

GREATER CAMBRIDGE GREENWAYS

PRODUCED BY 5TH STUDIO FOR CAMBRIDGESHIRE COUNTY COUNCIL

WATERBEACH + FULBOURN



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Greenways plan



The twelve indicative Greenways routes, to be finalised after public consultation.

INTRODUCTION

£480,000 of City Deal funding was awarded to the project, which started in April 2017. It is allocated over two years to complete the public engagement and consultation phase of all 12 schemes.

The team, comprising 5th Studio, with support from JCLA (landscaping) and Allan Tyler (cost), has been appointed by Greater Cambridge Partnership to prepare outline concept drawings for public consultation in June 2018.

The Greater Cambridge Partnership is looking to establish a high quality Greenway network of cycling routes from Local villages into Cambridge. Some of these routes already exist in part or require improvements. Other sections are new, and are subject to agreement with landowners.

This study follows earlier consultation carried out by the Greater Cambridge

Partnership, and a series of reports completed in October 2016. These recognised that:

'Cambridge has the highest level of cycling in the UK and without this it is hard to see how the city could function efficiently and maintain its high quality of life. A successful Greenways Network around Cambridge is likely to be a key part of the future success of the Greater Cambridge area.'

There are 12 Greenways planned in total:

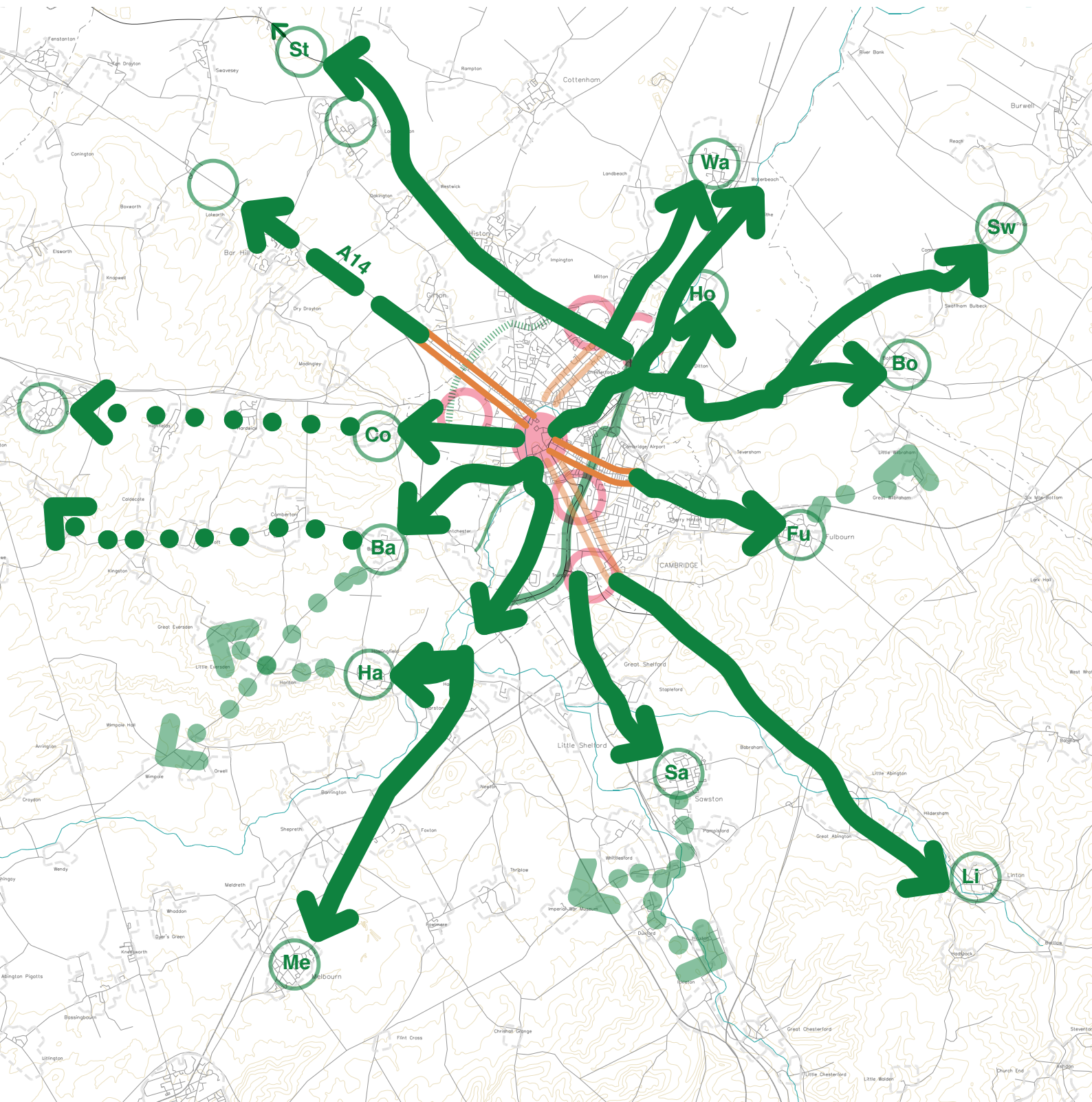
Waterbeach Greenway
Horningsea Greenway
Swaffham Greenway
Bottisham Greenway
Fulbourn Greenway
Linton Greenway
Sawston Greenway
Melbourn Greenway
Haslingfield Greenway
Barton Greenway
Comberton Greenway
St Ives Greenway

The approach illustrated in this document, starts with a thorough understanding of the routes gained by the team cycling the routes and supplemented by our detailed knowledge of designing cycling infrastructure.

A targeted approach has been used to develop initial concept designs. We have concentrated on:

1. Key locations - crossings, moments of orientation/redirection,
2. A variety of common linear conditions through exploring a range of representative cross sections,
3. The definition of a series of high-level landscape approaches for different sections of the broad route corridors.

This report summarises our work on the Barton and Haslingfield routes, and where this overlaps with the Melbourn route.





Above: a 3m wide cycle lane,

Right: 2m wide cycle lane,

Right below: 4m wide cycle lane,

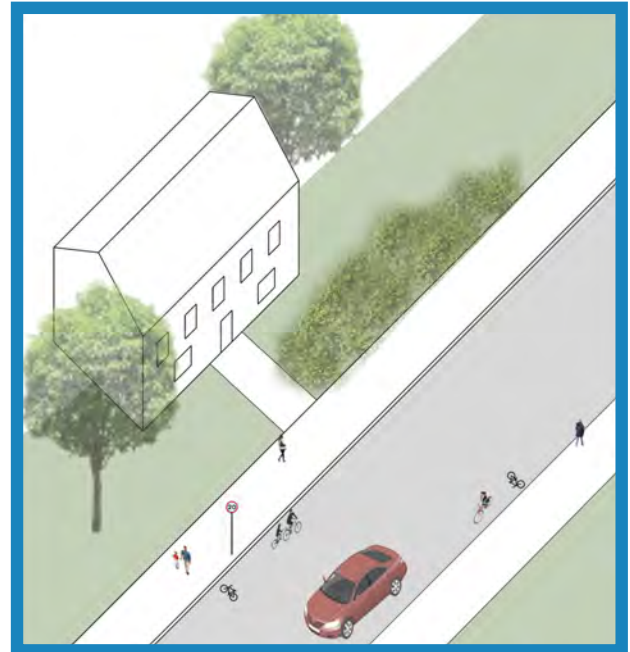


What is a Greenway?



- A high-quality, direct, continuous and legible route connecting local villages with the city.
- In this project the proposed Greenways provide facilities likely to increase cycle commuting and thereby encourage modal shift out of the motor vehicle for journeys in their respective corridors, but should also provide good facilities for pedestrians, wheelchair and mobility scooter users and, where appropriate, horseriders – and cater for both leisure and utility users.
- An all weather, hard surface (generally tarmac) of width of at least two metres, but wider where possible.
- Generally the routes should be free from vehicular traffic - either entirely away from roads, or segregated from them.
- Where the routes utilise existing roads these should preferably have less than 2,000 motor vehicle movements per day, and preferably be subject to 20mph speed limits.
- Where busy roads are crossed, there should be a suitably safe means of crossing the road.
- While there is necessarily a limit to the scope what can be delivered as part of this specific project, which is focused on delivering a series of radial Greenway routes connecting the city and outlying villages, the ultimate goal is to create a seamless network of high quality routes (including orbital routes around Cambridge, extensions of routes to villages and other destinations further afield (e.g. Wimpole Hall) and a denser network of high quality routes within the city) and potential of this wider network should be considered when developing the initial Greenway proposals.

3 TYPES OF ROUTE



There are three path types that are to be consistently used along the Greenway routes. Both the shared and segregated cycle paths are to have a smooth, machine laid hot-rolled, asphalt surface. The colour of this surface may be varied from black to buff in the city centre.

There may be small sections of path where it is not possible to meet these standards, i.e. over bridges, and the boardwalk over Paradise Nature Reserve. Here bespoke solutions that aim to meet the standards above are to be applied.

Signage is to be consistent along the Greenway route, with signs to be located at junctions, and at regular intervals.

Other elements are to be proposed on a location specific basis and need not be common to the Greenways route. These include lighting, seating, local signage, trees, planted verges.

Quiet road

Cycle route on carriageway with speed limit reduced to 20mph. White painted signage on carriageway.

Sign marker posts at key junctions.



Shared cycle path

Two-way cycle path, shared with pedestrians. Preferred width is 3m (2m may be acceptable on quiet rural stretches, and 4m may be required in busy areas). Shared path to have a machine laid hot-rolled black asphalt surface.

Where the path is located along an existing bridleway route, the bridleway is to run parallel on grass. Where the path runs alongside the carriageway a separating planted verge is recommended, to be as wide as possible.

Sign marker posts at regular intervals and at junctions.

Segregated cycle path

Two-way segregated cycle path (i.e. for cycles only) parallel to the carriageway with, where possible, a planted verge between. The planted verge is to be made as wide as possible.

Preferred width for cycle path is 3.5m (with footpath alongside at 3.5m). An acceptable min for cycle path 2.5m (with 2.5m footpath). Machine laid hot-rolled asphalt surface.

Sign marker posts at regular intervals and at junctions.

THE PREVIOUS CONSULTATION

In 2016, the Greater Cambridge Partnership commissioned Nigel Brigham to review the twelve Greenway routes. This report, along with the detailed appendices is publicly available on the Cambridgeshire Council website. It recommended the following:

Waterbeach Greenway

The Waterbeach Greenway will provide an improved off-road route to connect Cambridge and Waterbeach. This includes connecting up transport interchanges, such as Cambridge North Station, Chisholm Trail and St Ives Greenway. It will also link up key employment sites such as Cambridge Science Park and Waterbeach Business Park.

