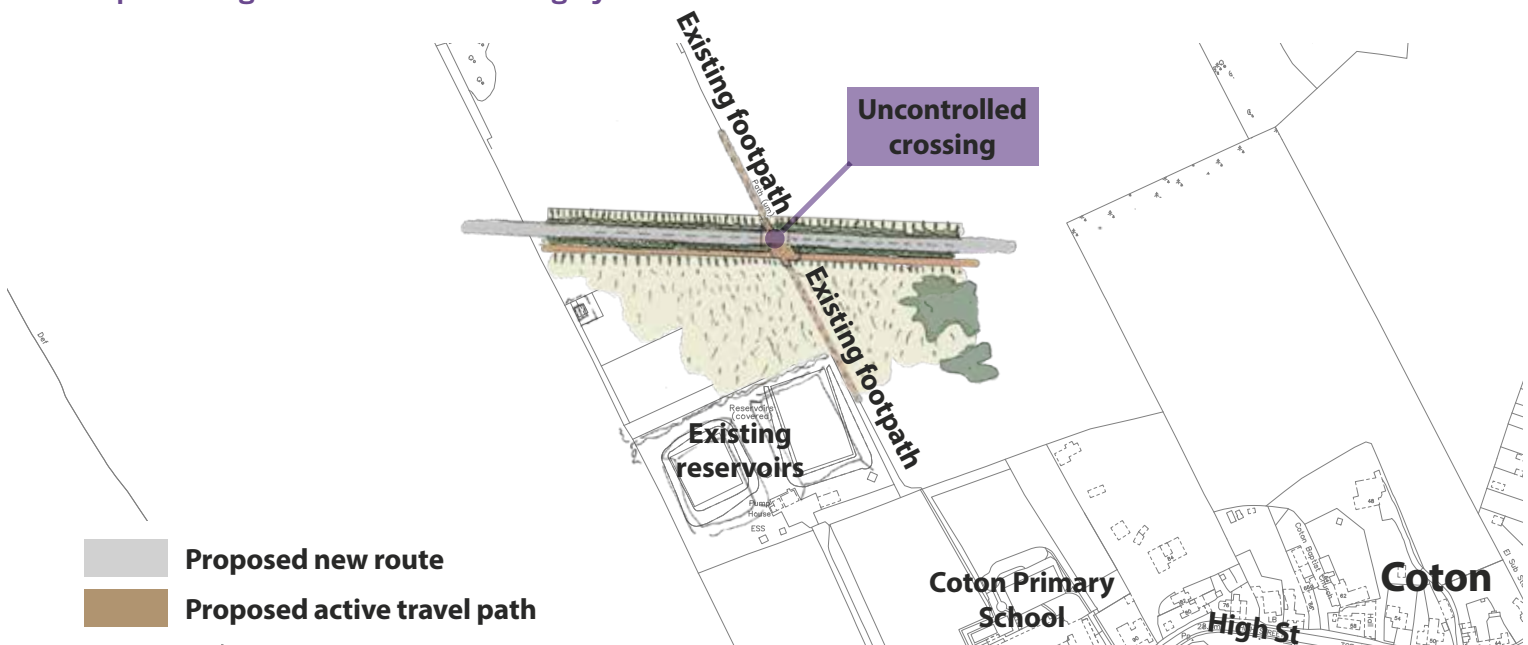
Along this section, the design aims to fit the scheme into the surrounding landscape. This means that from Red Meadow Hill the route infrastructure would not be visible.

