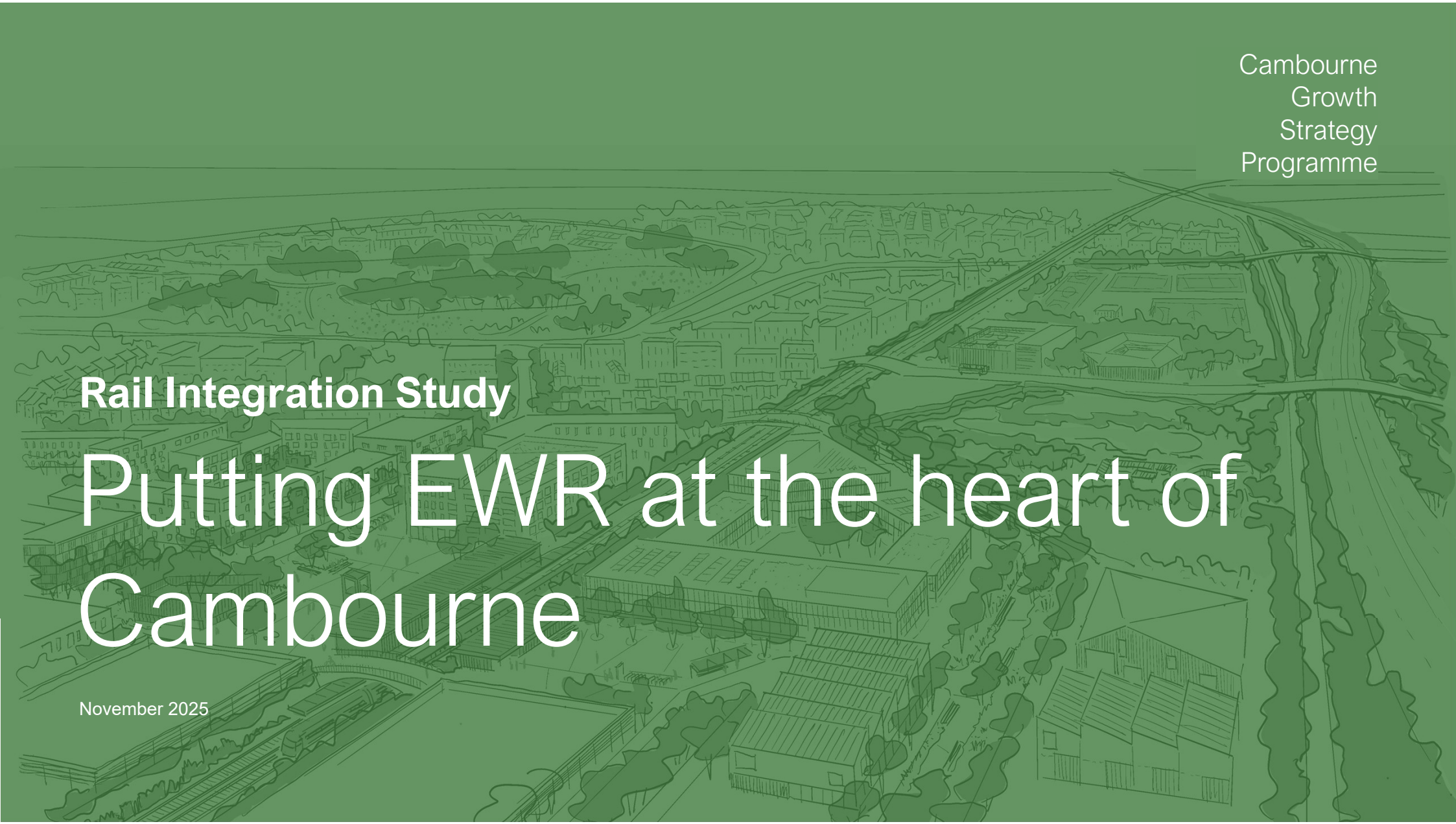
Cambourne
Growth
Strategy
Programme



Rail Integration Study

Putting EWR at the heart of Cambourne

November 2025

Contents

00 Introduction

Foreword 05

Statement of Ambition 06

The transport challenge 08

The big picture: key moves 09

01 Stitching Cambourne together

Crossings 11

Alignment Height 12

The Landbridge 17

Summary - Stitching Cambourne together 16

02 A Landmark Station

Station Quarter 21

Station location 23

Station integration 25

Summary: A Landmark Station 26

03 Key asks and recommendations

Summary of key moves 29

Summary of asks and recommendations 29

A Appendices

A1: EWR Urban Integration Study 32

A2: Station Place Background Study 53

This document should be read alongside the Transport Vision and Principles, Busway Integration Study and Spatial Framework Strategy.

0 Introduction

This section sets out the ambition for the integration of EWR into Cambourne's growth.

Report Summary

This reports summarises the emerging view of Greater Cambridge Shared Planning on a new station in Cambourne and its associated rail assets. It is the result of a short exercise of design exploration and includes the most-desired scenario in relation to station and rail infrastructure impacting existing and expanded Cambourne. Design recommendations included in this report should be further tested through technical studies and stakeholder engagement.

Although engagement has taken place between Greater Cambridge Shared Planning and East West Railway Company during the preparation of this report, the recommendations of the report do not necessarily represent the current position or emerging preferences of East West Railway Company.

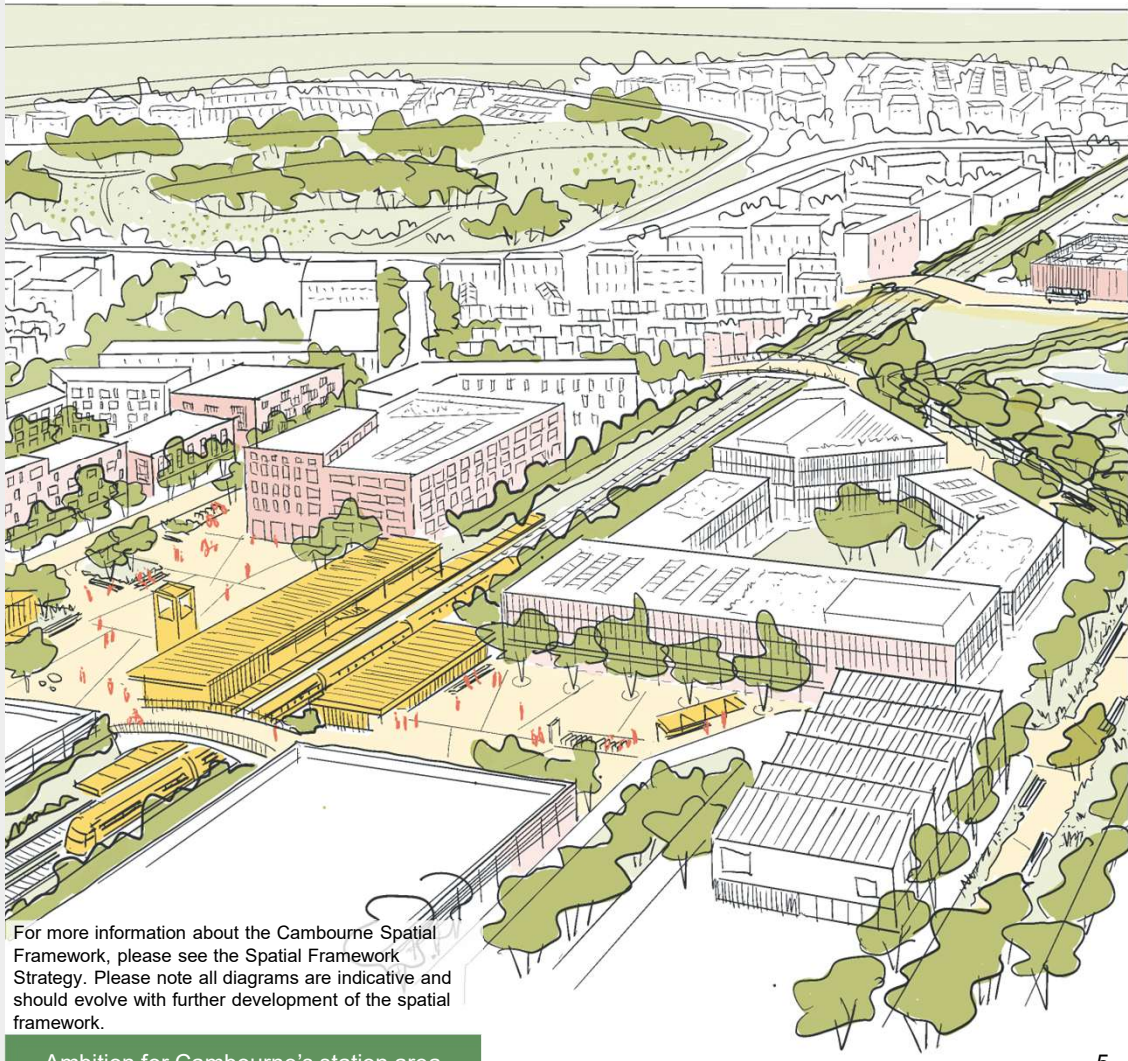
Foreword

Cambourne's Rail Integration Study

Over the next few decades Cambourne could grow to the third largest community in the Cambridgeshire and Peterborough Combined Authority area and East West Rail (EWR) could be the key catalyst for this growth. Unlocking sustainable connections to Cambridge and the wider Oxford to Cambridge Growth Corridor could enable thousands of jobs and homes at Cambourne. This would create significant benefits for existing and new communities – including cultural and recreation assets and regional scale parks. Connecting Cambourne—particularly the new station and busway infrastructure—with existing settlements to the west of Cambridge will be essential to establish an integrated active travel and public transport network that reduces car dependency and improves access to services, and the wider region.

However, if the railway and new station do not integrate with the built form of Cambourne in the right way, many of the potential benefits of EWR's arrival will not be able to be realised. Without the right north-south connections across the railway, alignment and station design, fewer people will move around by active and public transport – increasing road traffic, limiting station use and capping Cambourne's growth. In addition, without the right integration, existing and expanded Cambourne will not be fully unified, resulting in significant placemaking challenges.

This study lays out Greater Cambridge Shared Planning's vision for how EWR should integrate with growth at Cambourne, in line with the wider vision and Spatial Framework Strategy. It includes consideration of crossings, station location, alignment heights and the locations of the station 'kit of parts'. It will be used as part of ongoing discussions with East West Railway Company on optimising the design of the railway in and around Cambourne.



For more information about the Cambourne Spatial Framework, please see the Spatial Framework Strategy. Please note all diagrams are indicative and should evolve with further development of the spatial framework.