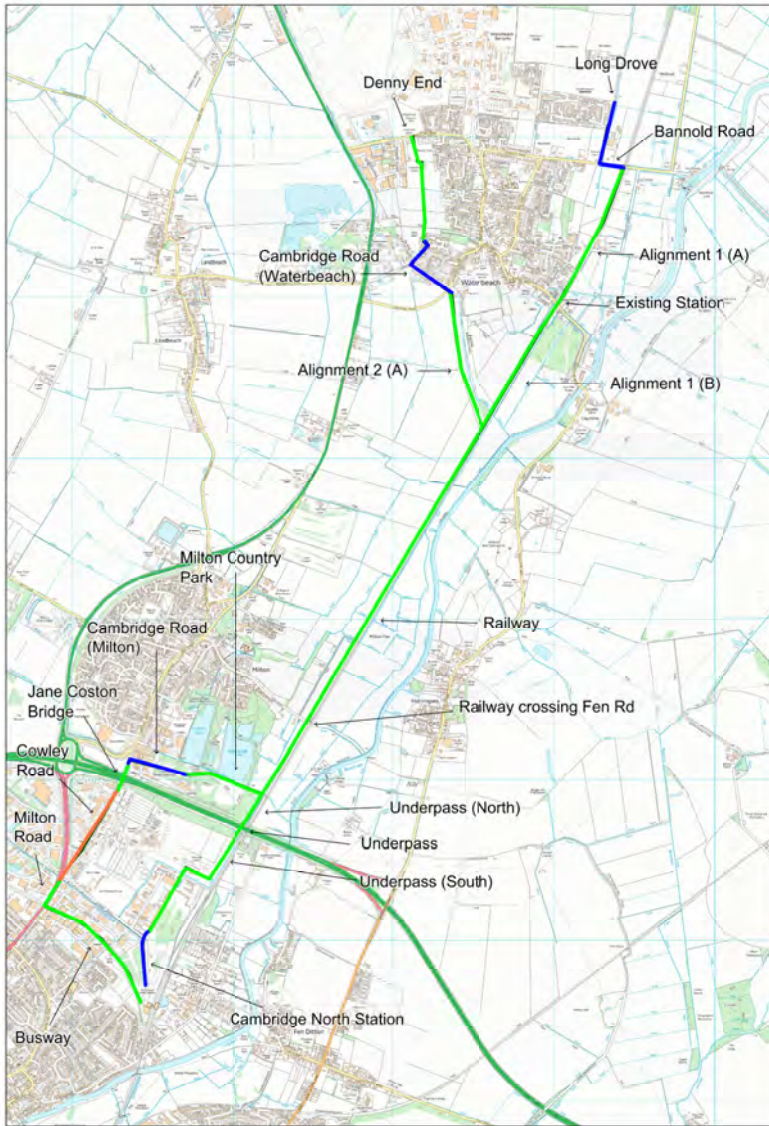
Fulbourn Greenway

The Fulbourn Greenway - an off-road route for cyclists, pedestrians and equestrians - is proposed to connect Fulbourn to Cambridge.

There is an existing off-road walking and cycling path from Cambridge to Fulbourn, but improvements are needed to make it a high-quality off-road route. The new Greenway will connect up residents from Fulbourn with Cambridge, along with Cherry Hinton. It will also allow an off-road route for visiting key destinations and employment opportunities such as Cambridge Biomedical Campus (CBC), Cambridge Station, Mill Road area and Cambridge city centre.

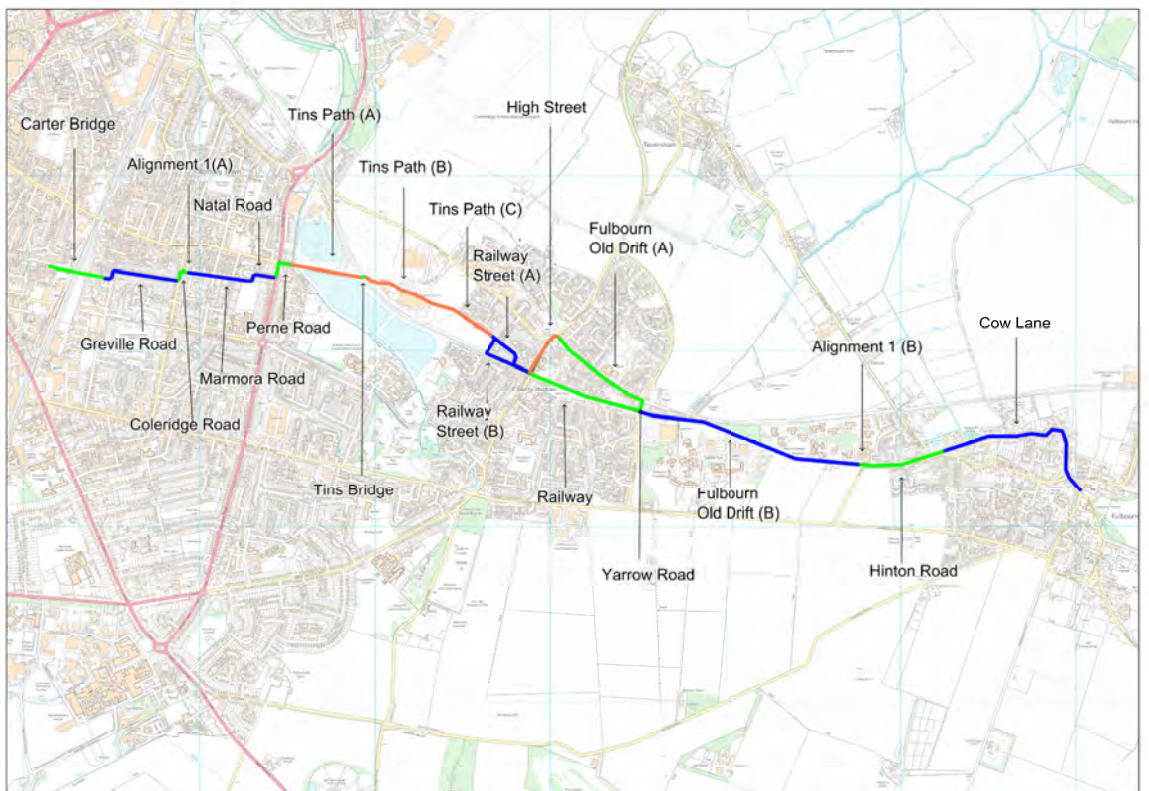


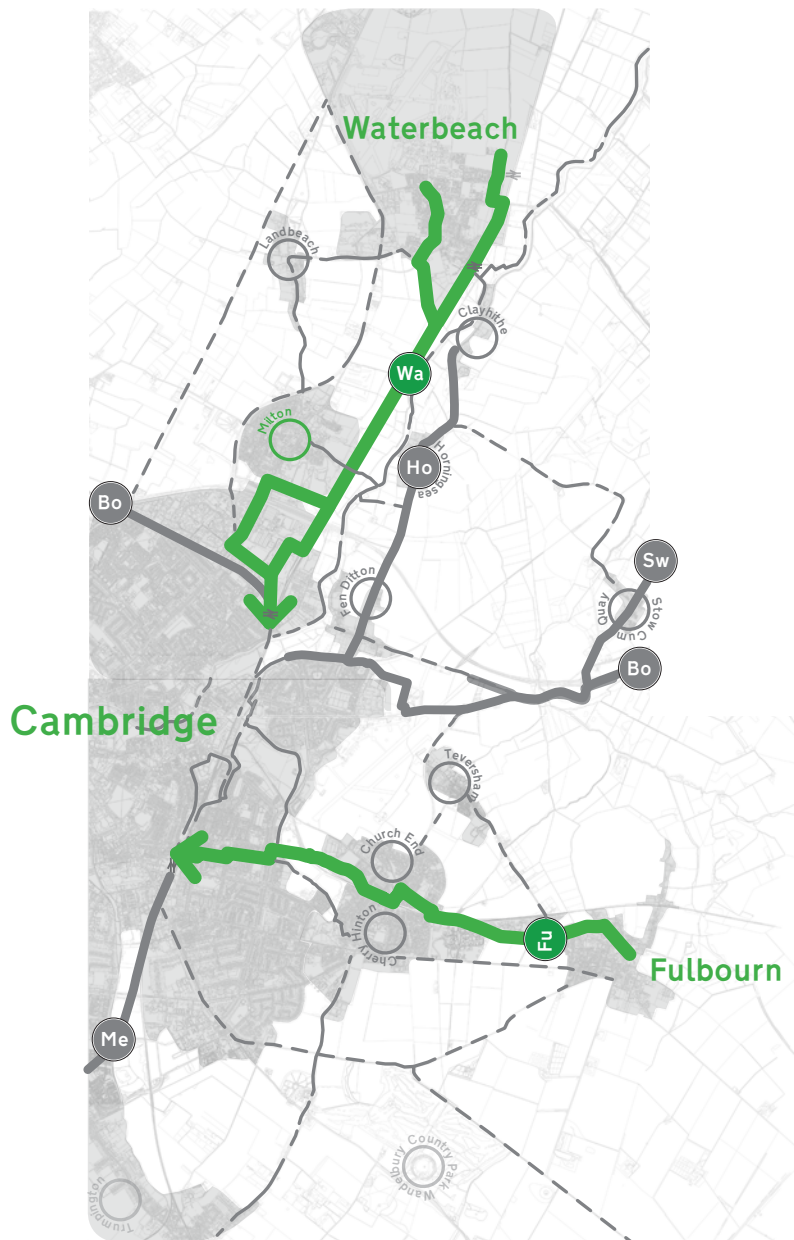
Above: Cambridge Greenways community engagement timetable



The routes mapped to reflect the feedback from the 2017 consultation.

Left: Waterbeach Greenway
Below: Fulbourn Greenway





THE ROUTES - FULBOURN

Our design process began with the team travelling the routes and documenting the condition of the existing footways and cycle ways (where these existed). The plan drawing shown here records the widths of existing cycle paths.

We went on to explore the alternatives presented in the Nigel Brigham report, as well as other emerging alternatives. These findings are presented on the following pages, and were discussed at length with the client team before deciding upon the routes to present for public consultation in autumn 2018.