Cross-section showing line of sight North of Coton

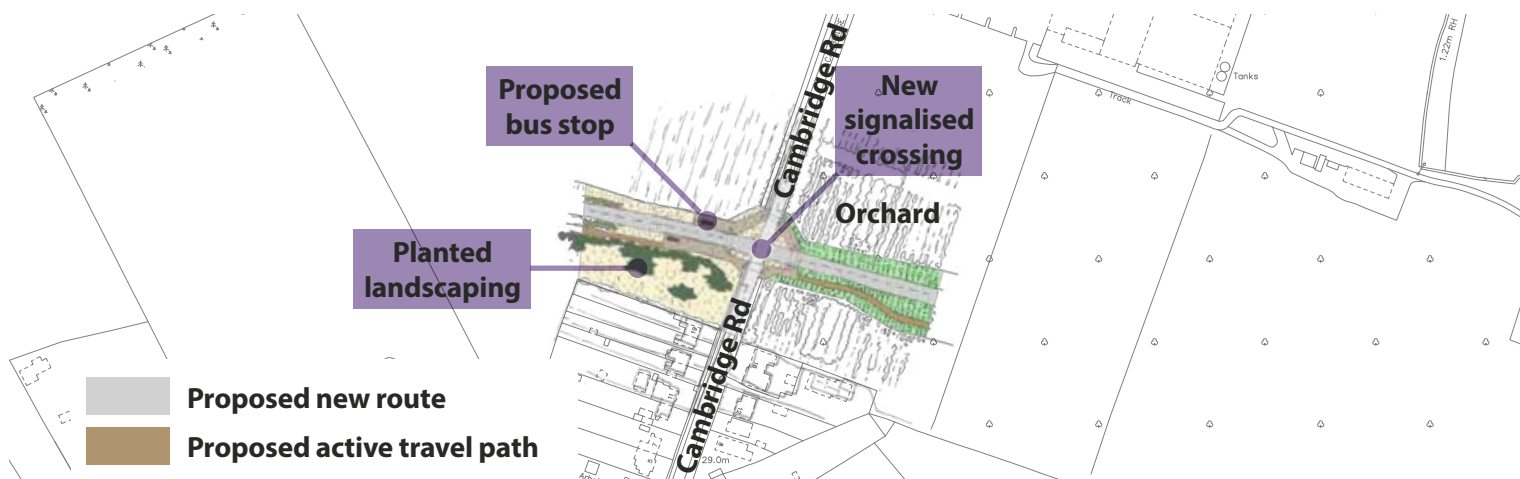


Low earth mounds are proposed along this section of the route to help obscure the scheme and fit it into the surrounding landscape. For example, someone standing on Madingley Road or Whitwell Way would not be able to see the road surface of the route but only see the buses drive by.

Proposed alignment south of Madingley Road



Drawing illustrating the proposed alignment near the junction with Cambridge Road



Environmental issues and proposed mitigations

The route bears south from St Neots Road and passes through open countryside to the north of Coton. A change to the preferred route alignment takes it south-west of the former Waterworks, thereby avoiding the protected tree belts and habitat of this area that would have been lost by the earlier alignment.

The way that we integrate the route along this section will be key. The land is open, and we will look to develop a strategy that makes land modelling fundamental to the way we screen views from the north.

The new draft Greater Cambridge Local Plan notes new proposed sites for development and sites approved for development in the adopted 2018 Local Plan, such as Bourn Airfield, which would be served by the scheme. The draft Plan also refers to a Coton Corridor as proposed part of a Green Infrastructure network <https://consultations.greatercambridgeplanning.org/greater-cambridge-local-plan-first-proposals/explore-theme/biodiversity-and-green-spaces/policy-0> This policy, which is currently not adopted, would look to promote a number of objectives including matters such as enhancing access and connectivity, and providing environmental enhancement. Care will be needed to ensure that C2C complements the policy.

Planting and landscaping will be key to making the scheme fit into the existing landscape. Trees or hedgerows will provide screening, or low earth mounds in areas such as the Coton allotments and Coton village. This will reinforce existing wildlife corridors and not break up existing views down from Madingley Hill.

Drainage will also be an important consideration, and we will use sustainable techniques where these can be effective. A drainage pond is proposed to the north of Coton: as well as forming a part of the drainage strategy for the scheme, this should help to provide a natural barrier between the scheme and the village.

We are undertaking a series of environmental surveys to better understand the risks of passing through this area. These include a host of ecological surveys across multiple sites, including for bats; and in the Coton Orchard, where there will be some loss of trees. With the commitment to providing at least 10%, and a target 20%, overall gain in biodiversity, we will need to develop ideas and identify locations where habitat improvements will be possible. We will progress proposals through discussions with landowners. Some additional woodland planting between the scheme and the village is also proposed. We will also be undertaking archaeological surveys through the area past Coton.

It is proposed that a bus stop will be provided to the west of Cambridge Road. Although traffic nuisance will be limited due to use of quiet and clean vehicles, screening of passenger noise and lighting will be provided. Traffic signals will be needed at the Cambridge Road junction and will also help pedestrians cross to the bus stop.

We will keep agricultural access to both north-south and east-west.

The footpath from the school in Coton to Madingley Road crosses the scheme and will be kept, with the active travel path providing additional connectivity.

We will need compounds each side of the M11 to support construction of the bridge crossing. Construction traffic will not be allowed through Coton village. See map of proposed construction compounds Design and Environmental Elements - General Information: Construction on page 15.

