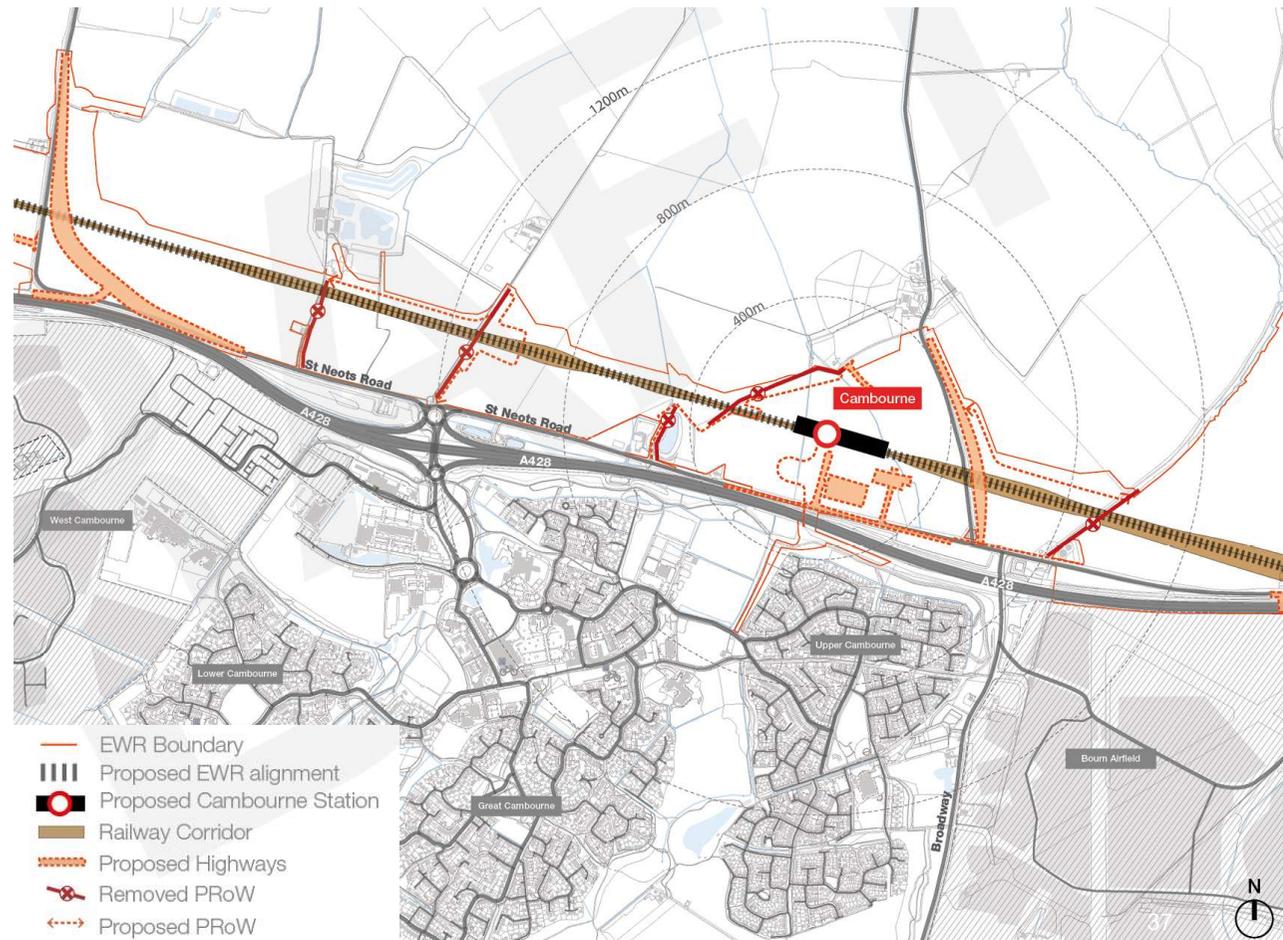


## Future Conditions with EWR

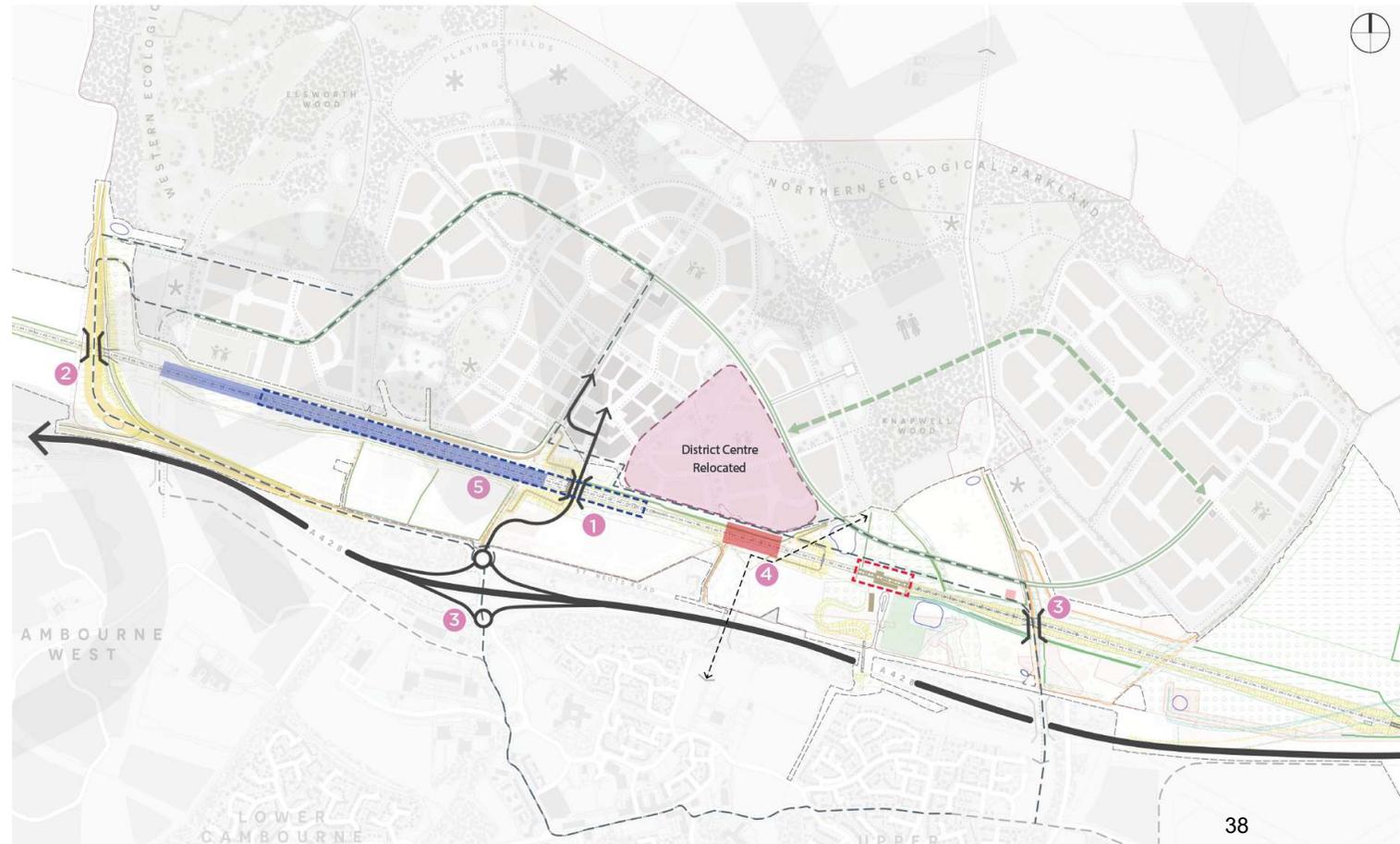
- Under current plans announced by EWR the A428 is planned to be temporarily realigned above Bourn Airfield to facilitate the construction of the cut and cover tunnel.
- Several track maintenance access roads are also planned along the railway.
- Public Rights of Way diversions and reprovisions across the rail ensure that existing north-south connections across the railway are maintained.
- A new access off St Neots Road is proposed to serve the station as well as an active travel overbridge over the A428 to connect the station to Cambourne (currently adjacent of the sport pitches).



## Future development context as promoted by land-owners

Proposed amendments promoted by Savills & Martin Grant Homes in Jan 2025.

- 1 Direct access from the A428 Junction for all modes of transport should be provided and designed to serve the North Cambourne development.
- 2 St Neots Road overbridge should be designed to accommodate future mass rapid transit, cycle and pedestrian access. Street radius should be tightened to optimise development plots.
- 3 Overbridge suitable for future mass rapid transit, cycle and pedestrian should be provided.
- 4 Rail station moved to the west makes better connectivity with Cambourne and future connectivity with North Cambourne district centre.
- 5 Relocate passing loop to west.



## Summary of baseline considerations

This section summarises the main considerations for design development and identifies a range of possible station locations to be tested.