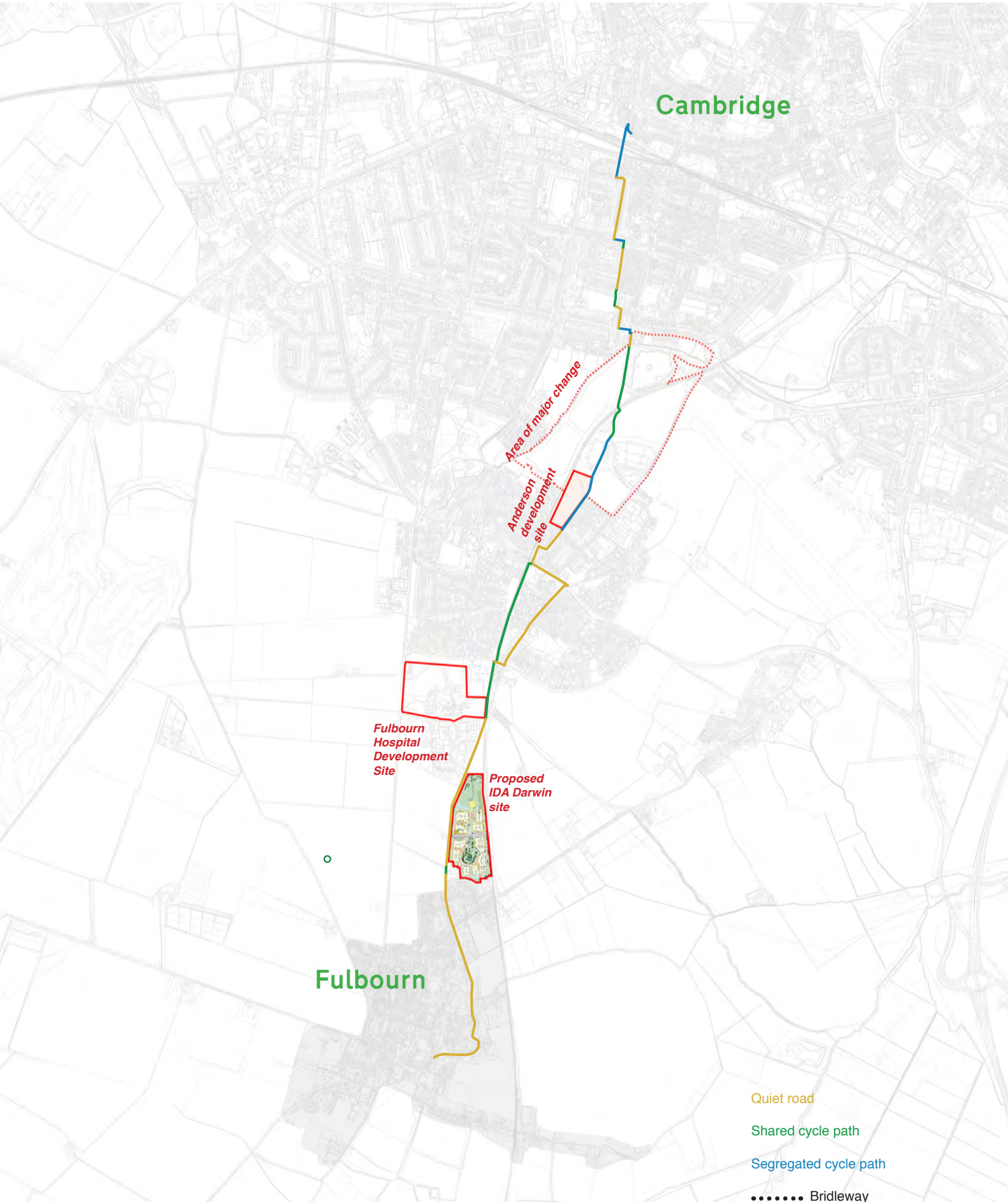
The Fulbourn route starts at Cambridge Station and links with other proposed Greenways and the Chisholm Trail.

It travels across the railway using the Carter Bridge on Devonshire Road and then through local streets in Romsey and to the path known locally as The Tins.

The connection to Cherry Hinton is made via a proposed upgraded or replacement railway bridge, depending on negotiations with Network Rail.

It travels past Tesco on Yarrow Road via Capital Park and the Ida Darwin Hospital and onward to Fulbourn via Fulbourn Old Drift and Hinton Rd.

The plans on the next few pages record our initial observations.



FULBOURN SITE PHOTOS



Hinton Road, quiet road towards Fulbourn



Existing shared cycle path at Yarrow Road level crossing



Existing shared cycle path from Fulbourn Old Drift to Yarrow Road along the railway