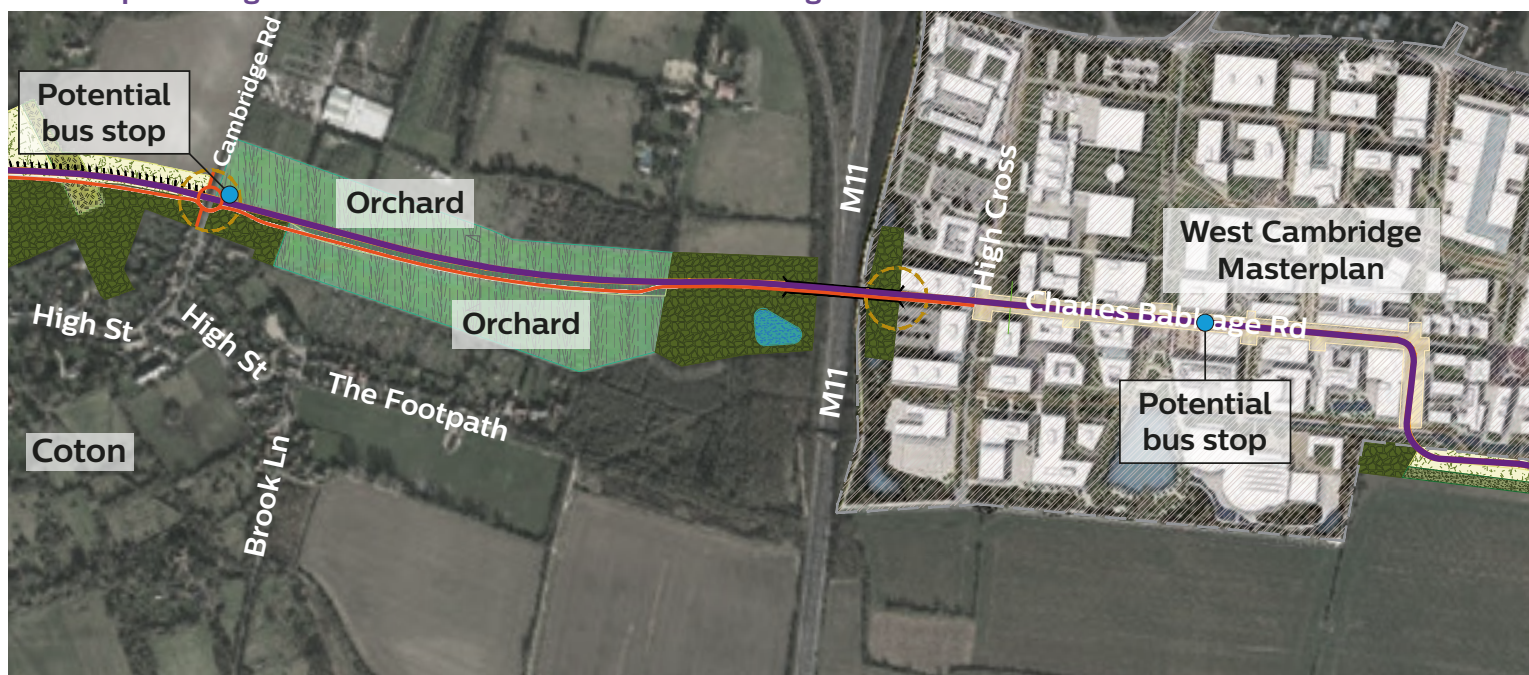
Any sections of the orchard affected during construction would be reinstated to minimise overall loss. To the west of Cambridge Road, south of the scheme, new planting would help to screen the scheme from adjacent properties.

Section G: M11 Bridge and West Cambridge site

From the M11, the route passes through a narrow belt of trees into and through the West Cambridge campus. The route then follows Charles Babbage Road through the campus with traffic signal control to ensure public transport priority.

Active travel facilities and a travel hub will be developed as a part of the wider development of West Cambridge. Find out more online: <https://www.westcambridge.co.uk/>