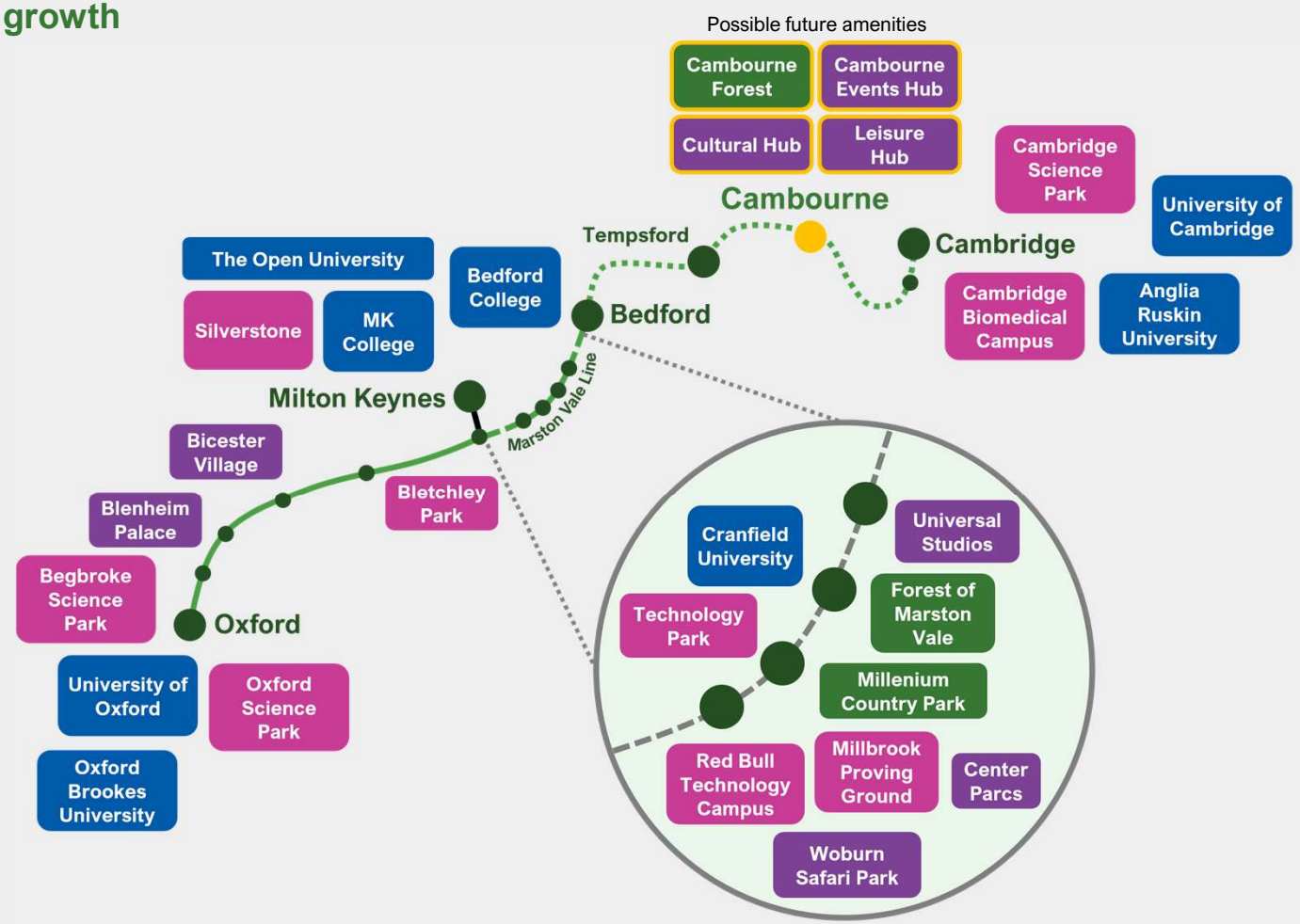
Ambition for Cambourne's station area

Statement of ambition

East West Rail's role in Cambourne's growth

Over the next few decades Cambourne will grow to the third largest community in the Cambridgeshire and Peterborough Combined Authority area. EWR will be the key catalyst for Cambourne's growth by unlocking both local and wider connectivity.

EWR will create sustainable connections to Cambridge, Universal Studios and the wider Oxford to Cambridge Growth Corridor, enabling thousands more jobs and homes at Cambourne. This growth will unlock significant benefit for people, place and planet at Cambourne – including a new cultural hub, recreation hub and regional scale green spaces.



Nature
Leisure
Education
Innovation

Statement of ambition

The station as a catalyst

EWR will sit at the heart of an expanded Cambourne. The station will be a landmark station supporting future demand and development opportunities in Cambourne's centre and expansion – encouraging mode shift and building a shared sense of community. The station will form part of Cambourne's urban fabric, integrating with surrounding development. The immediate vicinity of the station will be home to vibrant civic, community and commercial uses to the north and bustling employment uses to the south. Most people choose to get to and from the station by active or public transport, with the right sustainable options available to get them where they need to go to in the wider Cambourne area. Interchange between EWR and the Cambourne to Cambridge busway will be quick and seamless.

It will be comfortable to move across the railway line, making it simple to use active travel or public transport to get between every bit of existing and expanded Cambourne. New connections for people and nature will make full use of the increased permeability made possible by a lowered alignment. A new landmark bridge, connecting with the new recreation hub, will act as a totem of the local connectivity and community created by the arrival of EWR.

Station at the heart of Cambourne

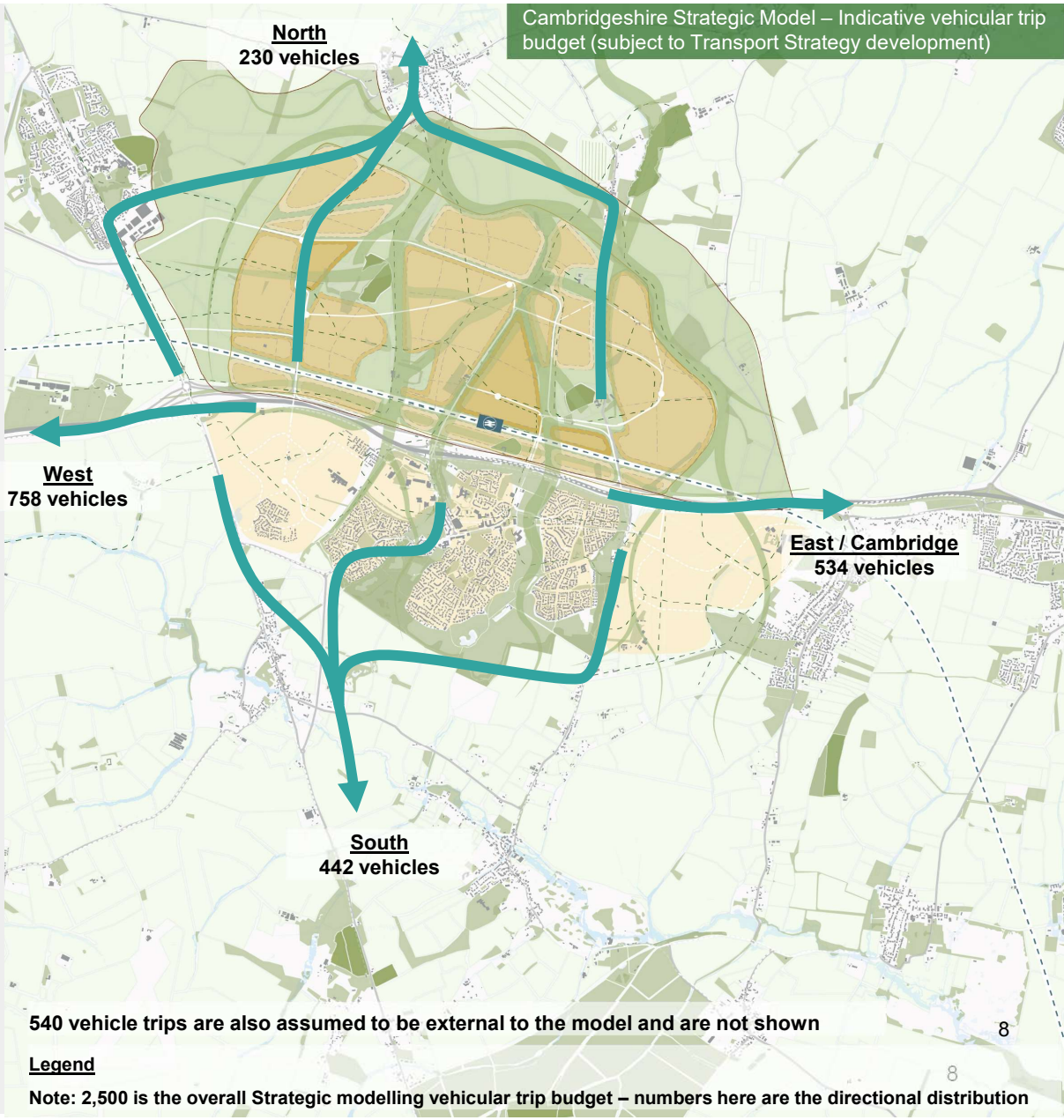
The transport challenge

Existing network constraints and trip budgets

Future development and growth in and around Cambridge is currently constrained by significant transport capacity limitations. The current transport network is characterised by congested highways connecting Cambourne to Cambridge and surrounding areas, putting the network under severe pressure at peak times. Further development and growth risks exacerbating the current congestion issues, particularly on radial routes into Cambridge and the A1198.

Strategic highway modelling undertaken by Cambridgeshire County Council in support of the Emerging Greater Cambridge Local Plan has identified that due to current network constraints, growth at Cambourne will be subject to a vehicular trip budget, effectively placing an upper limit (c.2,500) on the volume of vehicular traffic that can be generated by any development in this location, without adversely impacting network performance. To support sustainable growth, Cambourne's spatial and transport strategies, including those related to EWR, must be tightly integrated, prioritising mode shift away from car dependency.

A key enabler of this is the delivery of the EWR station, which must be fully integrated with wider transport infrastructure to maximise sustainable connectivity and reduce car reliance. The EWR station will be supported by a multi-modal interchange incorporating high-quality walking and cycling links, active travel corridors, and enhanced first/last-mile connections. This includes seamless integration with the proposed Cambourne to Cambridge (CtoC) Busway extension, a fast, reliable public transport corridor providing direct access to Cambridge and key employment hubs.



8

The big picture

Key rail integration moves

There are two main rail integration key moves proposed to support the Cambourne vision:

1. **Stitching Cambourne together…**

(1a) With crossings along the EWR and A428 infrastructure corridors

(1b) By lowering the height of the rail alignment

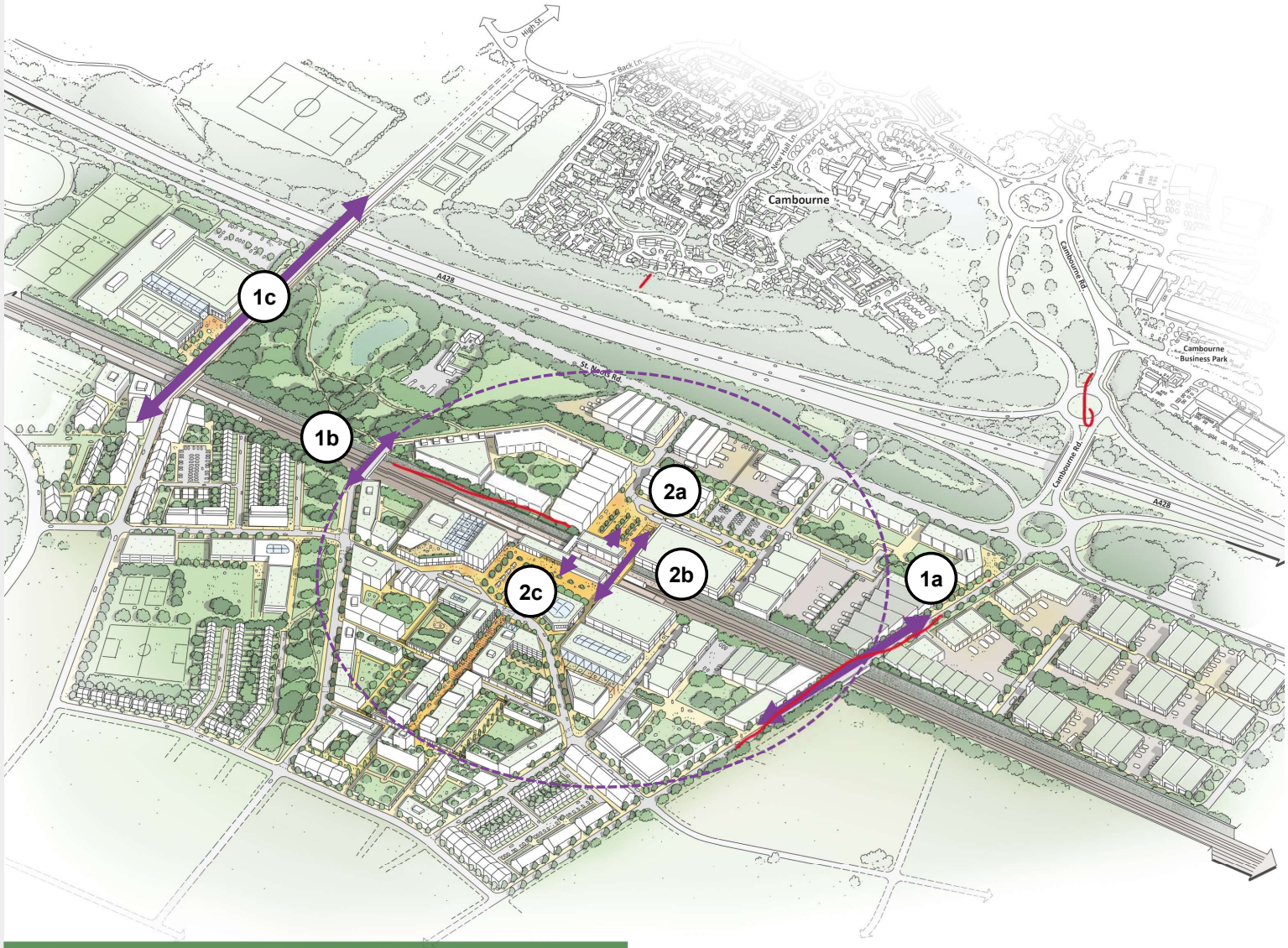
(1c) Through a new landmark landbridge

2. A landmark station…

(2a) Designed to support the station place vision

(2b) At an optimal central location (to both existing and expanded Cambourne)

(2c) Providing access to, and integration with, both sides of the Station Quarter



Key rail integration moves for Cambourne station quarter

Contents

1 Stitching Cambourne together

This section summarises the key moves needed to realise the vision of stitching Cambourne together, mainly relating to crossings and rail alignment height.

Crossings

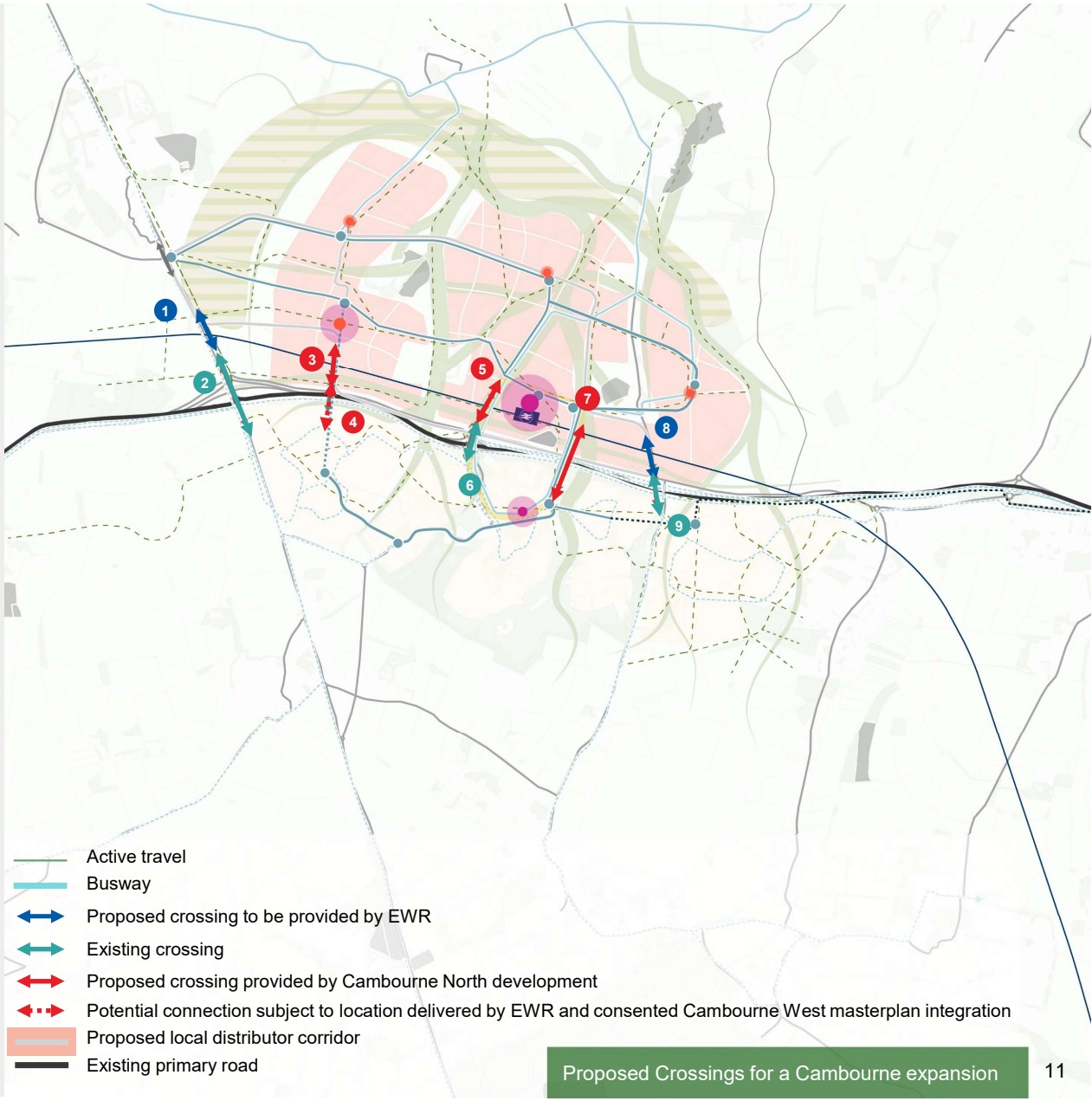
North South connectivity to support integration

Why crossings matter: High quality, human-friendly crossings will address the severance caused by road and rail infrastructure and will make existing and extended Cambourne function as a complete and connected town.

Key components of this spatial move:

Five north-south multi-modal crossings (mix of enhanced existing and new) support the development expansion at Cambourne and are crucial for addressing the severance caused by road and rail infrastructure caused by the railway and A428 corridor:

1. New all mode crossing of the A1198 over A428 and EWR
2. New A428 Caxton Gibbet junction all mode crossing
3. New all mode crossing of St Neots Road over EWR
4. Potential pedestrian/cycle and bus connection over A428 subject to integration with consented masterplan at Cambourne West.
5. New all mode crossing of EWR
6. Existing A428 dumbbell junction all mode crossing
7. Pedestrian, cycle, and busway connection to be delivered over EWR alignment, St Neots Road and A428, with no access for general traffic.
8. New all mode crossing over EWR
9. Existing all mode crossing at Broadway



Proposed Crossings for a Cambourne expansion

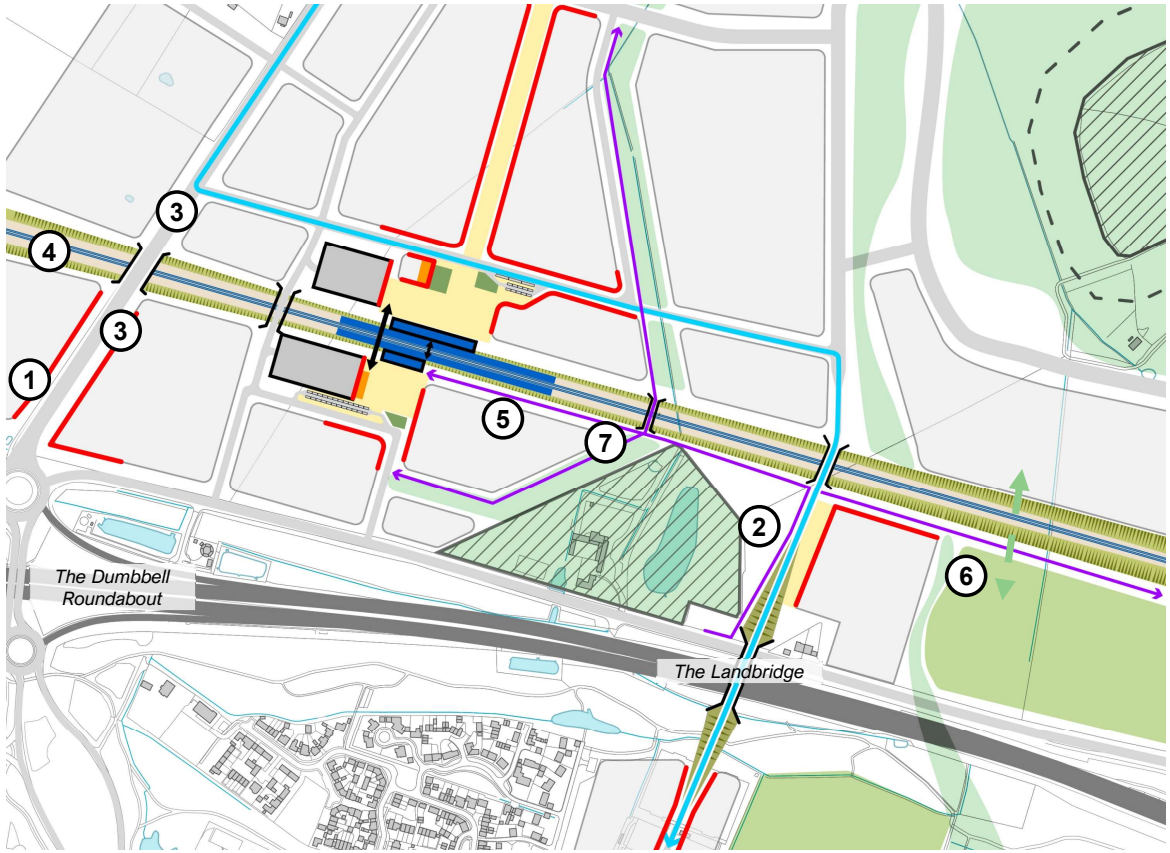
Alignment height

Railway in cutting for better integration

Why lower the alignment? We (GCSP) propose lowering the track between the dumbbell roundabout and new active travel bridge to allow crossings at grade whilst accommodating Overhead Line Equipment (OLE). The exact length of lowered track will be dependent on gradient requirements.