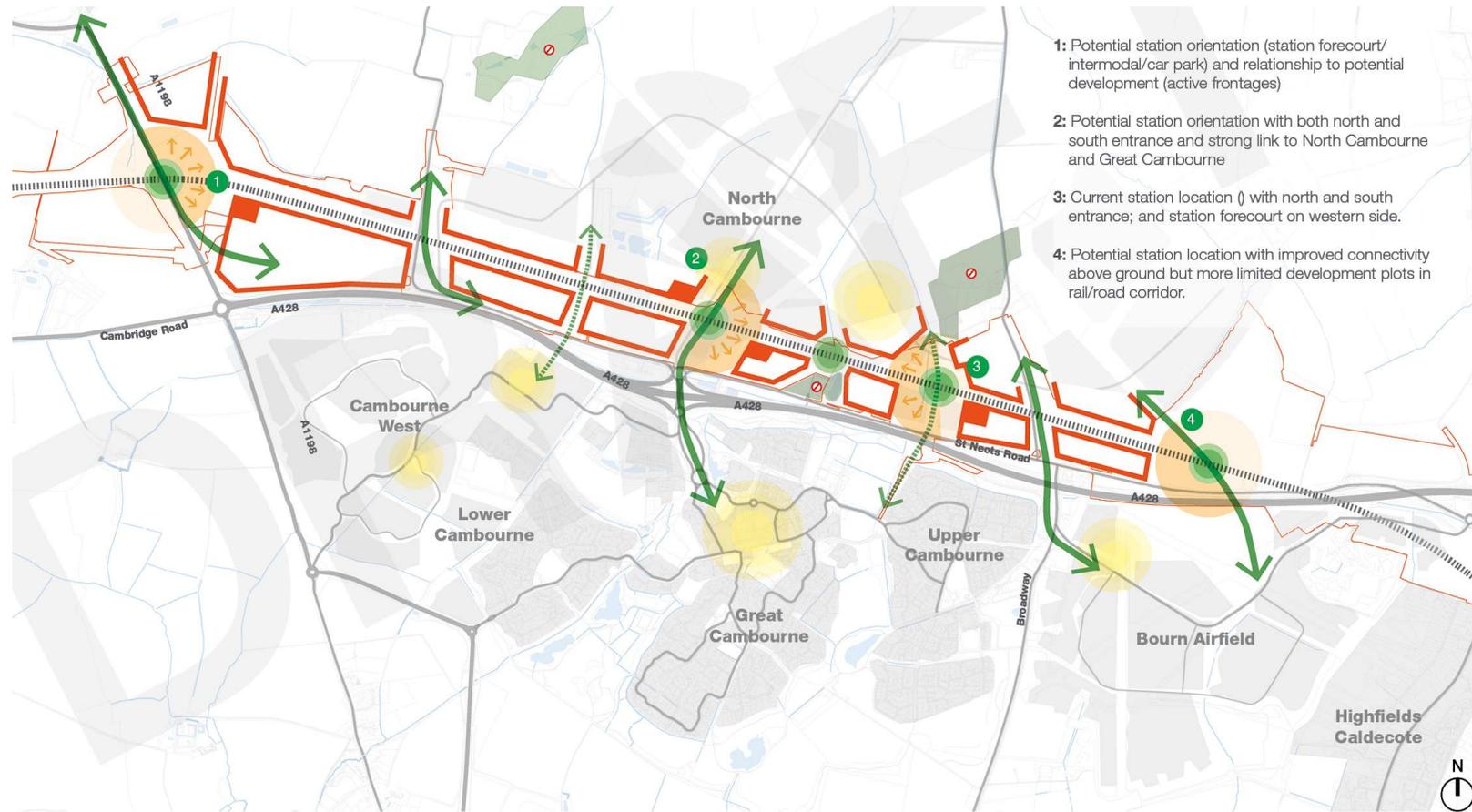
### Primary Constraints:

1. EWR balancing ponds
2. Existing wildlife habitats
3. New dual carriageway on a428
4. Severance – road/railways
5. 3m high embankment
6. Existing fishery
7. Congestion/high traffic areas
8. Listed buildings and lake
9. Railway tunnel
10. Active travel route lacks overlooking
11. Existing woodlands
12. Noise from A428
13. Railway cutting
14. Railway passing loops



## Strategic Opportunities

- Review station location to improve connectivity and accessibility
- Align active travel routes with EWR Public Rights of Way reversion or challenge location of diversions in context of future growth
- Enable development between rail and road corridor



- 1: Potential station orientation (station forecourt/intermodal/car park) and relationship to potential development (active frontages)
- 2: Potential station orientation with both north and south entrance and strong link to North Cambourne and Great Cambourne
- 3: Current station location (3) with north and south entrance; and station forecourt on western side.
- 4: Potential station location with improved connectivity above ground but more limited development plots in rail/road corridor.