Proposed alignment over the M11 and west of Cambridge

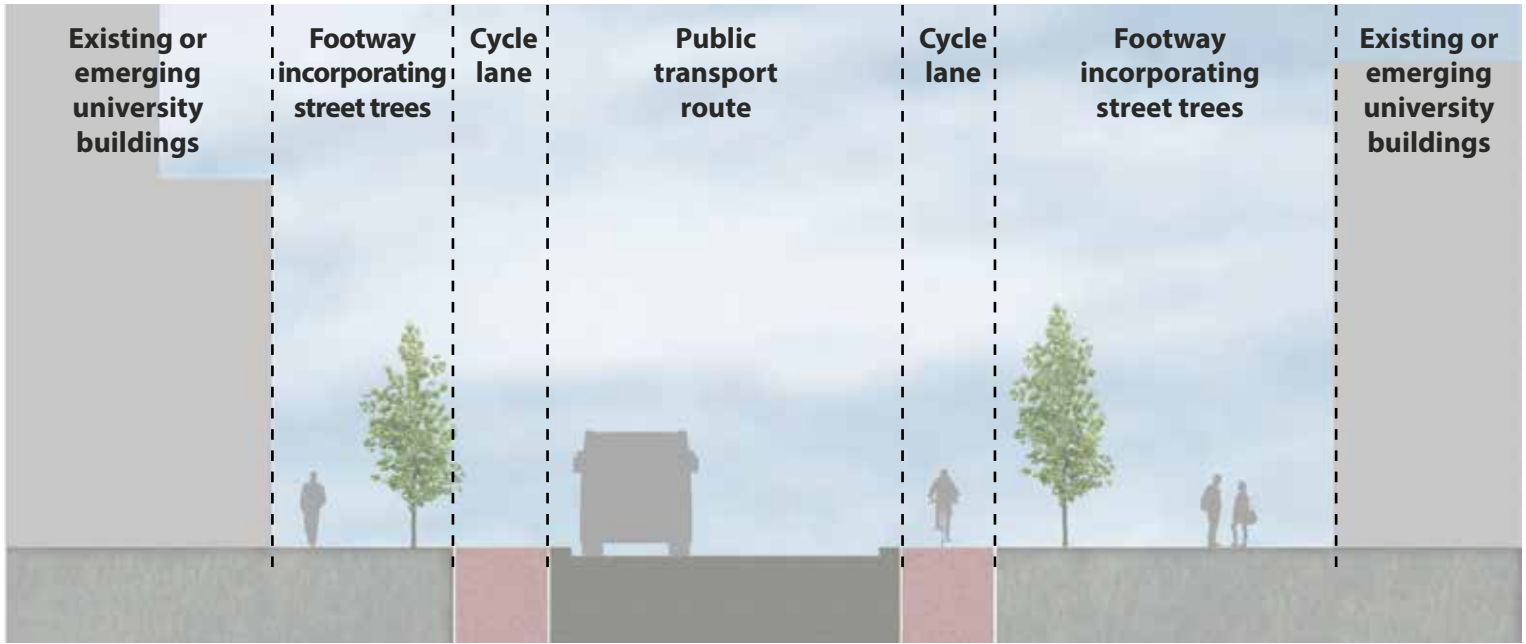


KEY

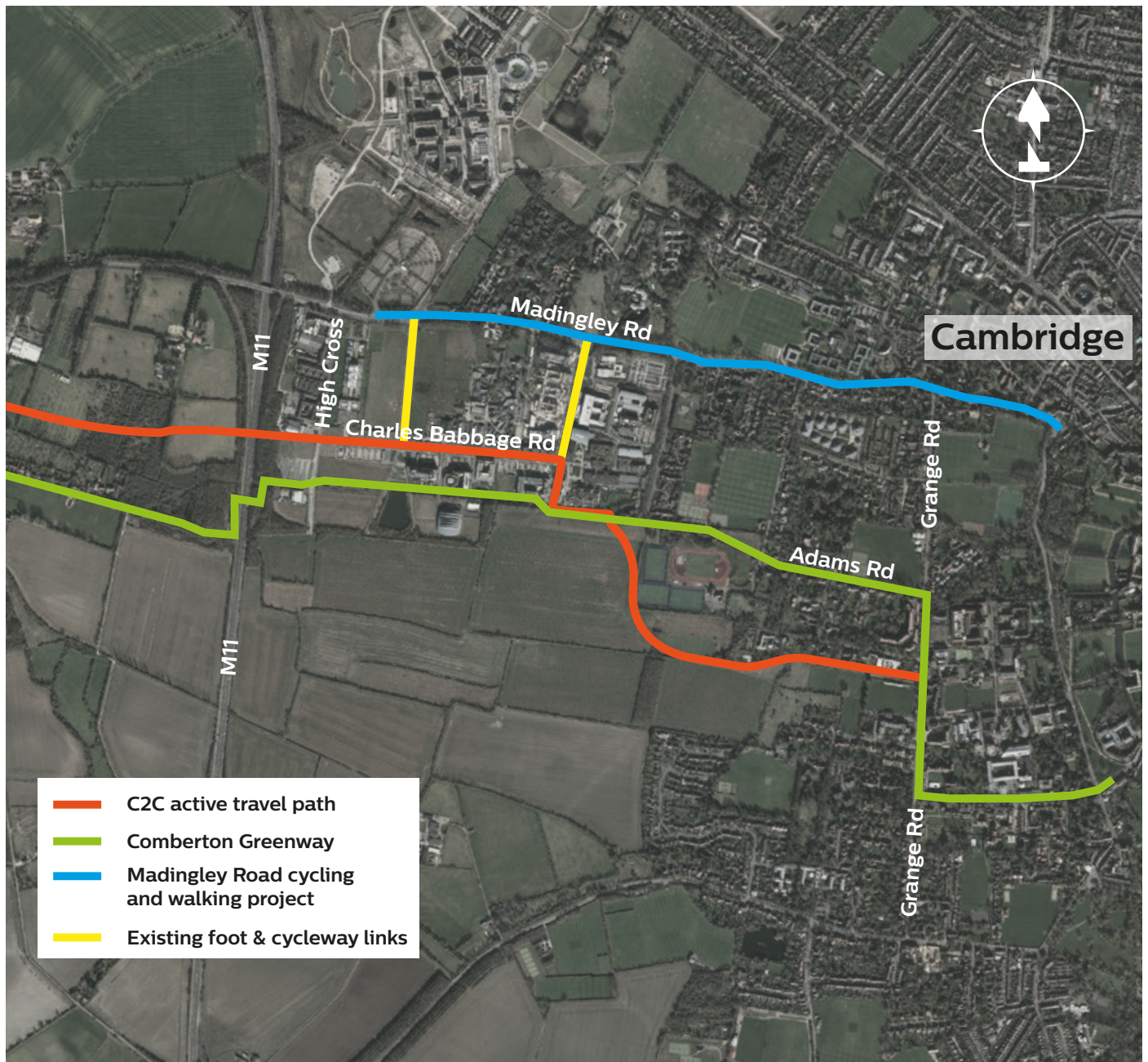
The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed bus stop location
-  Proposed bridge structure
-  Future development site
-  Route integrated with the existing or emerging public realm
-  Indicative extents of new rich grassland planting
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Indicative new planted hedgerows to provide wildlife corridors between existing habitats