There are multiple reasons that support this key move:

1. No bridge required after the dumbbell roundabout means a proper gateway into the town can be created along this new road.
2. Safer and more direct routes across the railway for pedestrian and cyclists which will increase use of these modes.
3. Greater urban integration by removing challenges around level changes, retaining walls and embankments along bridges.
4. Costs of lowering railway are significant but will result in lower costs of infrastructure to cross railway (short bridges at grade rather than long bridges to go over 6m OLE).
5. Reduction of noise pollution and increase in development potential for areas previously constrained by the railway (safety buffer zones).
6. Opportunity to cover retained cutting with parks and public spaces and ensure continuity of ecological corridors.
7. Ease of crossing for pedestrians and cyclists, in particular for people with mobility impairments or young children.



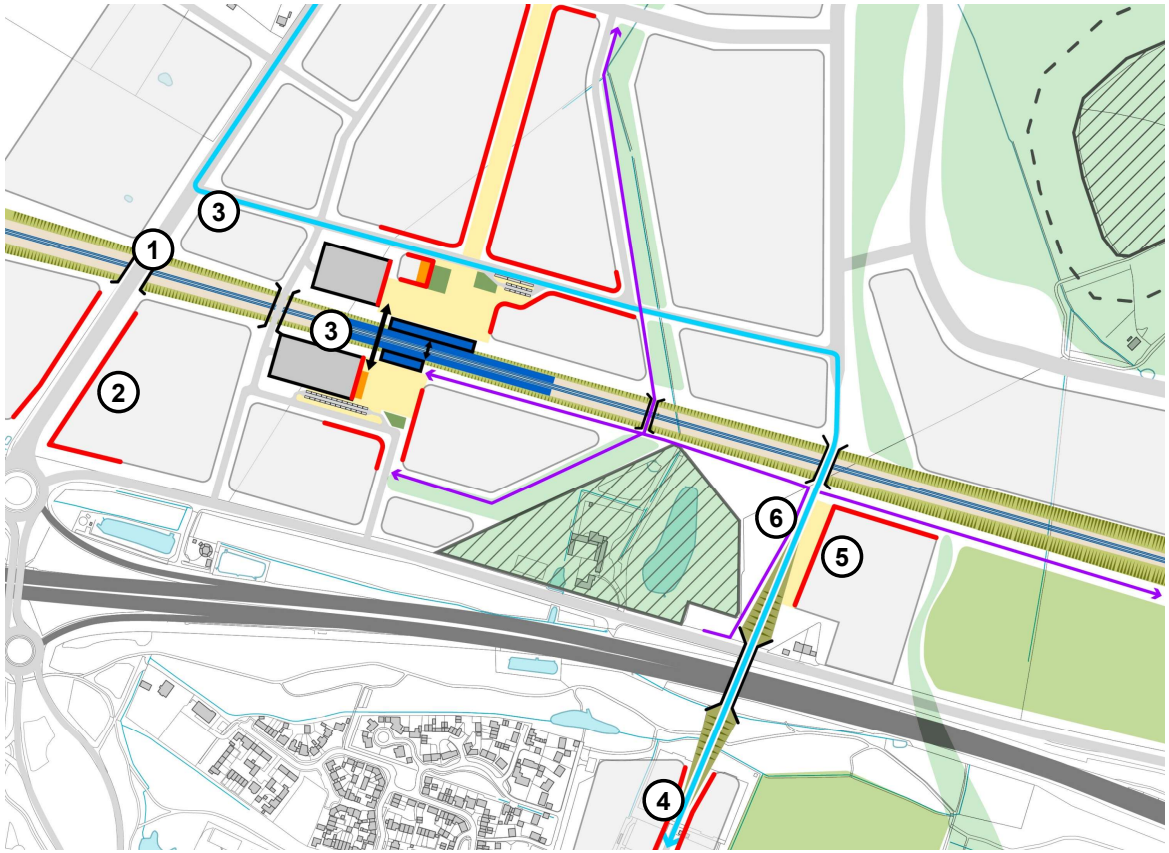
Key benefits from lowering the railway

Alignment height

Railway in cutting for better integration

Key components of this spatial move:

1. Multi-modal railway overbridge
(1:21 slope to ensure access for all)
Assumption:
Roundabout is at approx. +65m
Railway tracks are on approx. +60m
Bridge rise approx. 1m.
2. Space previously required for embankment freed up for bigger development plot. Allow for active frontages that enables framing a proper gateway.
3. Unpaid / Public connection (not gated / not for railway customers only): straight bridge across without need for stairs or lifts.
4. New overbridge for public transport and active travel to be built on the location of existing sports centre, with enhanced leisure/sports facilities re-provided immediately north of the A428.
5. New sports and leisure centre re-provided with active frontages that supports overlooking active travel route. Lowering the railway means entrance into the building can be provided at ground level.
6. Stairs and ramps not needed for access onto new overbridge embankment from station and town centre due to lowering of the railway.



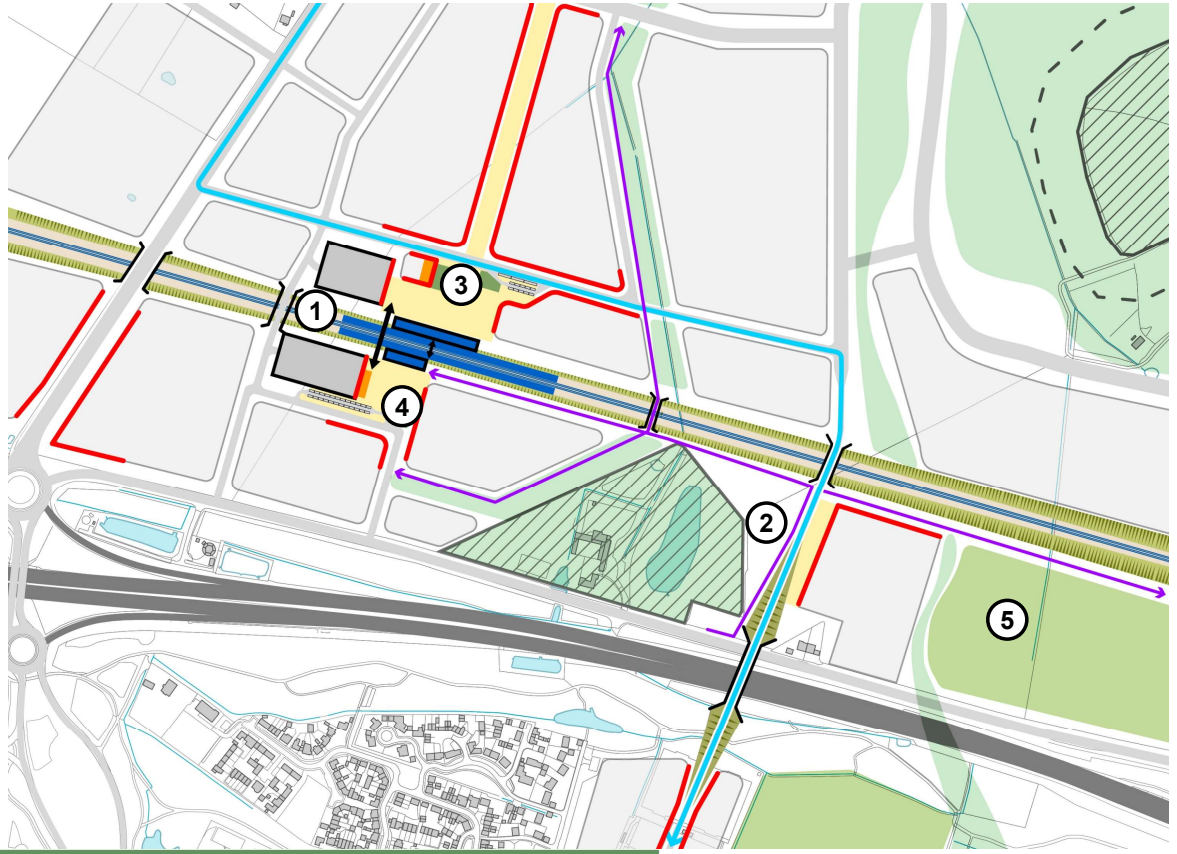
Railway in retained cutting – key components

Cambourne Growth Strategy Programme

Alignment height

Railway in cutting for better integration

This key move delivers higher quality of streetscape, safer active travel routes and better integration with surroundings.



Railway in retained cutting – illustration of higher quality street scape, routes and overall integration

Cambourne Growth Strategy Programme

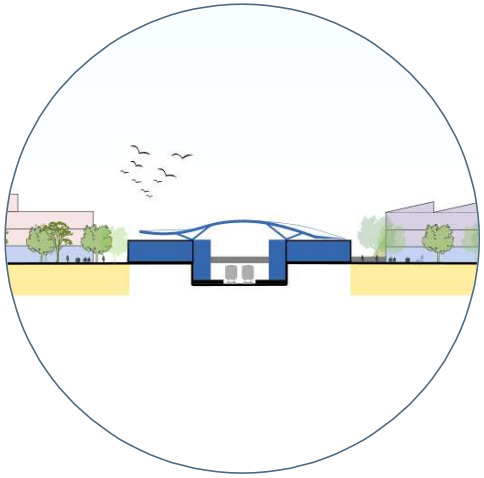
Alignment height

What is the fall-back position if the alignment is not lowered?

If the railway remained at grade, there would be significant mitigation needed to increase permeability across the railway and overcome the challenge of increased severance:

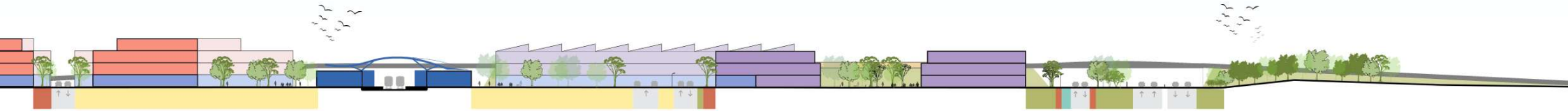
- The station would need to provide unpaid access across the railway.
- Consideration would need to be given to how the station kit of parts (e.g. Multi-storey mobility hubs) could be used to provide unpaid access across the railway.
- Significantly more infrastructure would be required for the 'landbridge' as it would remain raised between the A428 and EWR, with connections provided at bridge level to the new recreation hub.
- The multi-modal connection off the dumbbell roundabout would also need to be raised to cross the railway. Mitigation would required to manage permeability impacts on the new Town Centre and Station Quarter.

For further detail on the impacts of the vertical alignment being maintained at grade/on embankment in this section, please see Page 61.