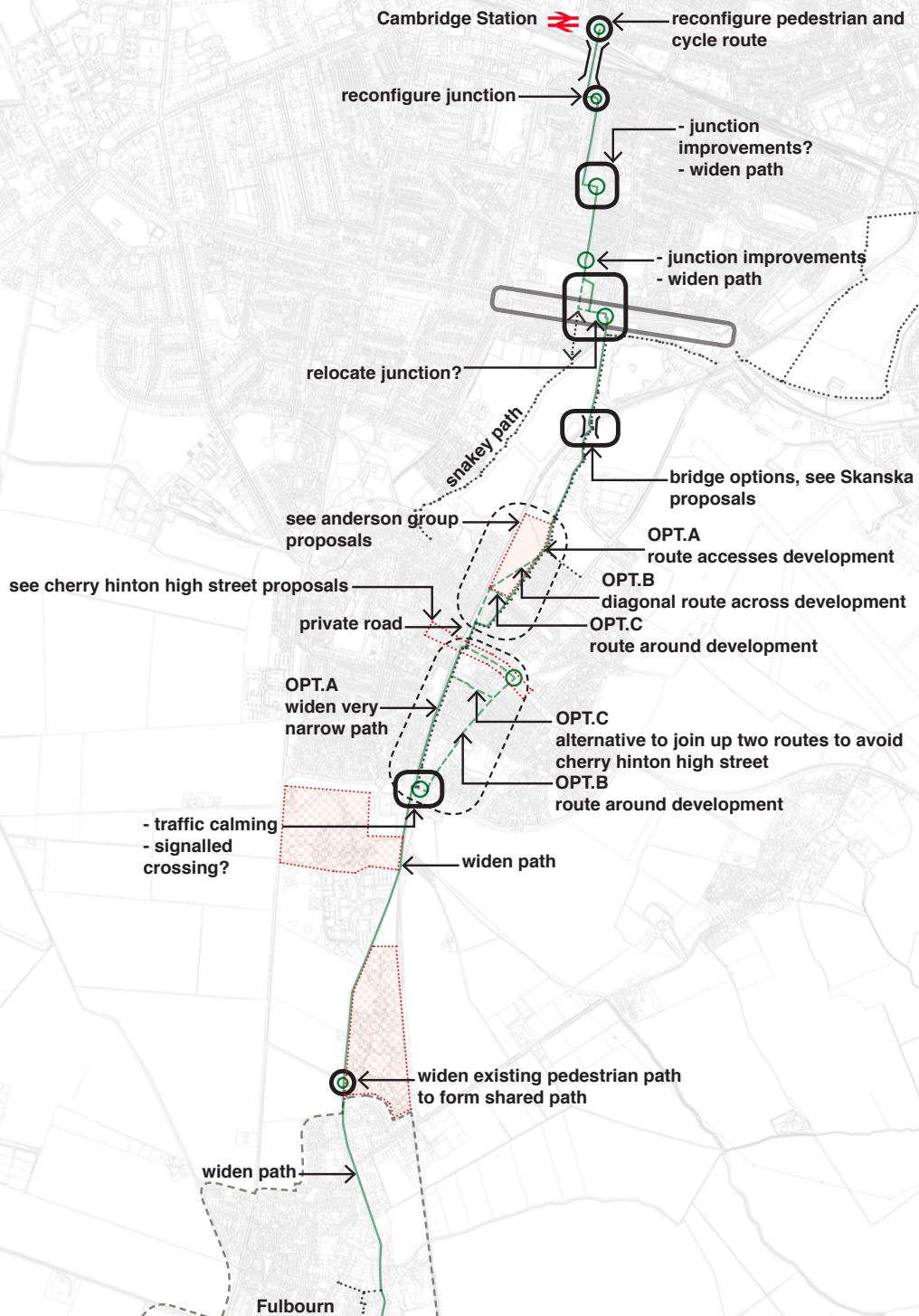


Existing cycle path along the Tins



Existing shared cycle path along the railway from Yarrow Road to Railway Street

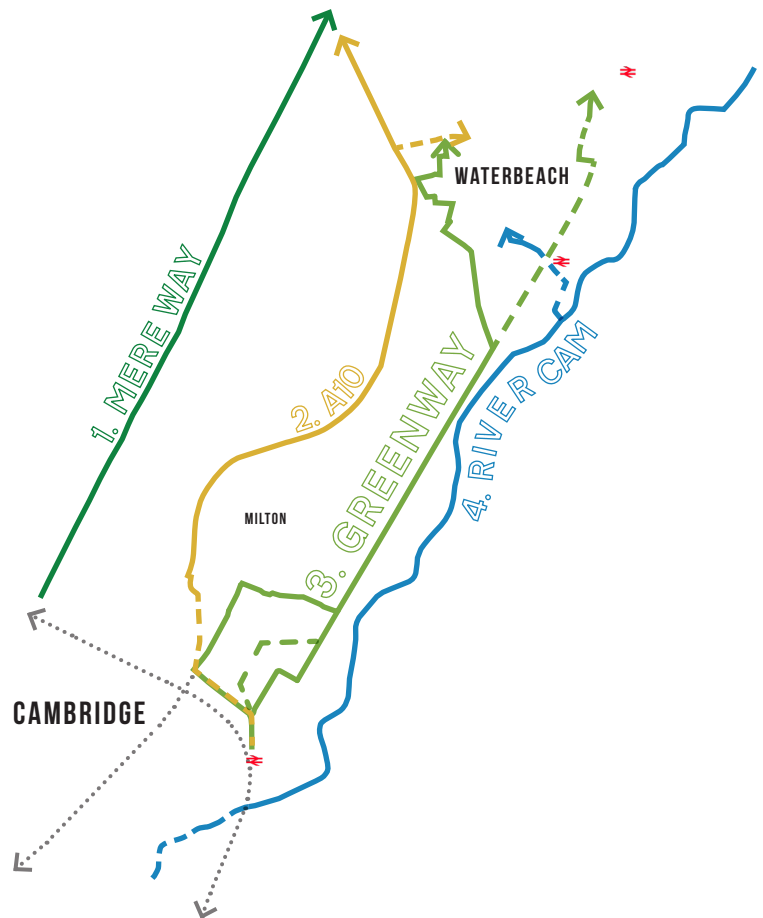
CAMBRIDGE



-  Area of interest
-  Route
-  Bridleway
-  Dev. Site



Consultation draft September 2018



Potentially Four Great Cycle Routes to Waterbeach

THE ROUTES - WATERBEACH

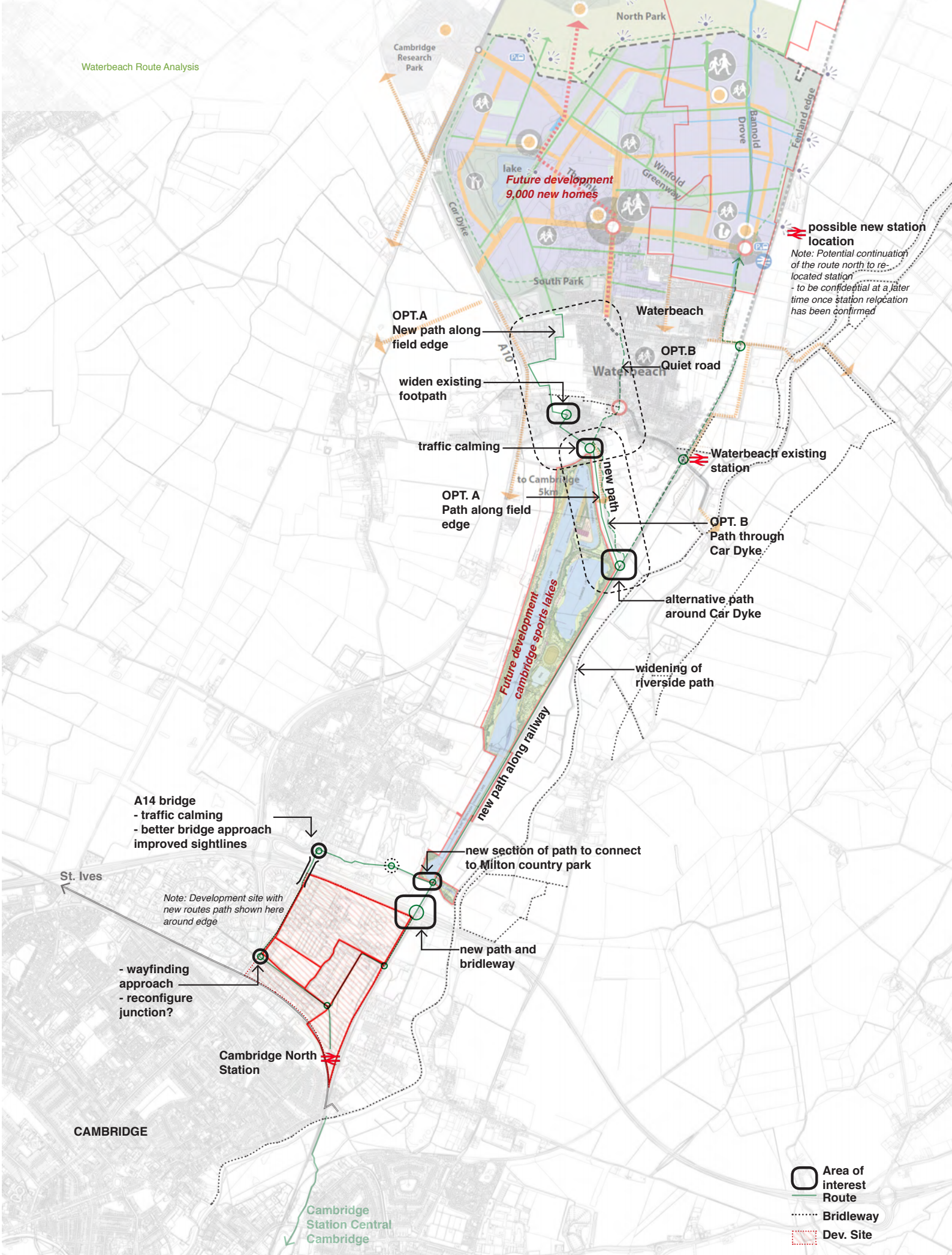
The Waterbeach Greenway route is proposed to connect Cambridge North Station to the proposed new developments to the North of Waterbeach, enabling sustainable travel from new residential developments and onward connections to the Business Park and potential future connections to villages beyond Waterbeach.

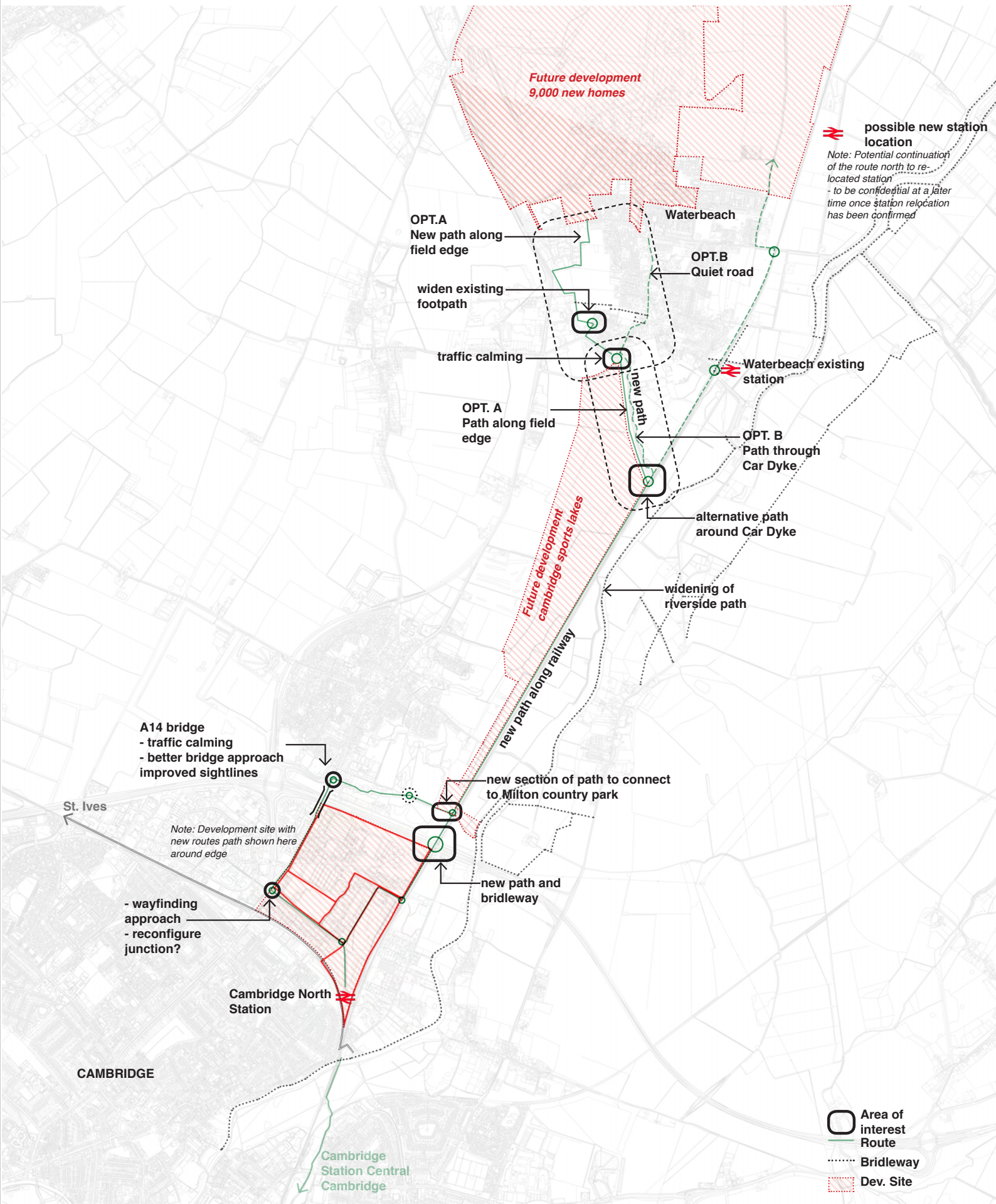
The route must be coordinated with the proposals coming forward by others, including:

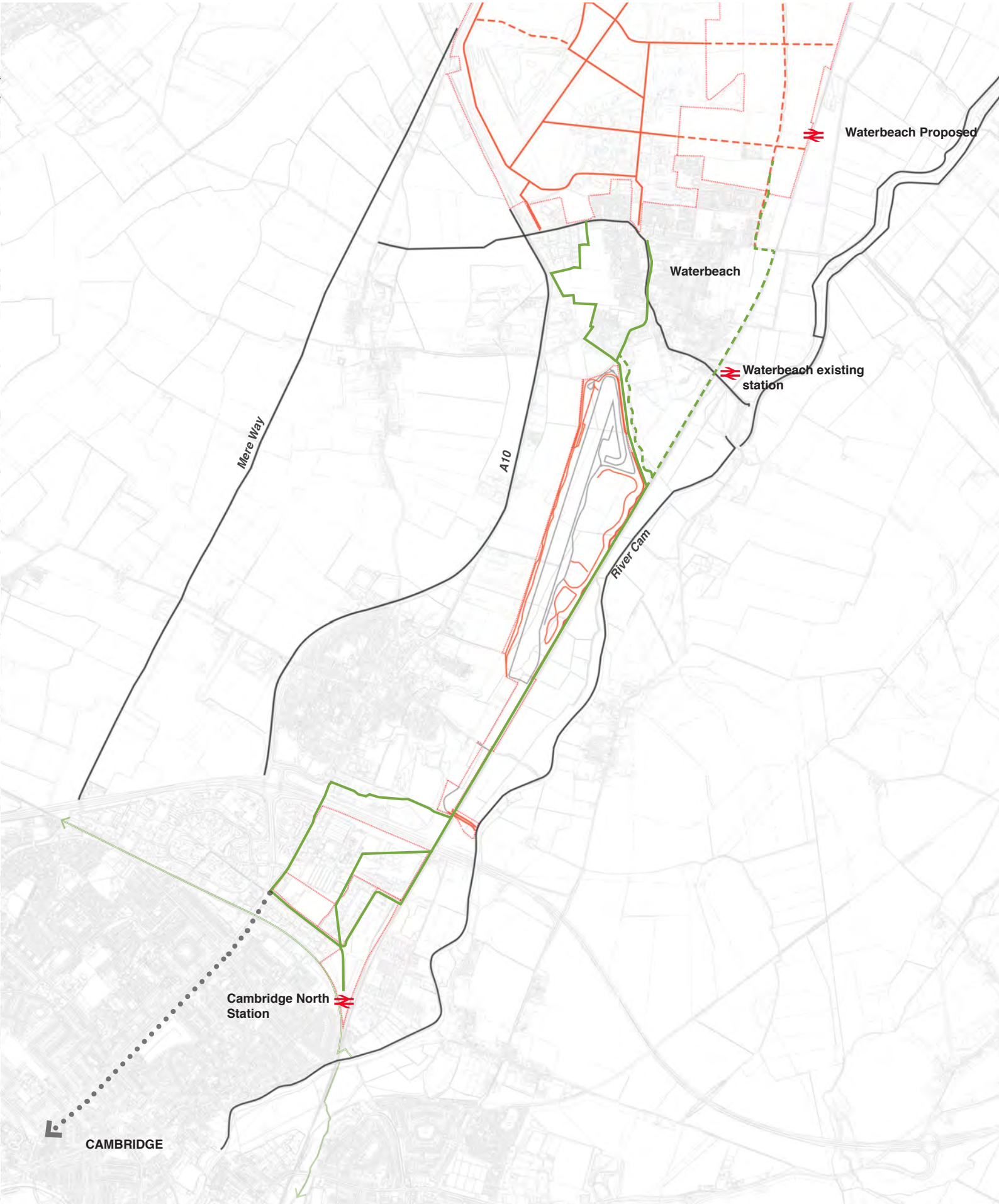
- The Cambridge University Sports lakes,
- New developments to the North of Waterbeach,
- The relocation of Waterbeach station,

- The development of Cambridge Northern fringe east - the new development to the north of Cambridge North station.

It should also be noted that along with the existing route alongside the River Cam, the Greenway will be one of four new parallel routes between Cambridge and Waterbeach, with the Mere Way, and improvements along the A10.