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Potential area for enhanced orchard planting
-  New planted landscape scattered with fruit trees in an aim to encourage informal fruit picking
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed
-  Low earth mounds helping the scheme fit into the landscape

Charles Babbage cross-section



Active travel routes to the west of Cambridge



Environmental issues and proposed mitigations

The M11 overbridge is the main structure on the route. A significant structure will be needed along with earthworks, but where possible, off-site construction will minimise on-site and adjacent disruption.

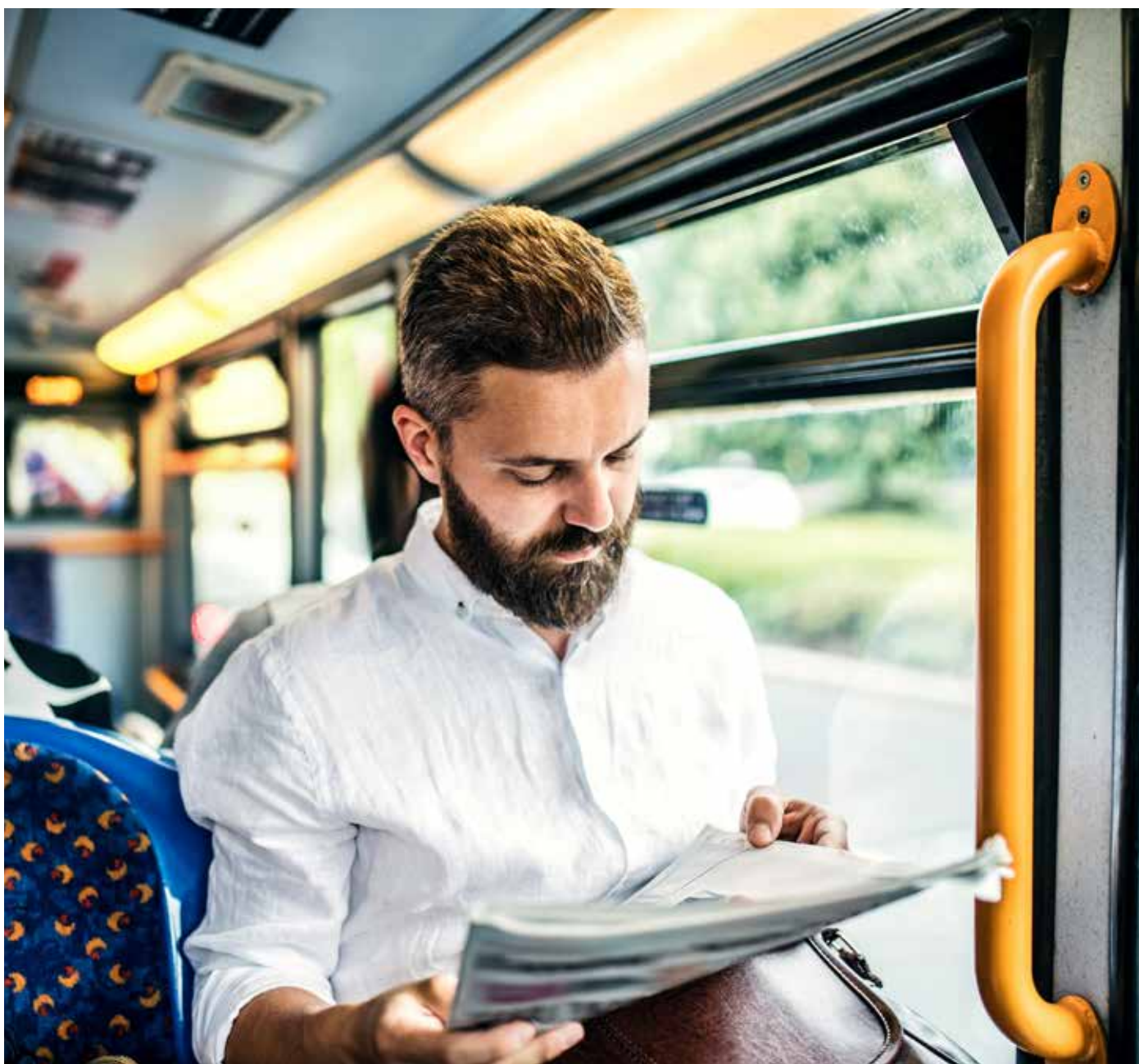
East of the M11, the route enters the West Cambridge site, which presents few environmental sensitivities. The one exception is a section of woodland which is designated as a Local Nature Reserve. We will seek to limit the impact and restore and extend planting alongside the motorway.