Lowered alignment in retained cutting

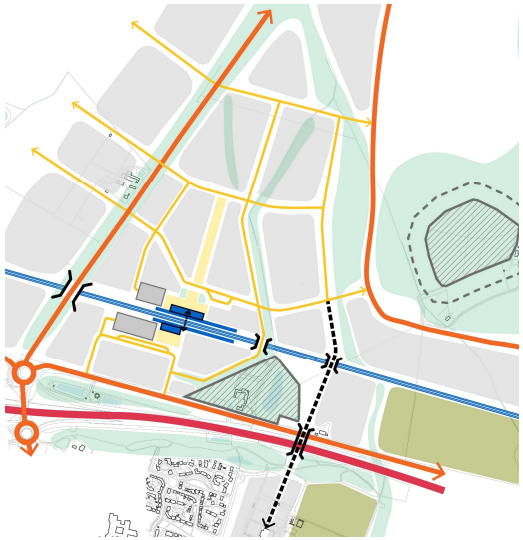
Railway kept at grade



Cambourne Growth Strategy Programme

Alignment height

Increased permeability as a result of lowering the alignment

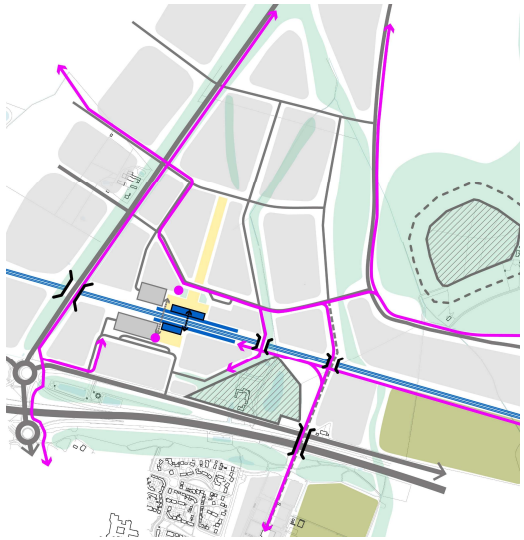


Road Hierarchy

- Primary Road
- Secondary Road
- Local Streets
- Bus-only Access Route

Public Transport

- Rapid Service (Links to CtoC Busway)
- Local Feeder Routes
- Bus Stop



Cycle Network

- Primary Cycle Route
- Cycle Parking

The strategy for road hierarchy in Cambourne's new Town Centre seeks to create a permeable network, with a Station Quarter that is designed to prioritise active modes and as such is not directly served by the primary or secondary street network.

Lowering the alignment also provides more connectivity for people and landscape by allowing additional connections and better visual and physical permeability.

The station quarter is designed to provide good quality connectivity for active travel modes both from existing Cambourne and the new development. A multi-modal interchange is proposed in close proximity to the station and high street. All active travel routes are designed to provide a high degree of overlooking and activity for safe use at all times.

The Landbridge

Rail integration key moves

Why a landbridge?

An iconic multi-modal crossing (bus + active travel) delivered as part of the EWR scheme would act as the main connection between existing Cambourne and the station and Station Quarter, promoting sustainable transport and station use in a safe and attractive way.

Key components:

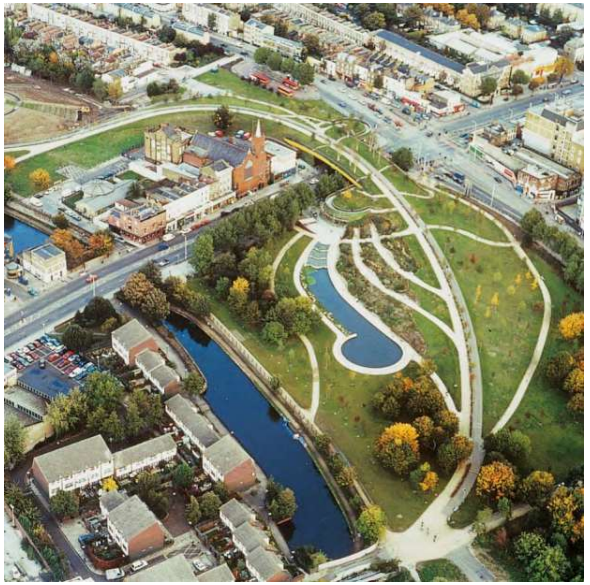
- A landmark well-designed bridge over the A428 and the EWR corridors integrating bus and active travel.
- Rail infrastructure assets in this area (e.g. assets for mitigation and operation of the railway) should not preclude adjacent development plots, to create overlooked, active and safe routes.

Assumptions

- Existing sports centre is at approx. +65m
- Railway tracks are on approx. +59m (+6m headroom) Bridge rise approx. +6m (allow for headroom on A428 and St Neots Rd)
- Slope: 126m (1:21 gradient)

As the railway is in a cutting, the entrance into the new leisure, recreation and events hub will be from ground level.

Beatus Rhenanus Bridge, Strasbourg

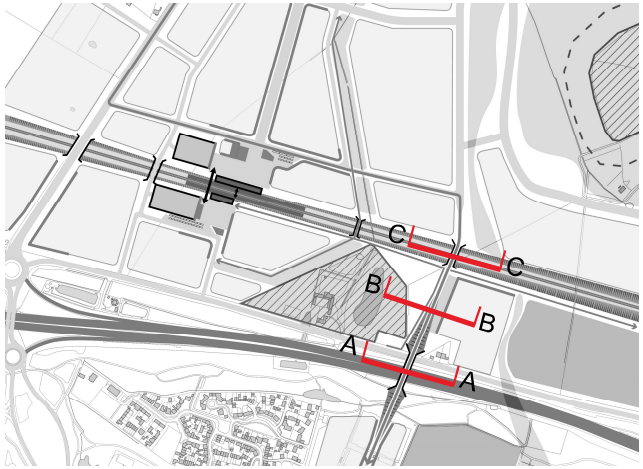


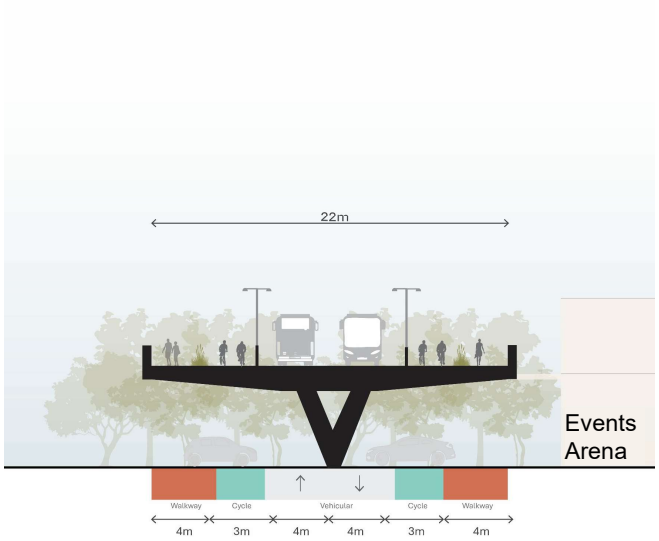
The Green Bridge, Mile End

Landbridge reference images

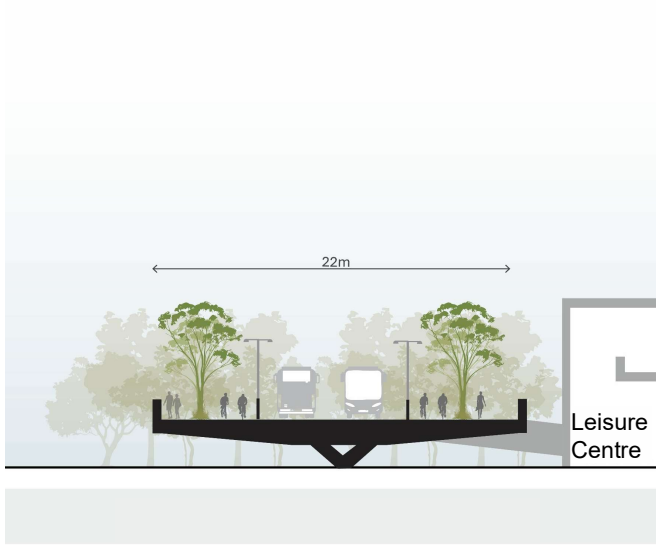
The Landbridge

Rail integration key moves

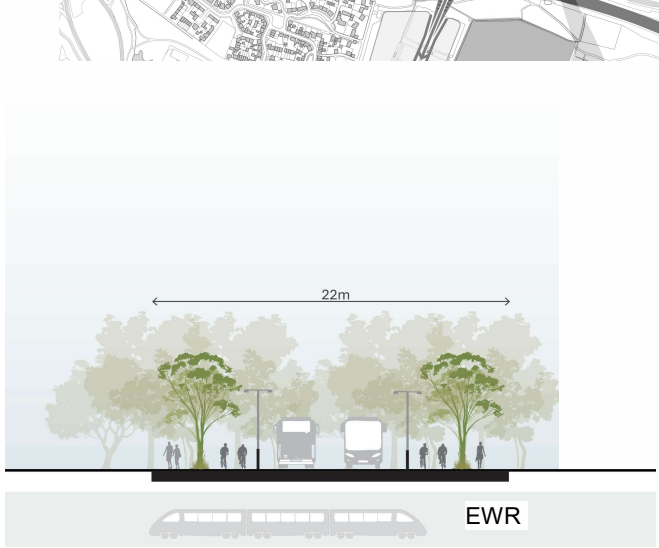




Section AA



Section BB

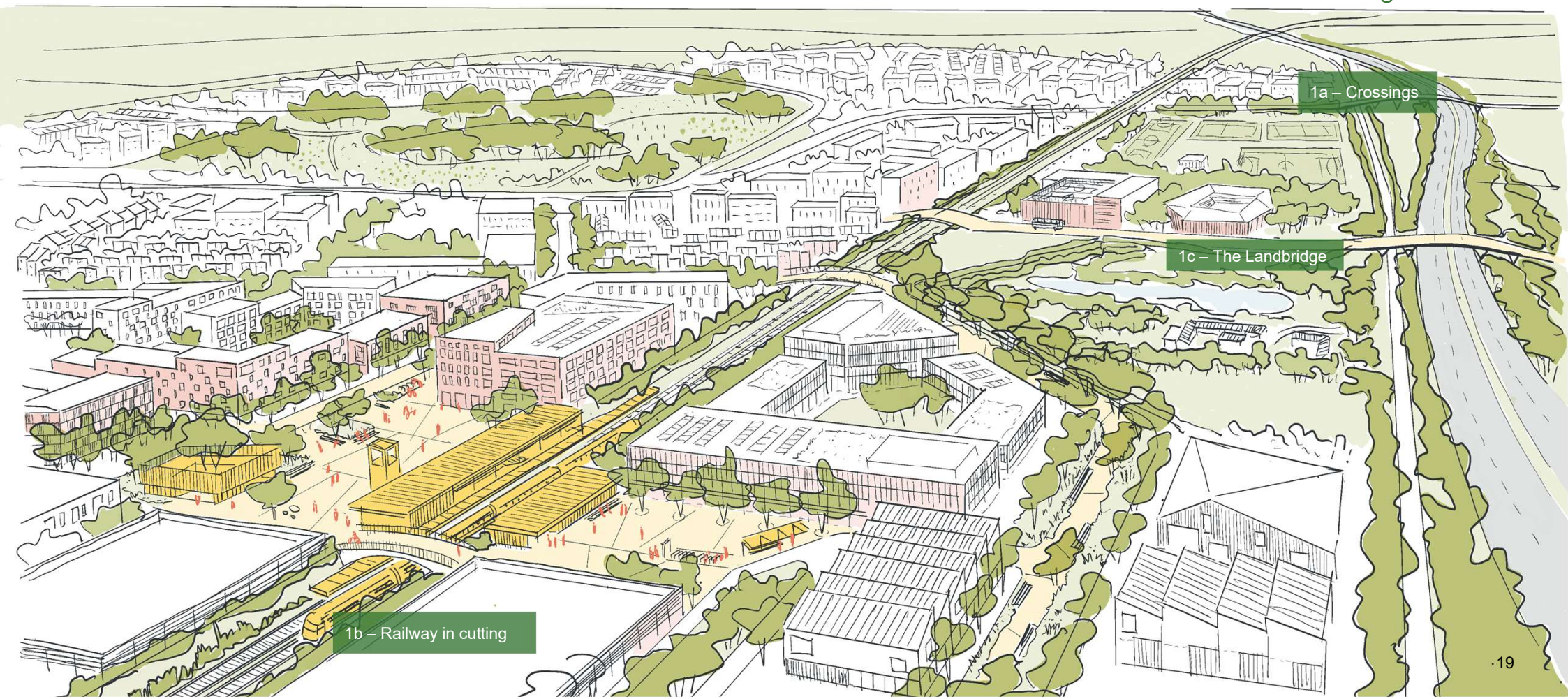


Section CC

Landbridge illustration and key map

The landbridge: a pedestrian, cycle, and busway connection to be delivered over EWR, St Neots Road and A428, with no access for general traffic. To be delivered by EWR / Cambourne North development.
Landbridge design is indicative and subject to further design refinement / technical work, which may result in changes to bridge width, bridge design and street layout.