FULBOURN



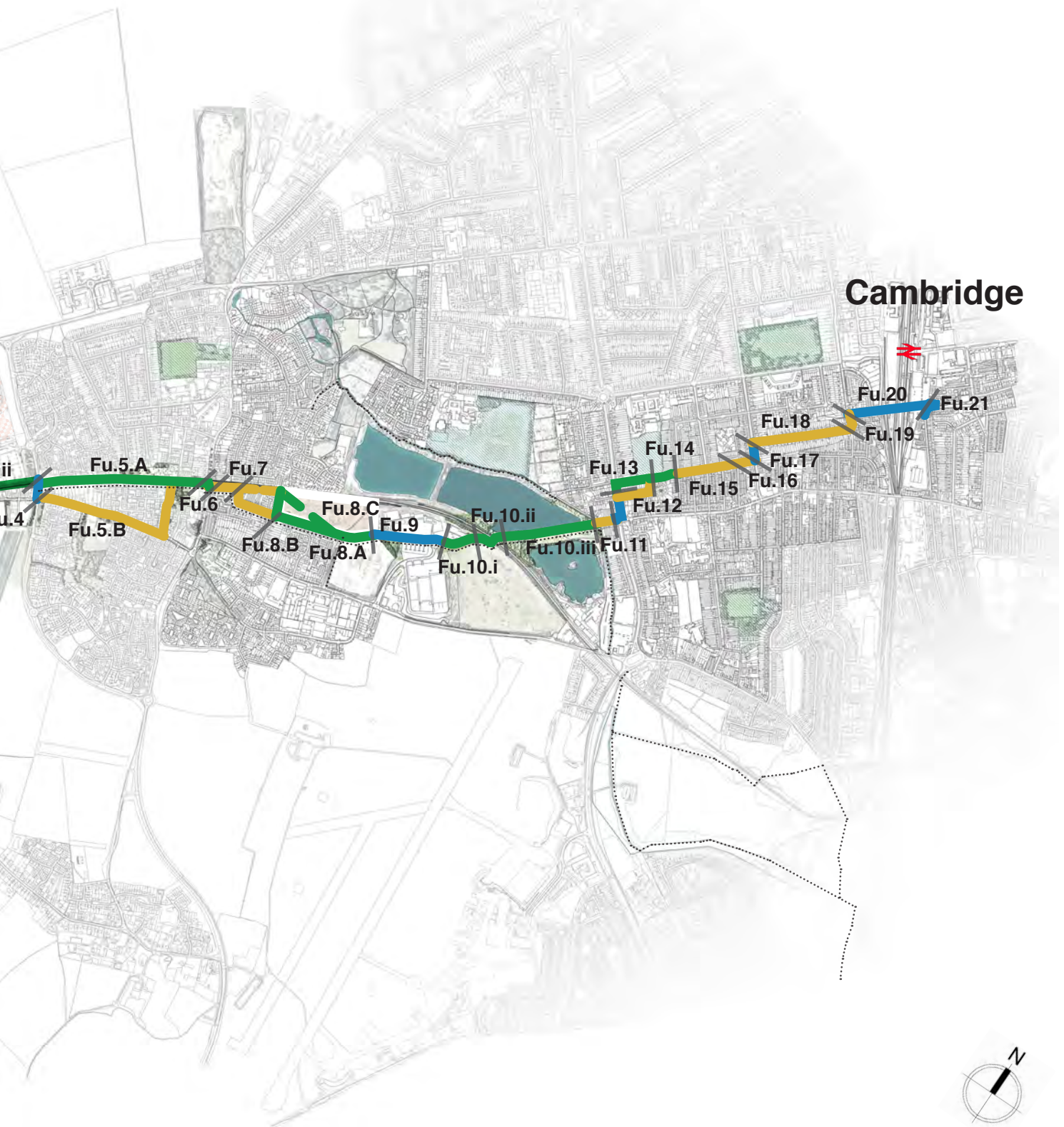
Quiet road

Shared cycle path

Segregated cycle path

..... Bridleway

Ba.3 - Project reference





Existing photograph of Fulbourn Old Drift, Hinton Road Junction

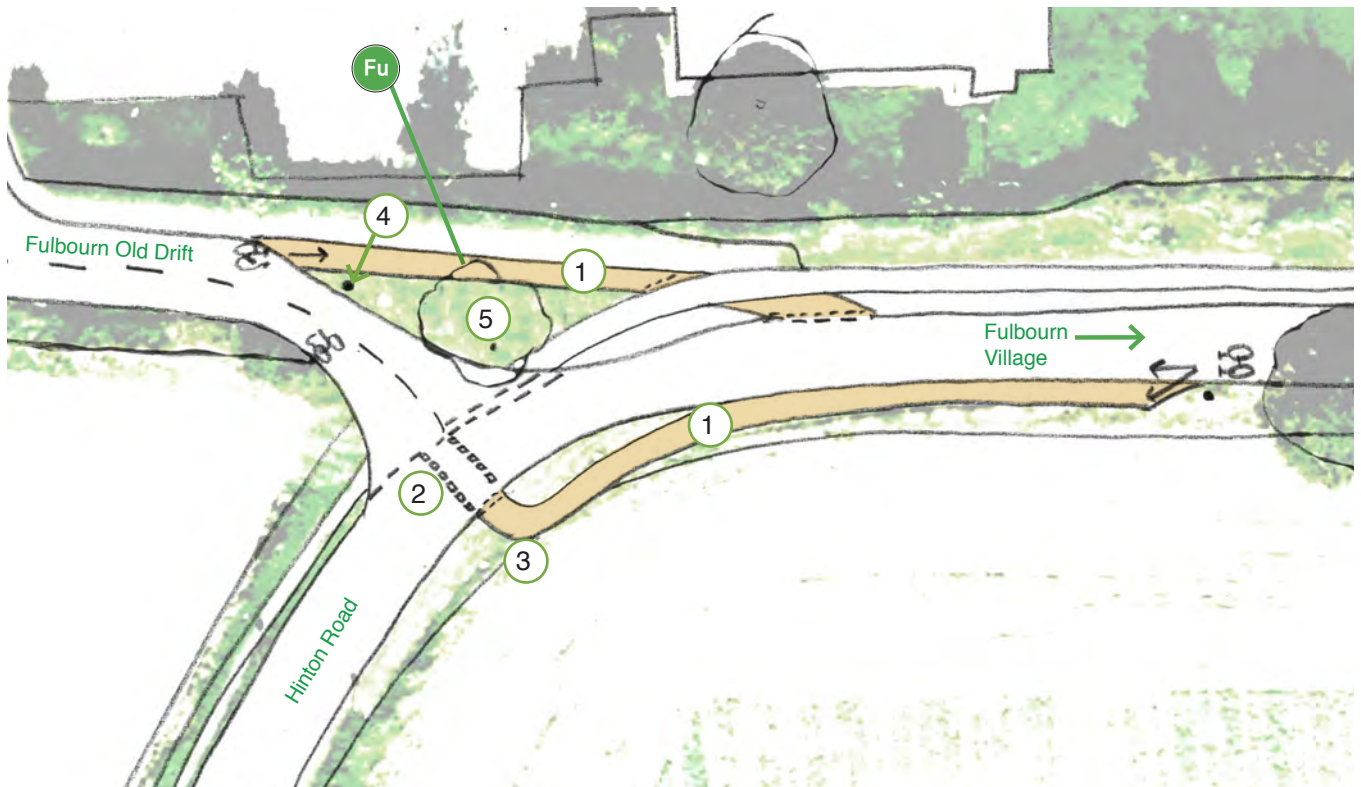
Fu.2.A - Fulbourn Old Drift, Hinton Road

Quiet Road / Segregated cycle path. Widen existing pedestrian pavement and add segregated cycle lane to Fulbourn Old Drift. Cycles leave carriageway on Hinton Road to new segregated cycle lane. Cycle road markings painted on surface and positioned to encourage cyclists to approach at 90° to carriageway. Cyclists give way to vehicles and join carriageway after crossing to Fulbourn Old Drift. Wayfinding and signage required.

- 1 New segregated cycle lane
- 2 Cycle road markings painted on surface
- 3 Approach to carriageway at 90° angle using jug handle
- 4 Bollard
- 5 Tree



Scale 1-500



Fu.2.A - Fulbourn Old Drift, Hinton Road Junction

Fu.2.B - Fulbourn Old Drift, Hinton Road Junction

Quiet Road. Change of priority from Hinton Road to Fulbourn Old drift to slow traffic and allow priority to cyclists. New road markings, new signage, new tree planting.

- 1 Change of priority
- 2 Island to reduce speed of turning vehicles
- 3 Tree



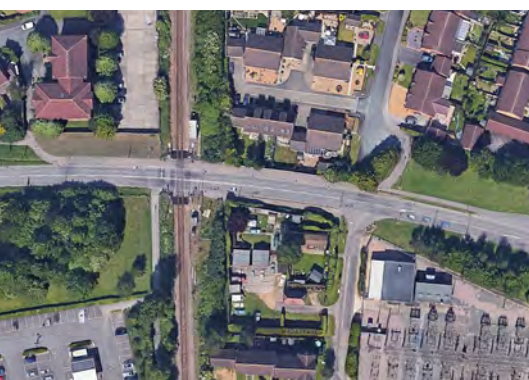
Existing aerial photograph of Fulbourn Old Drift, Hinton Road Junction



Fu.2.B - Fulbourn Old Drift, Hinton Road Junction



Scale 1-1000



Existing aerial photograph of Yarrow Road Junction

Fu.4 - Yarrow Road Junction

Segregated cycle path. Move existing path away from level crossing. Reduce width of road according to Sustrans guidance on rural major road crossings. Provide rumble strips to reduce speed of vehicles. Reduce width of road on east side of Yarrow Road to make shared surface path. New wayfinding and signage