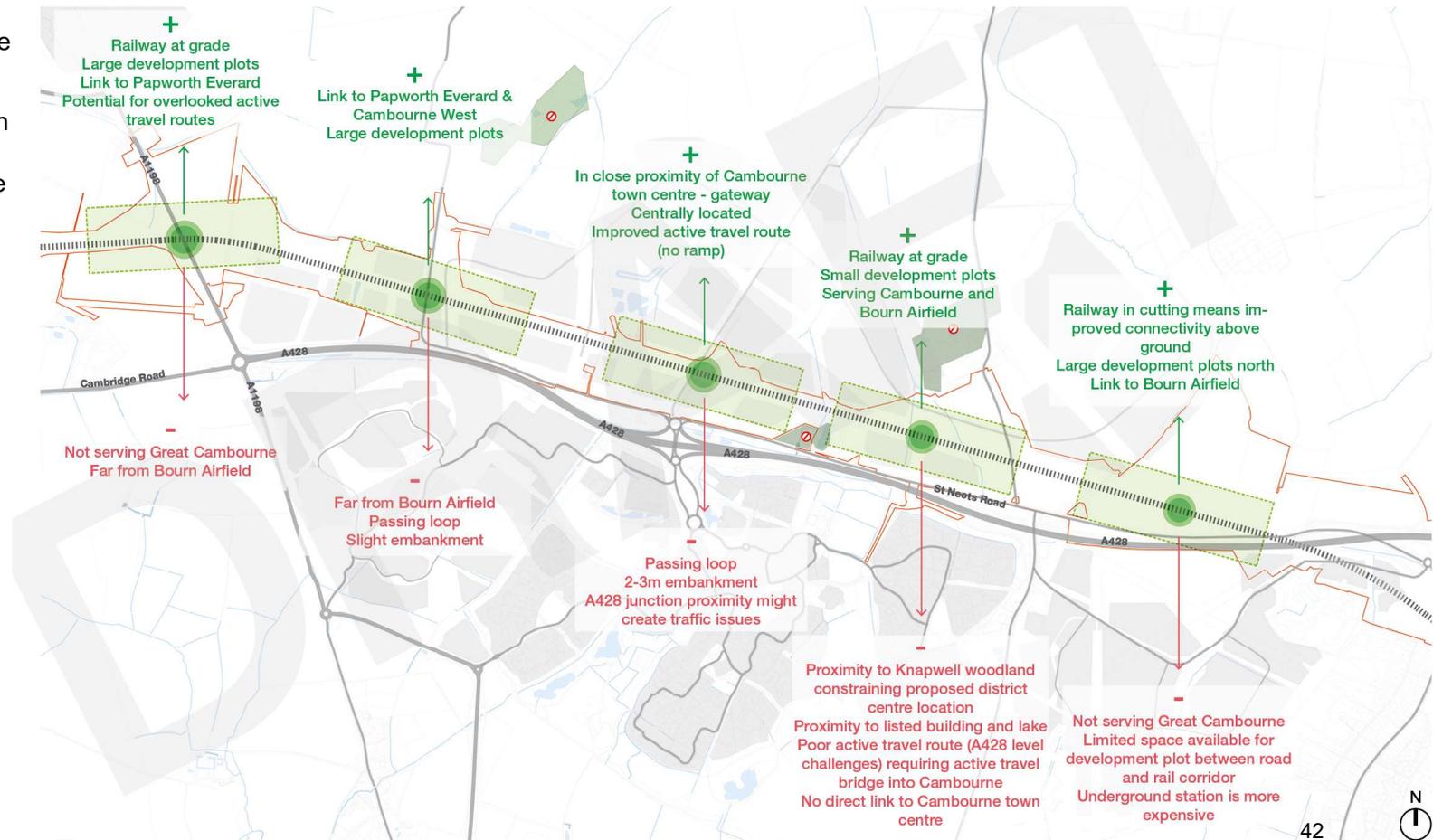
# Station location

This section summarises the possible station locations analysed as part of this study

## Potential Alternative Station Locations Zones

Testing each zone in more detail with the following criteria:

- Location in relation to future growth and catchment potential, in particular relation to services of the existing town centre
- Local placemaking and development opportunities
- Environmental constraints
- Ease of access, especially for active travel