01 - Stitching Cambourne together



Contents

2 A landmark station

This section summarises the key moves needed to realise the vision of a landmark station, mainly relating to station design and location.

Station Quarter

Supporting the station place vision

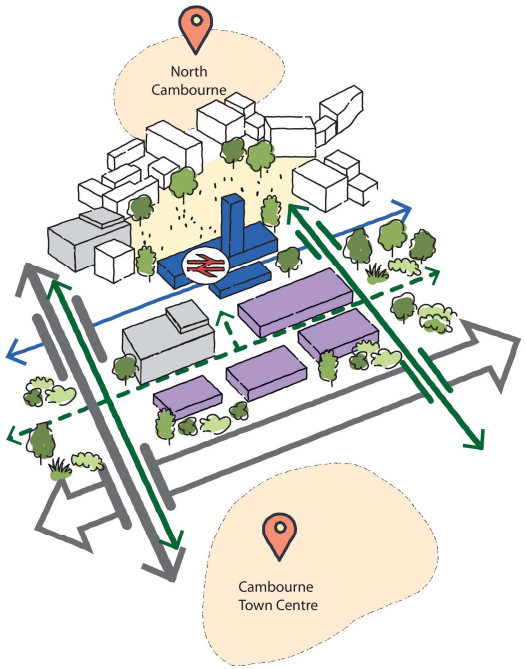
The new EWR 'living' Station at Cambourne should become the heart of the town extension. The EWR station design should support the overall vision and principles for the station quarter. It needs to serve existing Cambourne, the new development north of the A428 and railway line, and the wider area. Given the size of the development extension and typology of settlement, the Spatial Framework Strategy recommends one main centre associated with the station and further additional smaller local centres to ensure that the development is walkable and supports sustainable travel modes.

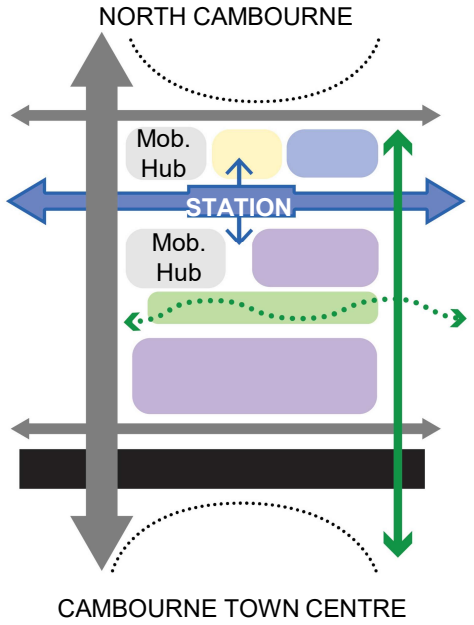
The station is therefore planned as a catalyst and community hub, surrounded by activation and with strong links to the employment cluster in the rail/road corridor as well as the high street.

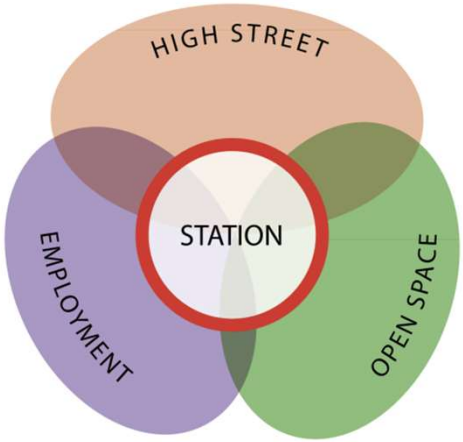
The vision for the station is for it to have a dual role as a catalyst for community to the North and a catalyst for connectivity and employment to the South:

- The station should act as a focal point and point of pride for the Town Centre of an expanded Cambourne, with its northern entrance anchoring a new civic square. This entrance could include a small Mobility Hub (Mob. Hub) structure to accommodate both station users and town centre visitors (initially safeguarded with the potential to be delivered as phase 2)
- The southern entrance should anchor light industry/labs in rich landscape, along with a Multi-Storey Mobility Hub within the rail-road corridor which could be delivered as phase 1.

For more information about station design, please see Appendix A1.







Station place vision diagrams

Station Quarter

Supporting the station place vision

Best practice principles should be considered when designing the Cambourne station, such as:

1. Pedestrian friendly station forecourt with active uses and drop-off area for those with mobility impairments.

2. Visual link with high street

3. Station adjacent to strategic road and accessibility from highway network

4. Permeability/connectivity across the railway

5. Limited space car park with commercial uses above

For the station to serve as a *Community Hub*, it should also consider its ability to enable the following:

- A place to gather and dwell
- A place with different activities and additional uses (Retail / Food & Beverage / Entertainment / Market)
- Reduced dominance of vehicular activities
- A vibrant and bustling environment
- A new centre of gravity for the town

Station place illustrative best practice principles

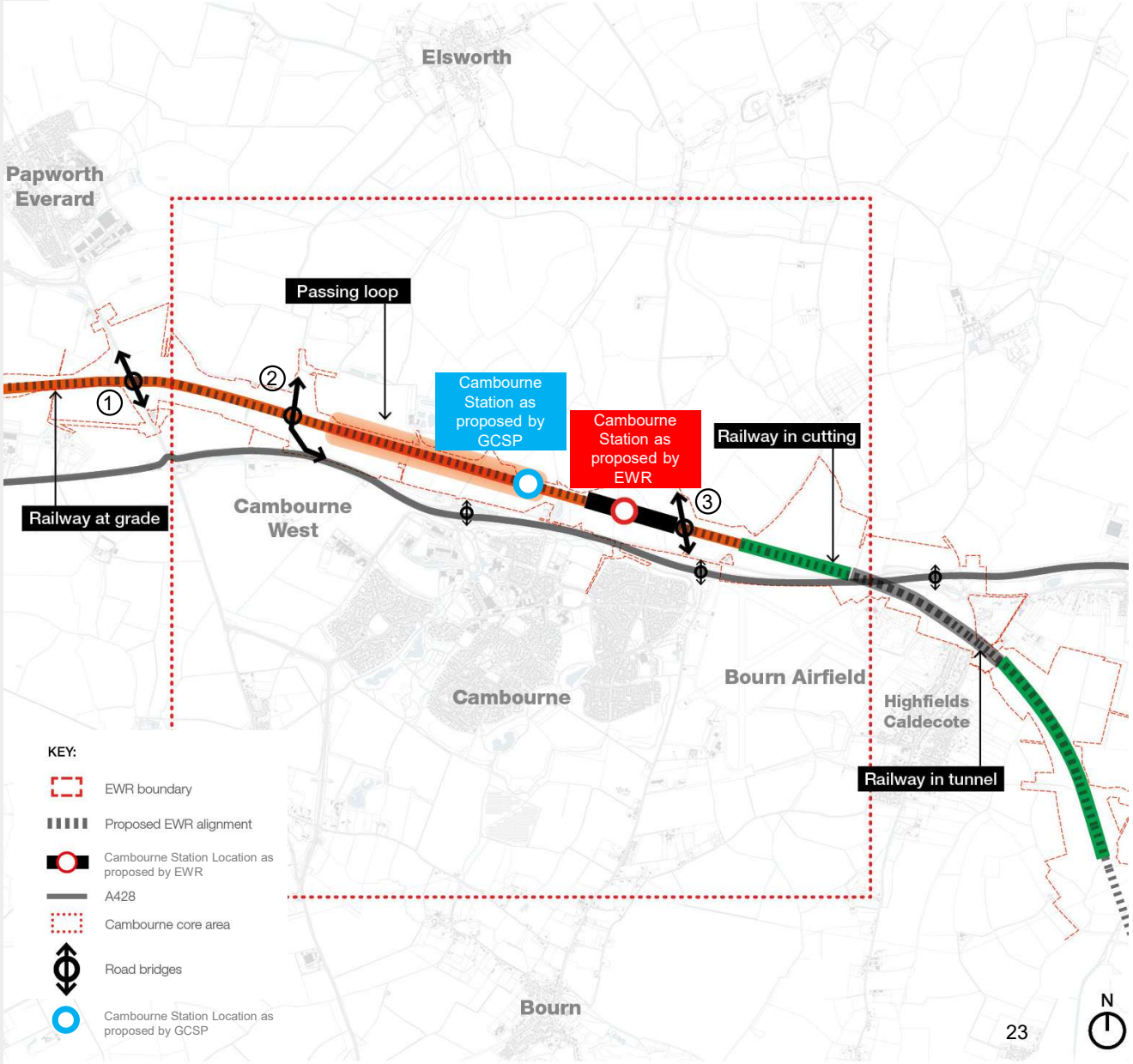
Station location

Station at the centre of Cambourne

At the 2024 non-statutory consultation, East West Railway Company proposed for the new Cambourne railway station to be located north of Upper Cambourne, (the eastern third of the existing settlement).

A location further West would enable the station to be located more centrally in both existing and expanded Cambourne, and provide better connectivity to existing and proposed Town Centres. Paired with improved local connectivity, the station move enables better integration and maximised use of the station in terms of catchments and distances by public transport and active travel.

For more information on station location, please see Appendix A1.



Station location

Station at the centre of Cambourne

The strategy for the station place is to create a 'complete' neighbourhood which is complementary to existing Cambourne and provides a range of land uses benefitting the high degree of accessibility and footfall of the location, both for a local and wider catchment area.

A more central station location also allows to optimise pivotal criteria for successful station and place making:

1. Access from existing and future Cambourne in terms of proximity and efficiency, but also quality of the routes.
2. Availability of land to create the critical mass for a new town centre, arrival plaza and maximise density within the immediate station location.
3. Opportunity to use station quarter as gateway into Cambourne with station landmark building visible from dumbbell roundabout.

The land use mix, as presented in the drawing, has been chosen to capitalise on the footfall and accessibility of the station, opportunity for combined trips, activity at different times of the day/week, active ground floor and overlooking on primary routes.

The proposal for the land uses is to work in conjunction both sides of the railway and convenient, unpaid connectivity in the Station Quarter must be ensured.