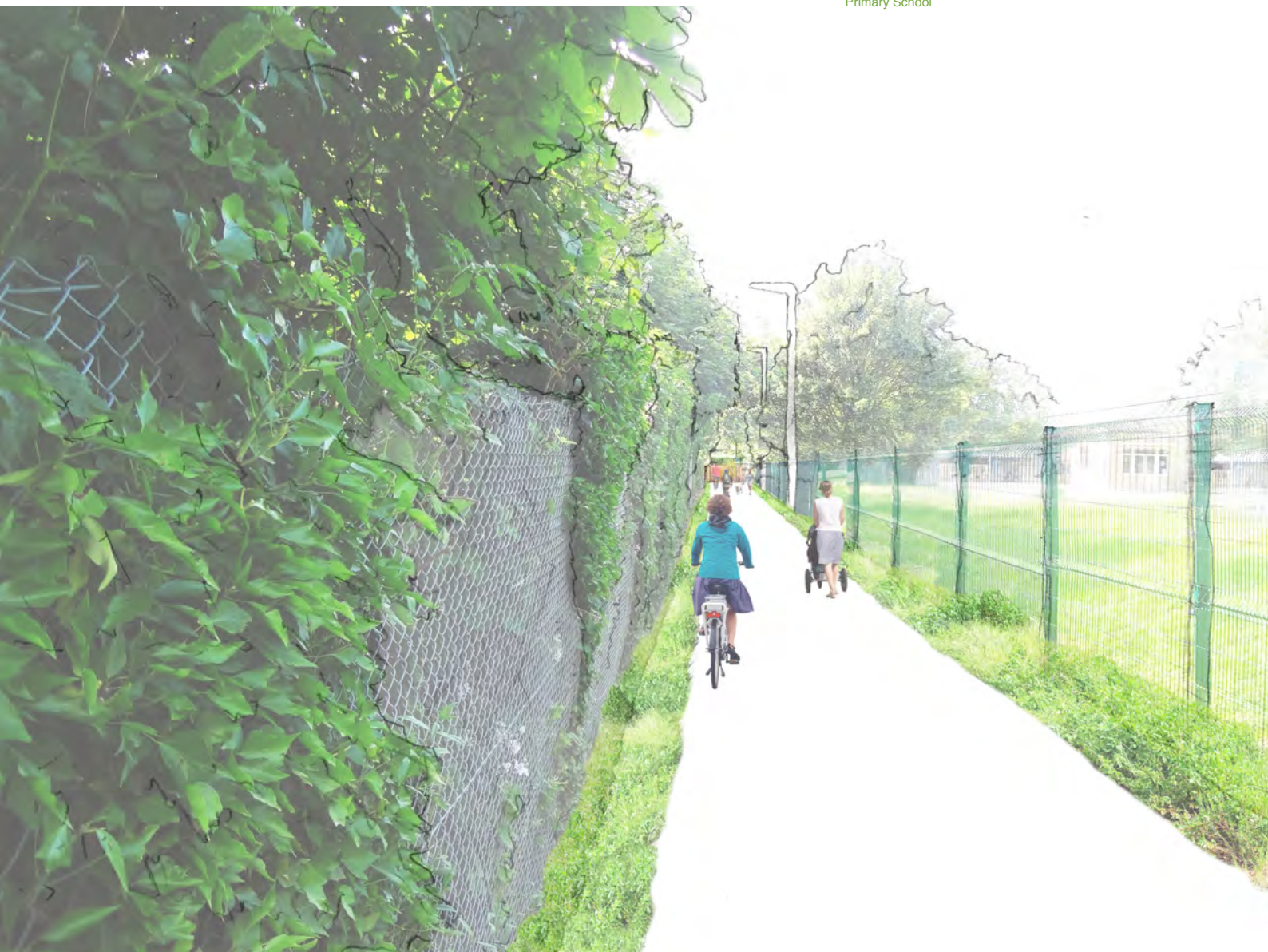
- ① Reduced width of road
- ② Existing path moved away from level crossing
- ③ New shared surface path
- ④ Central Island
- ⑤ Bollard
- ⑥ Tree
- ⑦ New paving

Fu.5.A & Fu.5.B- Cycle path running alongside Railway to Cherry Hinton Primary School

Widen existing narrow shared cycle path along the railway to 4m wide. New wayfinding, new signage, new lighting, new planting to edge of shared path. Subject to landholders agreement.



Existing photograph of Cycle path alongside Cherry Hinton Primary School





Existing photograph of Railway Street and High Street

Fu.6 - Cherry Hinton High Street Junction with Railway Street

Segregated cycle path / Quiet road. Cycle lane continues to edge of pavement, lined on each side with tactile corduroy, creating a shared path. White painted markings positioned to encourage cyclists to approach at 90° to carriageway. Tighten geometry at Railway Road to align better with cycle path. Introduce 20mph speed limit between traffic controlled crossing and level crossing.



Existing aerial photograph of Railway Street and High Street



- ① Cycle lane continues to edge of pavement, lined on each side with tactile corduroy, approach at 90° to carriageway
- ② Tighten geometry at Railway Road
- ③ Bollard



Scale 1-1000

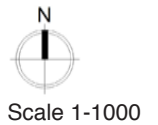
Fu.10.ii.A - Existing Cherry Hinton Railway Footbridge

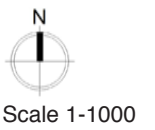
Shared cycle path - bridge over railway. Widened approaches to bridge to increase visibility. Resurface shared surface approaches and reduce incline angles. White painted markings for wayfinding. New signage. Subject to landholders agreement. See bridge proposals by Skanska.

- ① Widened approaches to bridge
- ② White painted markings for wayfinding



Existing aerial photograph of Existing Cherry Hinton Railway Footbridge





Fu.10.ii.B - New Footbridge

Shared cycle path - bridge over railway.
 Provision of new wider (3.0m) structure
 over railway track to provide a better
 alignment/ visibility. Bridge span 40m.
 See bridge proposals by Skanska.

- ① New bridge
- ② New approaches to bridge



Existing aerial photograph of Existing Cherry Hinton
 Railway Footbridge

Fu.12.A - Perne Road A1134, Brookfields Junction

Segregated and on carriageway cycle path. Works to realign carriageway to create new segregated cycle paths on both sides, with new bus island. New Toucan crossing and reconfigured toucan crossing. Copenhagen crossing on both sides of Perne road at Natal Road, and at Brookfields. New trees and landscaping. Note cycle path close to existing trees.

- ① Segregated cycle path
- ② Reduced carriageway width
- ③ New toucan crossing
- ④ Copenhagen style crossing
- ⑤ Avenue of new trees
- ⑥ New tree
- ⑦ New landscaping
- ⑧ Relocated bus stop



Existing aerial photograph of Perne Road A1134, Brookfields Junction



Scale 1-1000





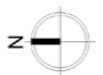
Fu.12.B - Perne Road A1134, Brookfields Junction - Improvements to Natal Road connection

Segregated cycle path. New Copenhagen style crossing to Natal Road to align with existing shared surfaces. Tighten Natal Road geometry to allow enough space for turning vehicles and cyclists to give way to shared surface users. Remove post box and telephone box and extend existing shared surface to signalled crossing at Perne Road junction. New planting, new wayfinding and signage.

- 1 Copenhagen style crossing
- 2 Tightened geometry
- 3 Extended existing shared surface
- 4 Extended existing cycle approach to junction
- 5 New landscaping
- 6 New tree
- 7 Bollard




Existing aerial photograph of Perne Road A1134, Brookfields Junction



Scale 1-1000



N

 Scale 1-1000



Existing aerial photograph of Scout Hut and Coleridge Community College sports ground

Fu.13.A - Along Private Road and Coleridge Community College sports ground

Shared cycle path. Use path along north side of Scout pavilion and along Coleridge Community College Sports Ground. New signalled crossing across Perne Road. Extend path for casual crossing over Perne Road before busy junction. New shared surface, new signage and wayfinding. Subject to landholders agreement.

- ① Signalled crossing
- ② New shared surface path
- ③ Bollard

Fu.13.B - Along south edge of Scout Hut and Coleridge Community College sports ground

- ① Signalled crossing
- ② New shared surface path
- ③ Bollard

Shared cycle path. Use path along south side of Scout pavilion and along Coleridge Community College Sports Ground. Align new signalled crossing with Scout Hut and Snakey Path to the Tins. Extend path for casual crossing over Perne Road before busy junction. New shared surface, new signage and wayfinding. Subject to landholders agreement.



Existing aerial photograph of Scout Hut and Coleridge Community College sports ground



Scale 1-1000





Existing photograph of Marmora Road Alleyway to Coleridge Road

Fu.16.A - Marmora Road Alleyway to Coleridge Road - Existing Wall

Shared cycle path. Retain existing wall, new surface treatment to signal narrowness of section. New wayfinding and signage.

Fu.16.B - Marmora Road Alleyway to Coleridge Road - Widened Path

Shared cycle path. Demolish wall to create widened shared surface path. Install trellis and creeper plants to exposed property edge. New surface to existing path. New wayfinding and signage.



Existing photograph of Marmora Road Alleyway to Coleridge Road





Existing photograph of Greville Road, Rustat Road

Fu.18 - Greville Road, Rustat Road

Quiet Road. Reconfigure junction on Rustat Road through removal of chicane formed of emergency access gates. Improve existing raised table with coloured surface treatment and raising or removable bollards for emergency access. New wayfinding and signage.



Fu.21 - Devonshire Road Pedestrian and Cycle Junction under Carter Bridge

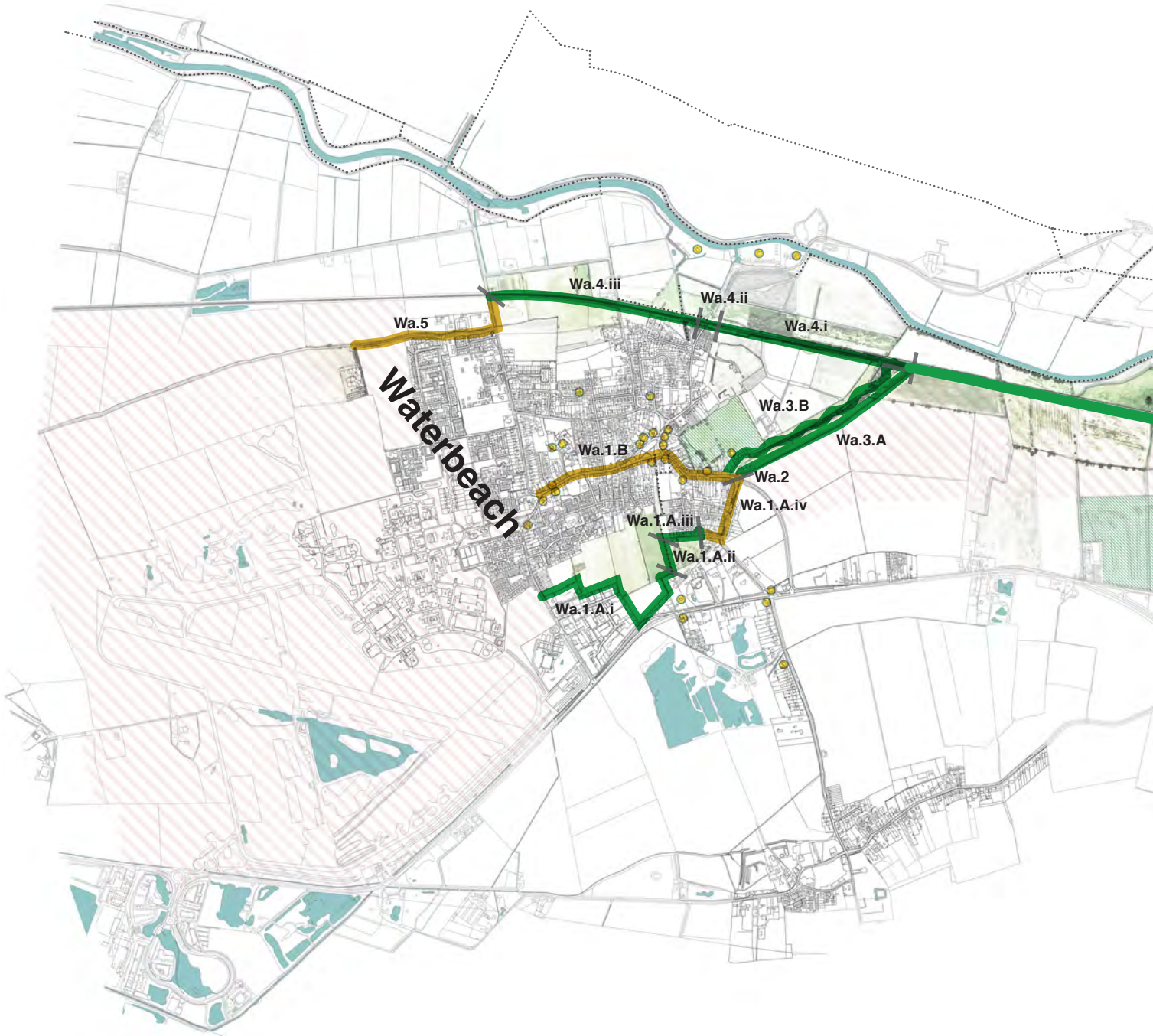
Segregated cycle path. Reconfigure junction priority and right of way for pedestrians and cyclists under Carter Bridge. New planting to bottom of ramp and new wayfinding and signage to signal start of Fulbourn route.