We will need temporary construction compounds on each side of the M11 to support construction of the bridge crossing. As the West Cambridge campus is undergoing significant development,

with some plots unused, we may seek to place a secondary construction compound on the site. See map of proposed construction compounds Design and Environmental Elements - General Information: Construction.

The route will follow Charles Babbage Road through the campus, with likely provision of segregated cycle and pedestrian paths to both sides, landscaping and a travel hub in the centre of the campus. Details of the facilities will form part of the site masterplan.

Construction traffic and impact is of marginal concern in this area, which is subject to extensive construction related to the site masterplan.



Section H: West Cambridge to Grange Road

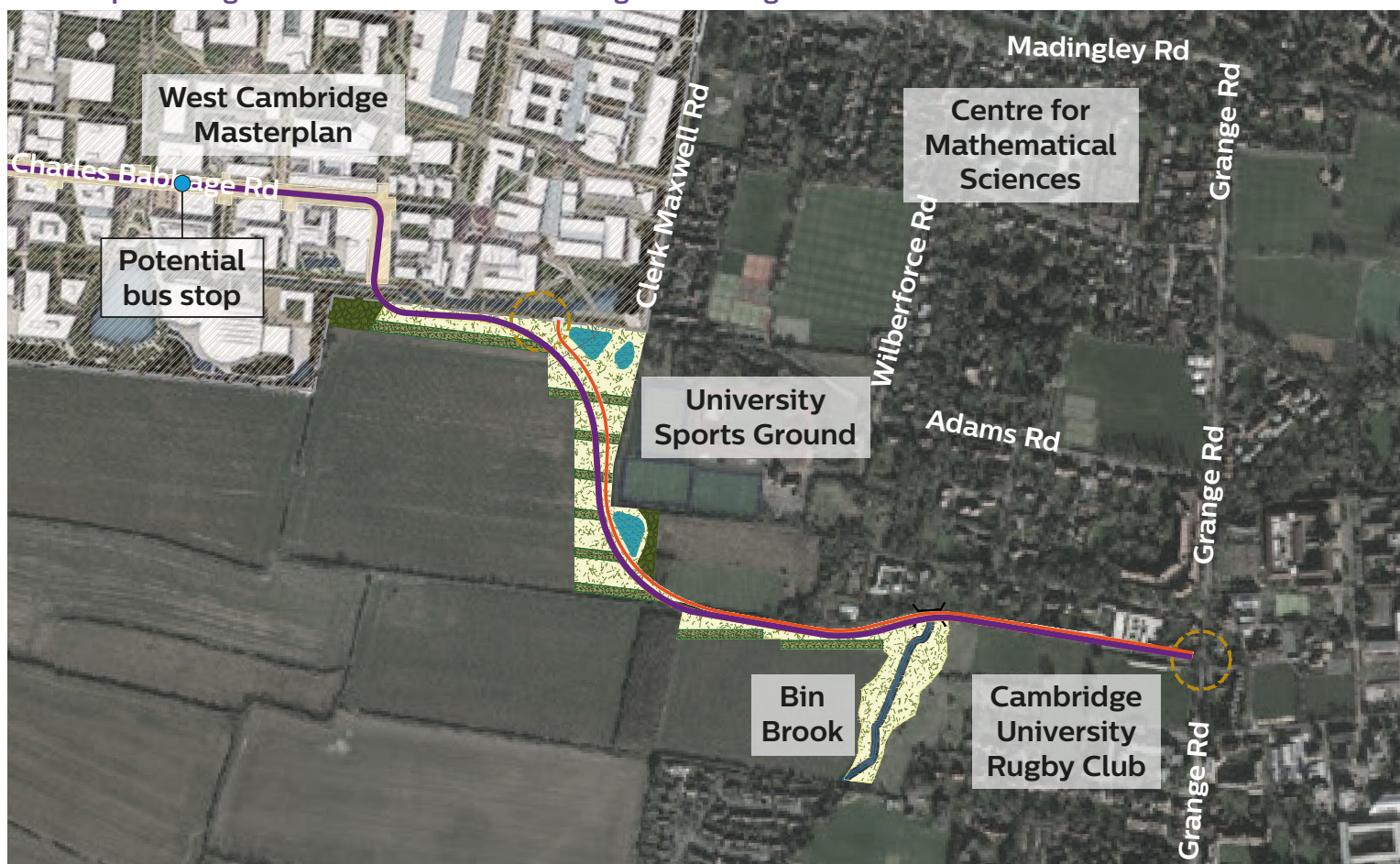
From the West Cambridge site, the route proceeds across the West Fields around the University Athletics Ground and along the Rifle Range track between Clare Hall College and the Cambridge University Rugby Union Football Club, to access Grange Road. A previously proposed alignment using Adams Road was discounted in response to feedback. Bus services continue on from Grange Road, using the existing road network through the city to major destinations

including the city centre and Biomedical Campus.

GCP's Making Connections project is introducing measures to free up space in the congested city centre for public transport, cycling and walking, and this will help the onward journey. Find more on the Making Connections proposals here