Station integration

A double-sided station

The Station Quarter should have two faces:

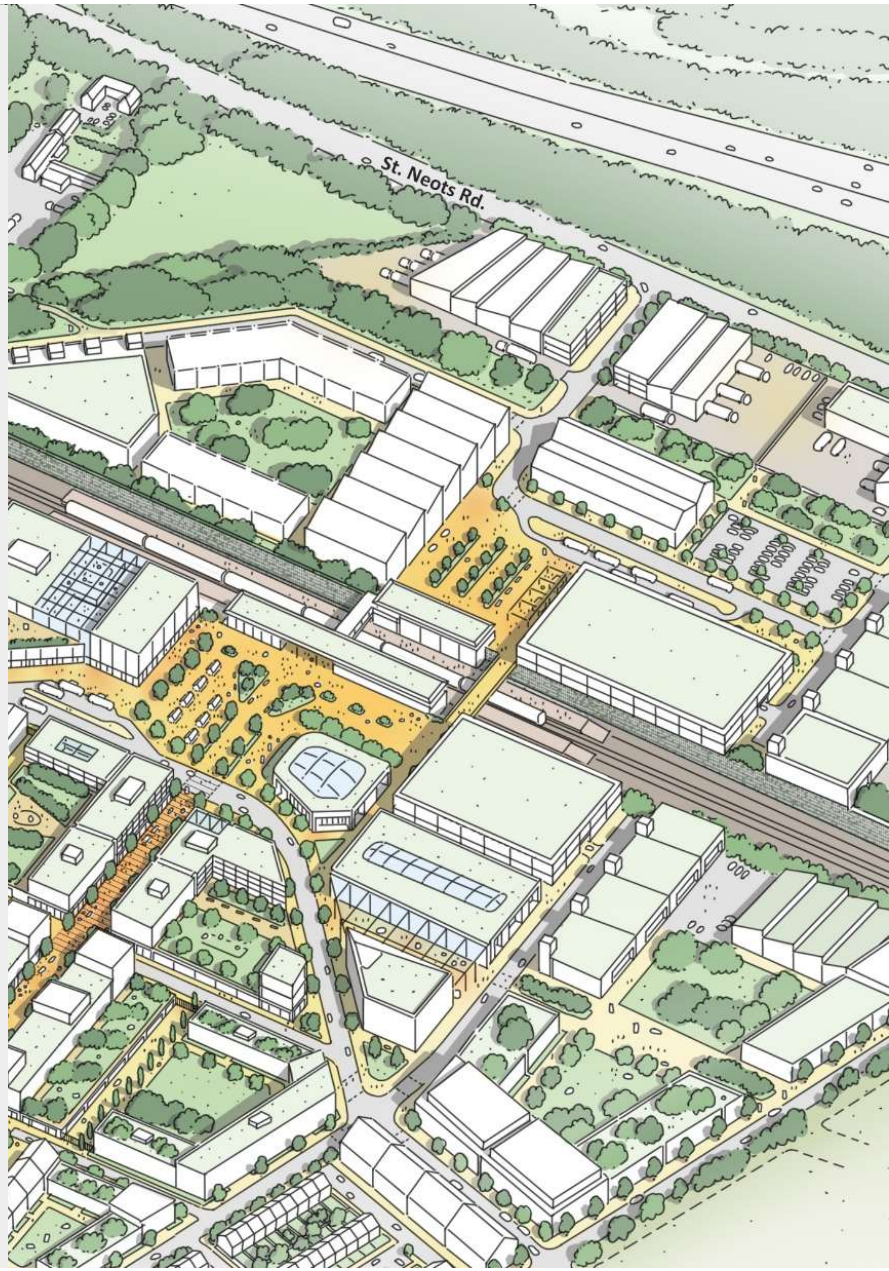
A main entrance facing north, which will provide a direct access for the new settlement and reduce car journeys. It will include the following elements:

1. Clear sightlines/strong visual link to the High Street
2. Local bus/busway stops are located within close proximity (on the edge of the forecourt) for increased connectivity
3. Active frontages to ensure that the station square is safe and overlooked with the potential to use it as a market square
4. An active travel hub at the station forecourt and clear active travel routes (wayfinding and integrated network)
5. A mix of commercial and community buildings framing the station plaza

A secondary entrance facing south, serving existing Cambourne and delivered in a first stage. It will include:

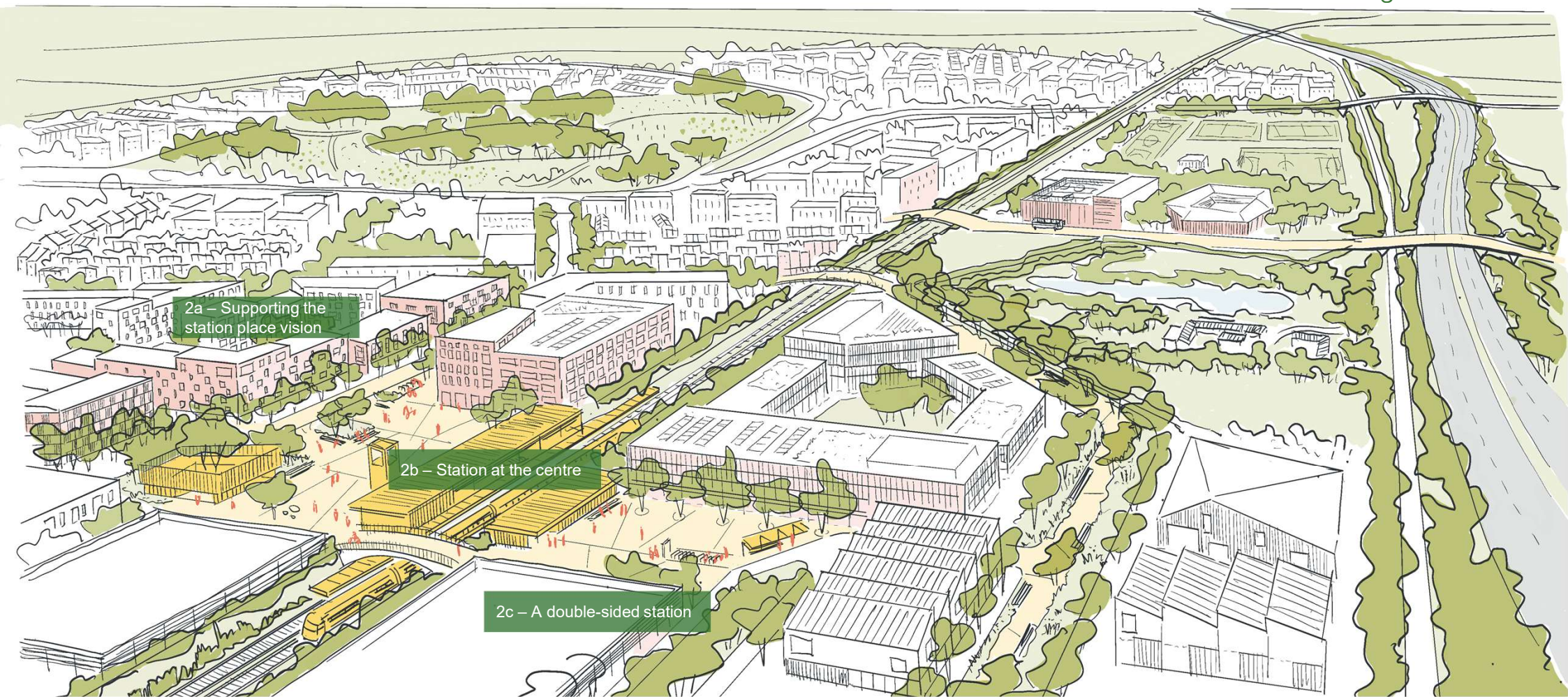
A. A multi-storey car park/mobility hub structure integrated into the urban fabric of the employment cluster to mitigate visual impact and still create an overlooked station environment
B. Clear and convenient access for taxis, blue badge, in close proximity of the station entrance
C. Active travel hub and safe and convenient onwards travel

The two-sided strategy will allow for a phased delivery approach, with phase 1 to the south providing all elements of a successful interchange, and phase 2 expanding into the station place once a relevant amount of development is achieved to the north.



Cambourne
Growth
Strategy
Programme

02 – A landmark station

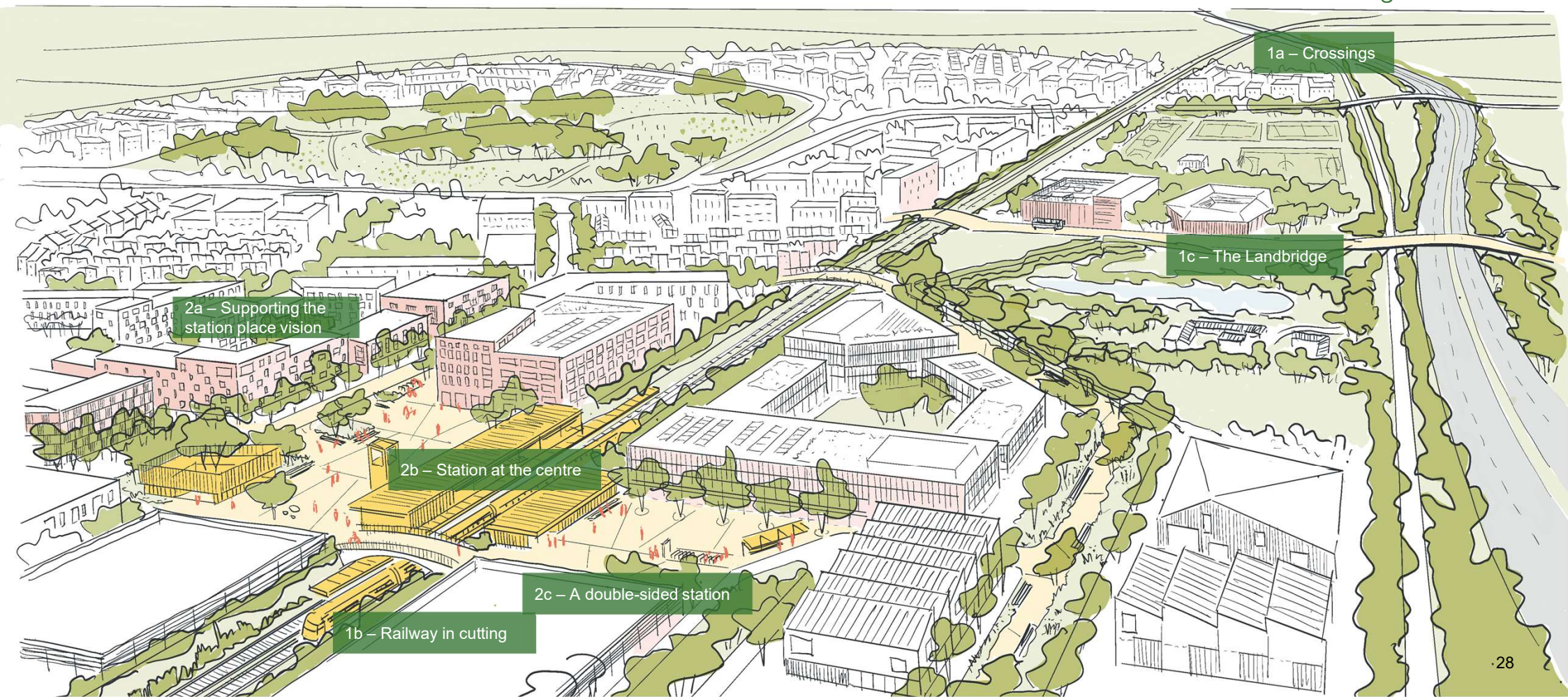


3 Key asks and recommendations

This section lays out a summary of the key moves, along with key asks and recommendations to fully integrate the station into an expanded Cambourne.