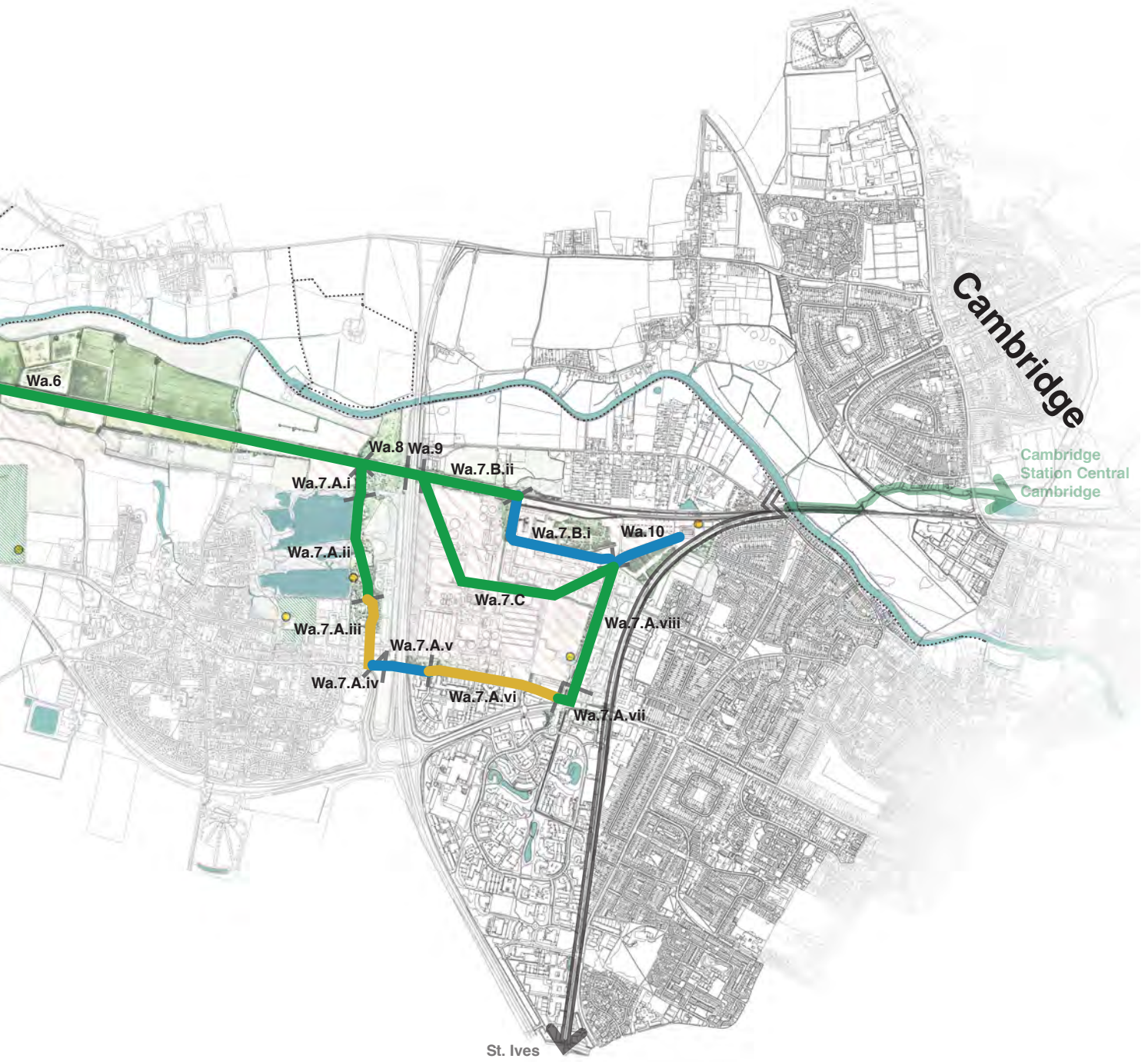


Existing photograph of Devonshire Road Pedestrian and Cycle Junction under Carter Bridge



WATERBEACH





WATERBEACH SITE PHOTOS



Existing stretch of railway, ditch and fields from Cambridge North to Waterbeach Station



Existing pedestrian track to Car Dyke



Existing shared surface path in Milton Country Park



Fen Road, existing quiet road



Existing segregated cycle path from Milton Road to Cambridge North Station



Wa.1.A.ii - Cycle Path along Paddock Edge

Shared cycle path, 3m wide. Widen existing shared surface along Paddock edge, resurface. Retain established native hedgerow along field edge. Move paddock fence and provide new foraging edge to the paddock side such as sloes and blackberries. Moments of height could act as marker trees to the route such as guelder rose trees or wayfarer trees. Subject to landholders agreement.



Existing photograph of Cycle Path along Paddock Edge



Existing photograph of Car Dyke Road, Cambridge Road Junction

Wa.2 - Car Dyke Road, Cambridge Road Junction

Traffic calming to Car Dyke Road and Cambridge Road through change of speed, rumble strips and a light coloured raised table from Car Dyke to Cambridge Road. Provide cycle waiting zone along Car Dyke. Rationalize planting on Cambridge Road entrance to provide clear visibility for cyclists. Traffic calming to Car Dyke Road with raised median strip and build-out (with cycle bypass) and priority markings to give priority to vehicles exiting Waterbeach village to slow vehicles entering the village.



- ① Rumble Strips
- ② Light coloured raised table
- ③ Cycle waiting zone
- ④ Rationalise planting to provide clear visibility for cyclists
- ⑤ Raised median strip and build-out with cycle bypass
- ⑥ New tree
- ⑦ Tightened geometry



Existing aerial photograph of Car Dyke Road, Cambridge Road Junction

Wa.2 - Car Dyke Road, Cambridge Road Junction

Traffic calming to Car Dyke Road and Cambridge Road through change of speed, rumble strips and a light coloured raised table from Car Dyke to Cambridge Road. Provide cycle waiting zone along Car Dyke. Rationalize planting on Cambridge Road entrance to provide clear visibility for cyclists. Traffic calming to Car Dyke Road with raised median strip and build-out (with cycle bypass) and priority markings to give priority to vehicles exiting Waterbeach village to slow vehicles entering the village.



Scale 1-1000





Existing photograph of Car Dyke Roman Canal - Direct Route

Wa.3.A - Car Dyke Roman Canal - Direct Route

Shared cycle path, 3m wide. New shared surface cycle path along edge of Car Dyke, new signage. 3m wide shared cycle path to replace track to specification to allow for farm vehicle access. Mown path through existing meadow runs alongside shared surface path to retain and protect existing landscape. Mown edge along the Car Dkye edge to protect existing Dyke vegetation.

**Wa.3.B - Car Dyke Roman Canal -
Winding Route**

Shared cycle path, 3m wide. New shared surface cycle boardwalk winding through areas of Car Dyke, new signage. Path winds around existing vegetation and trees to protect and enhance existing landscape. Supplementary succession planting can be provided to support the existing vegetation. Any trees which are felled are left where they fall to create habitats for wildlife.



Existing photograph of Car Dyke Roman Canal - Direct Route





Existing photograph of Cycle Path along the Railway

Wa.6 - Cycle Path along the Railway

Shared cycle path, 3m wide, with 2m wide bridleway. New shared surface cycle path and bridleway alongside railway. New wayfinding, new signage, new lighting, new landscaping. Landscaping enhances the existing ecology corridor along the railway embankment. Pollarded trees such as Salix Alba Chermesina along areas of flat surrounding landscapes

or multi-stem trees for urban situations can be combined with companion trees and wild planting to shield and protect the shared cycle path users and wildlife. Swale with night-scented flowers such as borago, honeysuckle and hornbeam improves bat habitats. Subject to landholders agreement.





Existing photograph of Milton Country Park

Wa.7.A.ii - Milton Country Park

Shared cycle path, 3m wide. New section of shared surface path linking new railway shared surface path to Milton Country park. New signage, new wayfinding, new lighting, new landscaping.

Wa.7.A.iv - Jane Coston Bridge Approach, Junction with Cambridge Road

Widened 'mouth' to bridge approach.
New planter/build-out with cycle-bypass behind. Priority marking on roadway either side of existing raised table and planter.
New signage and planting, including tree to planter + bollards. Maintenance improvements to existing raised table and adjacent footways. Removal of c. 10m length of railings. New soft landscaping against adjacent fence.



Existing photograph of Jane Coston Bridge Approach, Junction with Cambridge Road



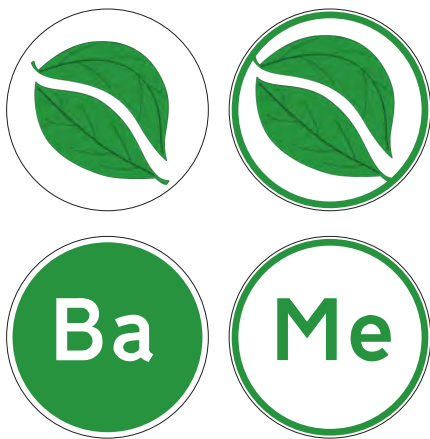


Wa.9 - A14 Underpass

New jack boxed underpass to A14 located west of existing water channel. New shared surface cycle path, new landscaping, new wayfinding and signage.



SIGNAGE



All twelve currently proposed Greenway routes could be signified with a two letter contraction of the full Greenway origin village name.

Could the naming of key junctions within the emerging network - in the manner of a 'knooppunt' (trans: button node) signage/ network map - be based on village names rather than the Dutch practice of allocated each node a number?

Ba	Barton
Bo	Bottisham
Co	Comberton
Fu	Fulbourn
Ha	Haslingfield
Ho	Horningsea
Li	Linton
Me	Melbourne
Sa	Sawston
St	St Ives
Sw	Swaffhams
Wa	Waterbeach





Timber Posts

- Natural material - appropriate to mostly rural setting.
- Subtly distinctive. Round profile - related to logo shape - distinguishes it from the usual square profile timber posts.
- If sign-face also curved, the sign is visible for longer as one passes by, suitable for passing by at greater speed - i.e. on a bike.
- Standard product - cost effective - easily replaced.
- Can be fitted with recess/reflective strip at top.