<https://www.greatercambridge.org.uk/makingconnections-2021>

Proposed alignment between West Cambridge and Grange Road



KEY

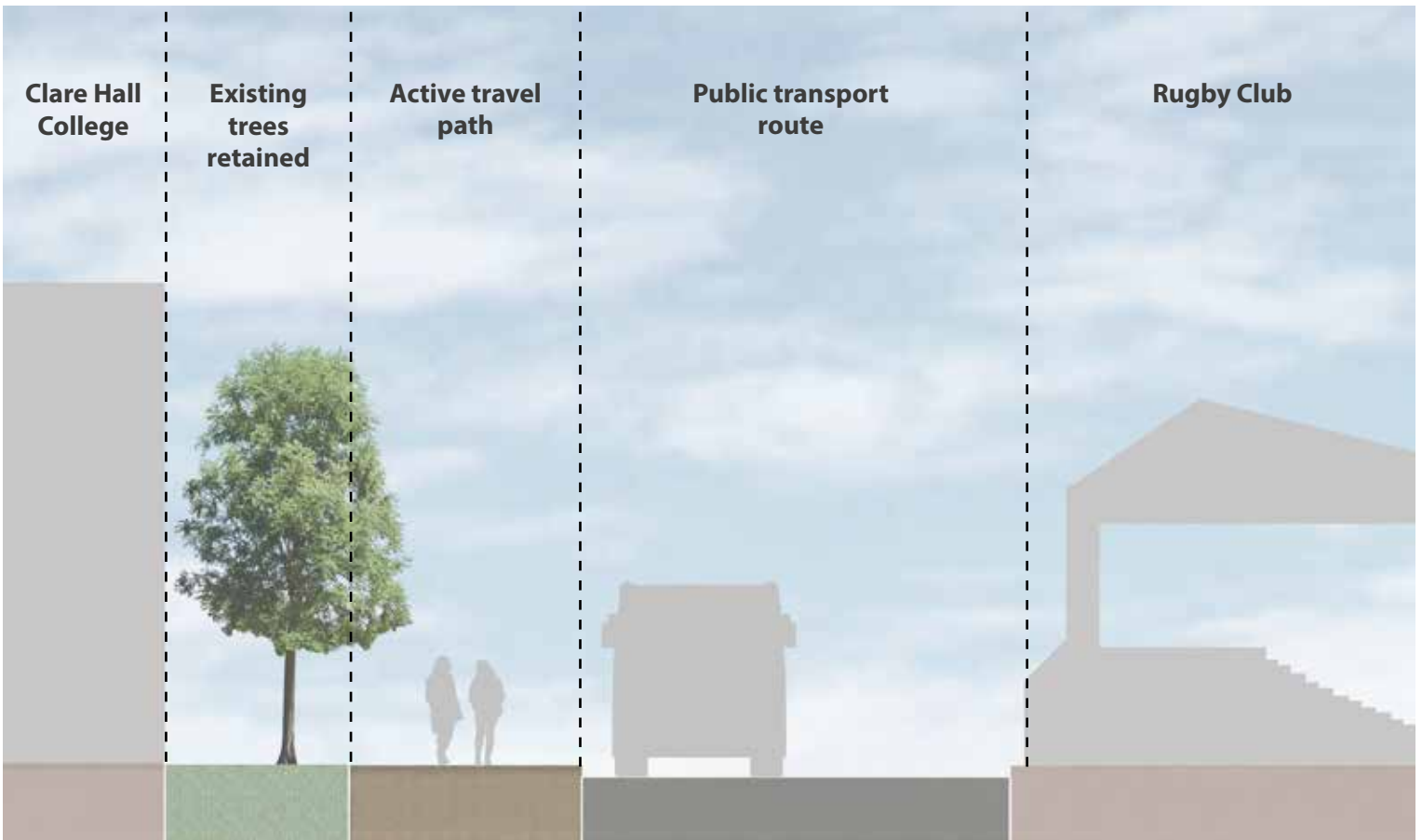
The proposals presented are indicative only and are subject to change.

-  Proposed new route
-  Proposed active travel path
-  Proposed bus stop location
-  Proposed bridge structure
-  Future development site
-  Route integrated with the existing or emerging public realm
-  Indicative extents of new rich grassland planting
-  Indicative extents of new native woodland planting
-  Stretches of hedgerows and tree planting aimed at creating strategic screening or helping the scheme fit into the landscape
-  Planted drainage ponds. Opportunities to include limited permanently wet areas for wildlife
-  Area where wayfinding features, lighting, seating points and cycle parking may be proposed

Illustrative view of Bin Brook crossing



Rifle Range cross-section



Proposed alignment at the junction with Grange Road



Environmental issues and proposed mitigations

Heading east from the West Cambridge campus, the route passes through an open setting of fields (the West Fields) and alongside sport facilities on the fringe of Cambridge. The route has previously been refined in response to feedback, to minimise the loss of agricultural land.

We expect that some visual impacts will occur here for overlooking properties nearby and if that is the case, well designed screening will be part of the scheme. Additional drainage ponds and some planting will be provided in residual plots of land east of, and severed by, the scheme. East of the Bin Brook, planting is limited to essential screening to avoid land-take from the Rugby Club training ground.

There will be some hedgerow loss where the route crosses between fields. We will protect the mature and impressive trees, some protected by Tree Preservation Orders, at the end of properties along the Rifle Range Road.

The crossing of the Bin Brook will implement best practice techniques to ensure that the quality of this protected habitat is not impacted during construction. The structure used to bridge the brook will also be designed to ensure the protection of this feature. It will need to be elevated over the current level to ensure that it does not increase flood risk and to allow for the impacts of climate change in the future, but

as the existing bridge is well below the prevailing ground level, the visual impact can be reduced with careful planting. We may need to create small areas of additional flood storage should the crossing structure impinge existing flood capacity. A flood risk assessment will determine the extent of, and possible locations for, this. There is also scope for enhancement on the flood plain area along the Bin Brook, with additional planting to the west.

There are existing permissive and other uses of the Rifle Range track, and arrangements will be put in place to maintain access where it exists and mitigate disruption.

A new traffic signal-controlled junction will be needed at the junction with Grange Road, and this may result in some loss of land and trees. Care will be taken to minimise the impact on the West Cambridge Conservation Area and adjacent listed buildings, such as Clare Hall College. From Grange Road, buses follow existing roads into Cambridge and further construction is not envisaged.

Grange Road is not ideal for construction traffic, and so where possible the scheme will use a construction compound on West Cambridge and provide its own haul road. Care will be taken to avoid disruption, notably to Clare Hall College.