Putting EWR at the heart of Cambourne

Cambourne Growth Strategy Programme



Key Asks and Recommendations

Cambourne Growth Strategy Programme

Cambourne's Rail Integration Study

This study makes the following recommendations to realise the Cambourne vision with EWR at the heart:

To stitch Cambourne together this study recommends EWR should:

What: Deliver / Enable / Do not preclude …stakeholders from delivering 5 high quality, human-friendly multi-modal crossings at strategic locations.
Why: To address the severance caused by the railway and A428 infrastructure corridors and make Cambourne function as a complete and connected town.

What: Lower the alignment of the railway between the dumbbell roundabout and new active travel crossing (landbridge)
Why: To deliver higher quality of streetscape, safe walking and cycling routes and enable better integration of Cambourne's new Town Centre. Lowering alignment provides more connectivity for people and landscape.

What: Deliver the landbridge, an iconic multi-modal crossing (bus + active travel) as the connection between existing Cambourne and the station and Station Quarter.
Why: Design of rail assets along this route should not preclude the introduction of land uses that activate the route, making this a safe and attractive connection for people to use.

To create a landmark station this study recommends EWR should:

What: The new EWR Station at Cambourne should become the heart of the town extension.
Why: The station design should support the overall vision and principles for this station place.

What: Move the station to a more central location, between the dumbbell roundabout and the heritage assets,
Why: To optimise development land around the station and provides a better relation to existing Cambourne.

What: Design a two-faced station (north and south).
Why: To support the community and employment uses on both sides of the railway.

A

Appendices

List of Appendices

A1 EWR Urban Integration Study 32
A2 Station Place Background Study 53

Appendix A1

EWR Urban Integration Study

This appendix provides a summary of the EWR Urban Integration Study conducted by WW+P that was completed prior to this report, and whose results contributed to the formulation of recommendations.

Cambourne Growth Strategy Programme

Baseline and opportunities

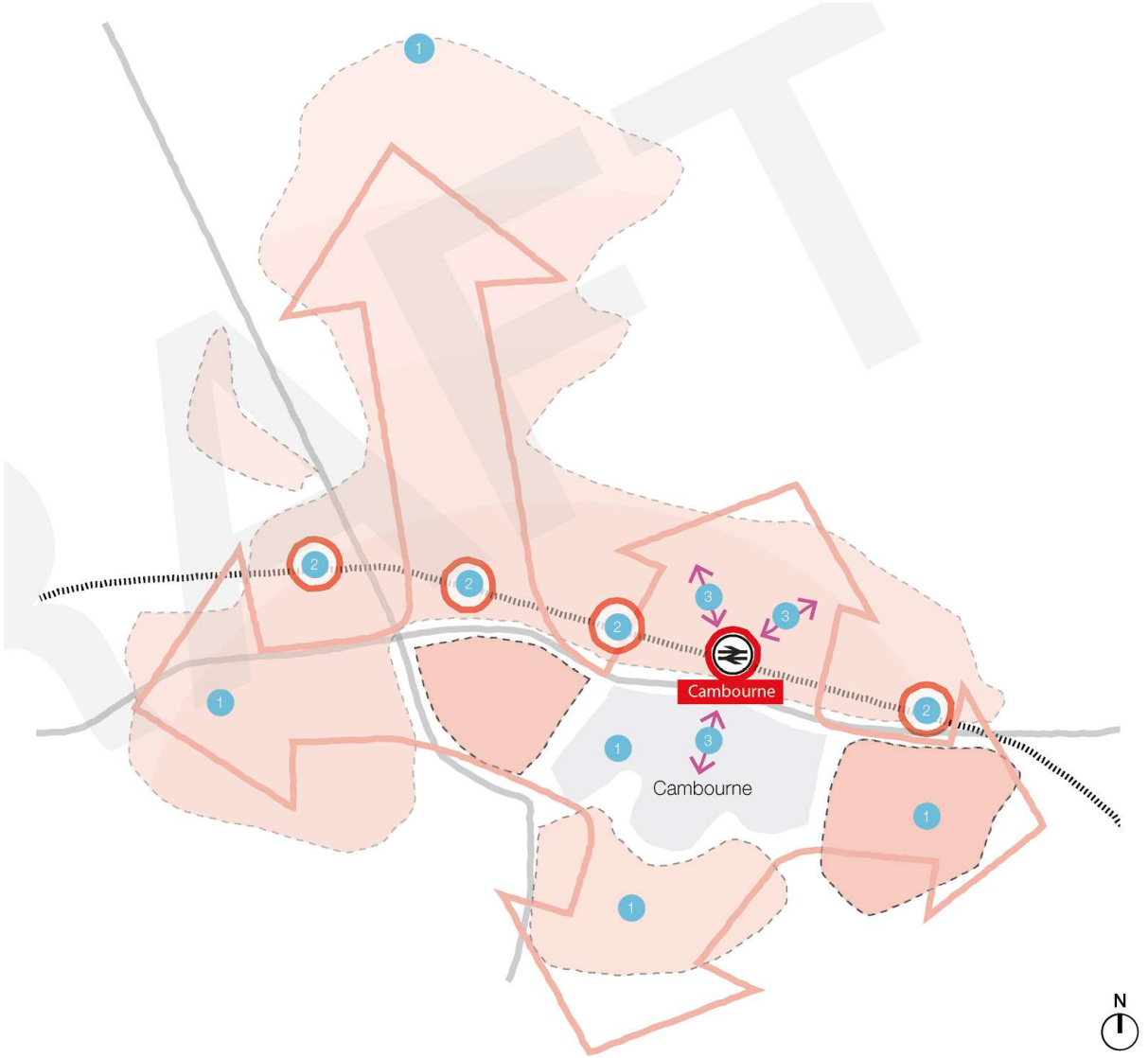
This section summarises the baseline information considered, and opportunities identified as part of this study

Project Scope

Cambourne Station is one of the seven EWR typical stations. It is currently classed as a connector and catalyst station, with potential to expand to a Category C 'important feeder' station after 2051.

The objective of the study is to：

1. Understand existing and emerging context in Cambourne
2. Assess potential locations for the station
3. Explore impact of station locations on connectivity and future growth potential



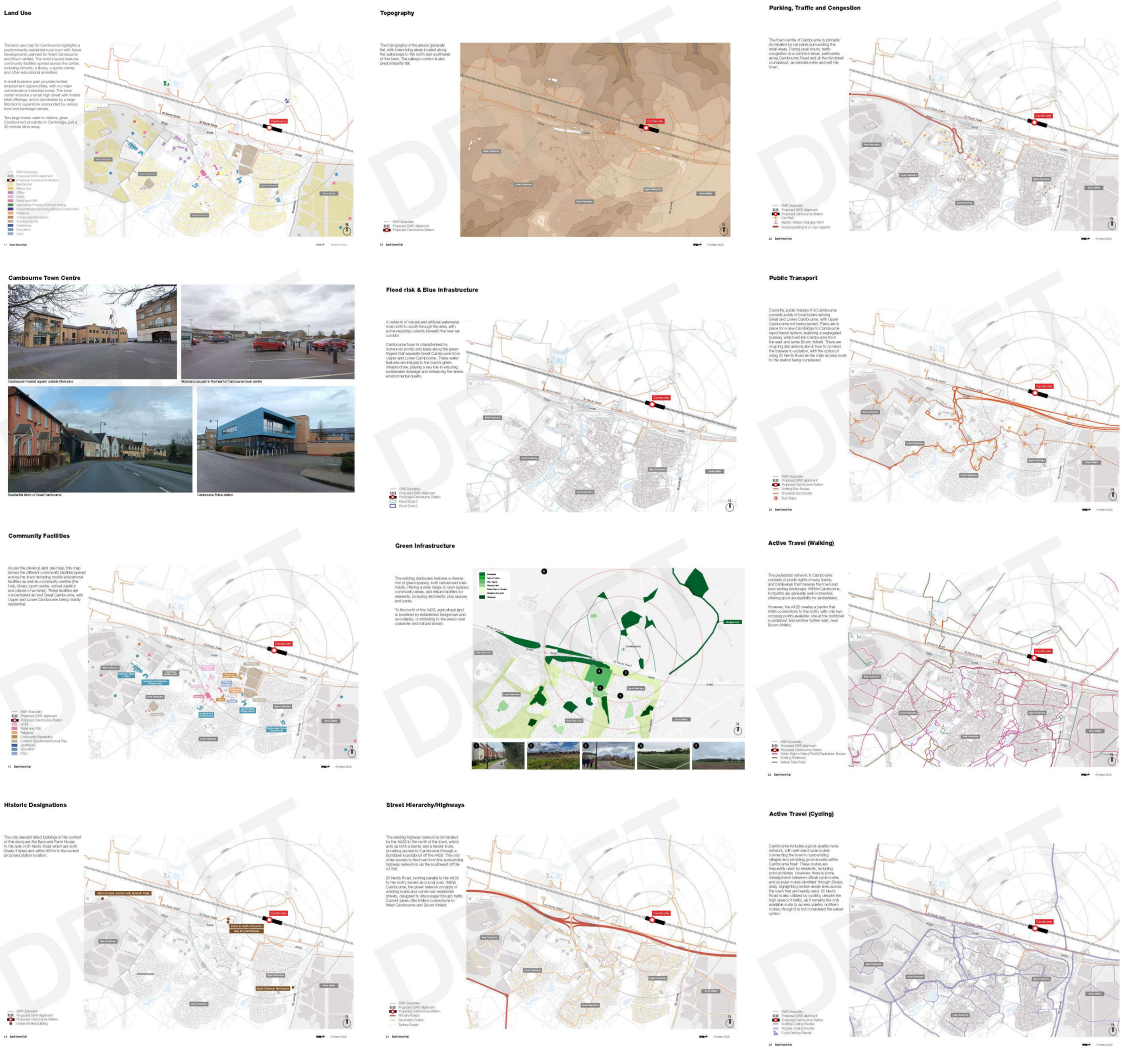
Baseline Condition

This section in the study maps out Cambourne's current land-use, movement, place, planning and environmental designations.

The main points are:

- It is a predominantly residential rural town in a very green setting, with committed developments at West Cambourne and Bourn airfield, as well as future potential for expansion north of A428.
- Its main access is via the A428 dual carriageway to the north of the town, which creates a significant barrier between the existing town and the proposed EWR alignment and station (only two crossing points across A428).
- The town centre is primarily dominated by car parks surrounding the retail areas, with traffic congestion around the dumbbell roundabout being a common issue during peak hours.
- Currently, local buses only serves Great and Lower Cambourne. A new rapid busway to link Cambridge with Cambourne via Bourn Airfield is planned.

For further information on emerging proposals for an extension to the busway to serve an expanded Cambourne, please see the Cambourne Busway Integration Study.



Future Conditions with EWR

This section is based on end of December 2024 design proposal for EWR.

The main points are:

- The railway corridor, as currently planned, is mostly at grade and parallel to the A428, with the section to the east of Cambourne (near Bourn Airfield) gradually descending into a cutting before going into a tunnel.
- 3 new vehicular overbridges to replace existing crossings: one along the A1198 connecting to the new Caxton junction (1), another over St Neots Road (2), and a further link to the east connecting to Knapwell (3).
- Passing loops are planned along the railway line to the north of the dumbbell roundabout to accommodate freight operations, with four tracks. These are unlikely to be able to be moved significantly due to East West Rail's operational constraints.
- The proposed station is located to the east of these passing loops, just north of the Cambourne Sports pitches.