Above: Broxap BX17 <https://www.broxap.com/bx17-flat-round.html>

PRELIMINARY COSTINGS

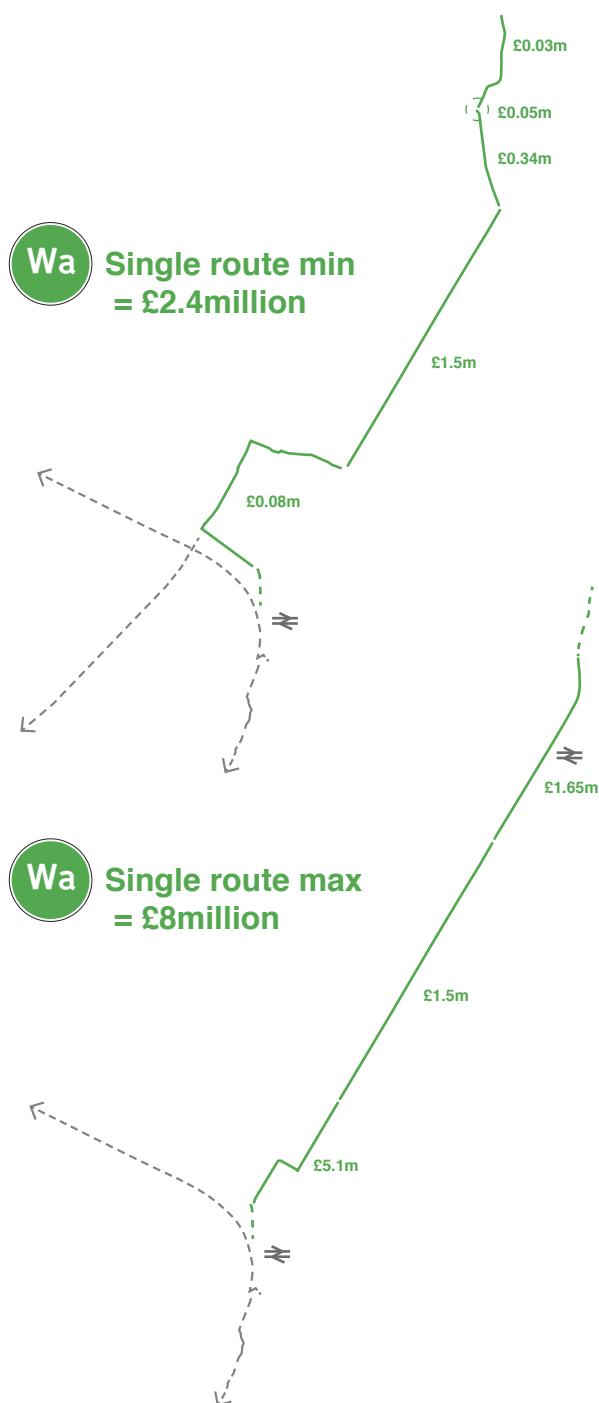
The costs listed here are high level costs, based on the pre-stage two concept designs, which should enable the council to establish initial project budgets. We recommend that these costings are reviewed following the concept design work after public consultation.

Please also note that the costs shown on the diagram do not include the following:

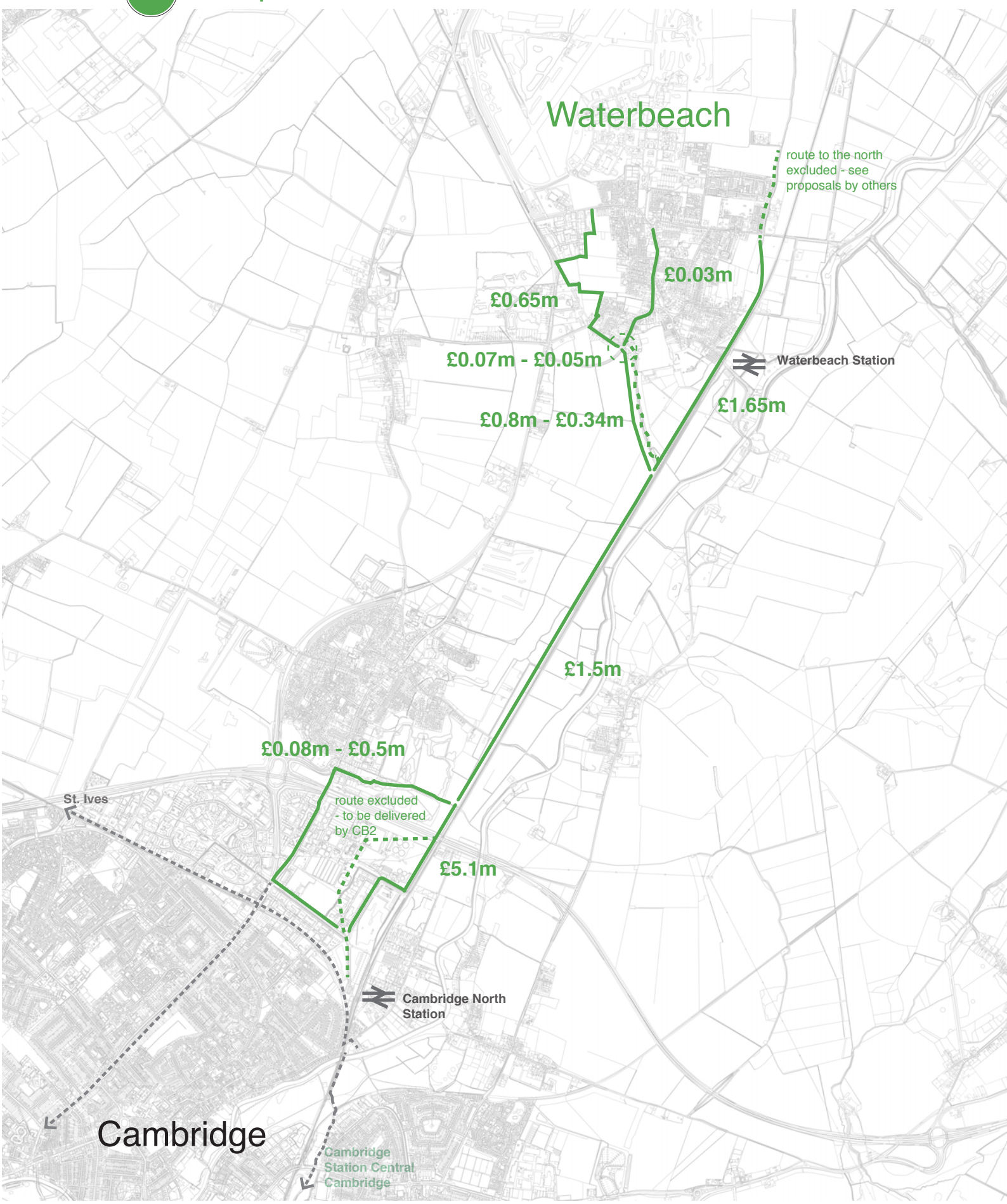
Professional Fees, Contingency, including any major works to re-route utilities, or VAT. These are added in the table below:

Waterbeach

		Do all	Single route - minimum	Single route - maximum
Overall Construction Cost		10,761,953	2,428,805	8,163,188
Professional Fees	12%	1,291,434	291,457	979,583
Contingency	20%	2,152,391	485,761	1,632,638
VAT	20%	2,841,155	641,205	2,155,082
Total including VAT as above		17,046,933	3,847,227	12,930,489



Wa Do all option = £11million



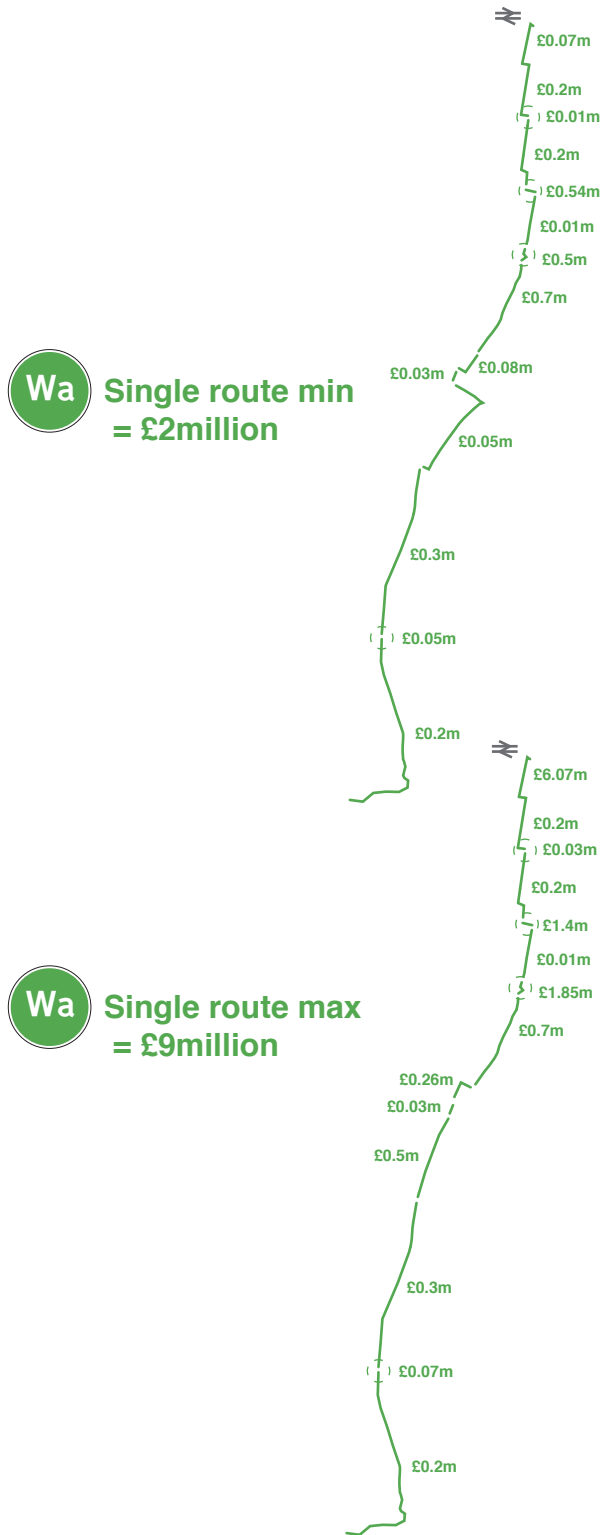
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Please also note that the costs shown on the diagram do not include the following:

Professional Fees, Contingency, including any major works to re-route utilities, or VAT. These are added in the table below:

Fulbourn

		Do all	Single route - minimum	Single route - maximum
Overall Construction Cost		10,119,050	1,979,653	9,997,340
Professional Fees	12%	1,214,286	237,558	1,199,681
Contingency	10%	2,023,810	395,931	1,999,468
VAT	20%	2,671,429	522,628	2,639,298
Total including VAT as above		16,028,575	3,135,770	15,835,787



Fu Do all option = £16million