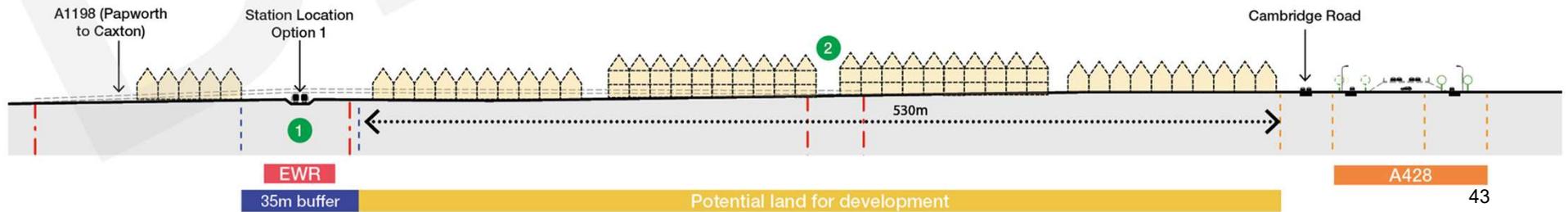
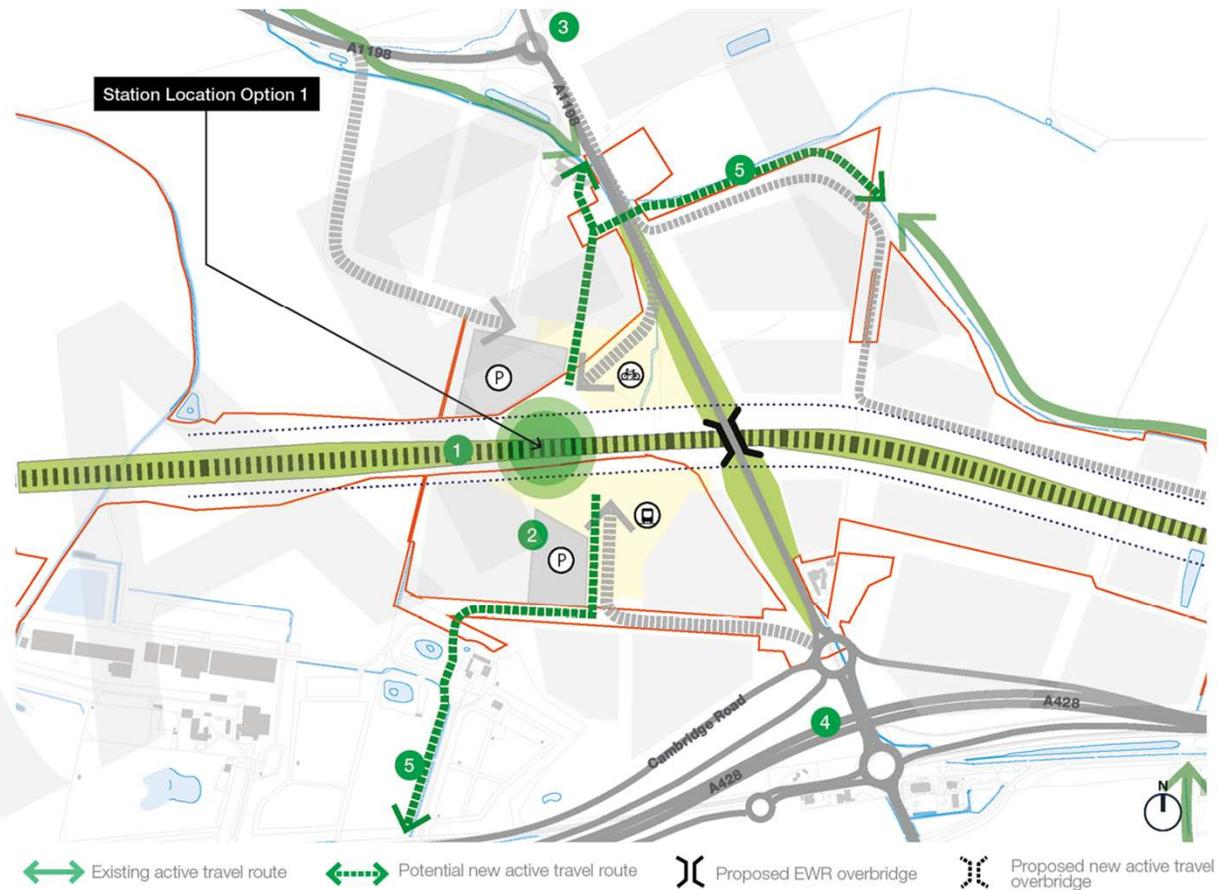
## Station Location – Option 1

### Pros

1. Railway in slight cutting can facilitate connectivity
2. Large development plots available around the station and opportunity to integrate intermodal facilities into development
3. Links to Papworth Everard within reasonable walking/cycling distance
4. Good connection to road network with new junction in close proximity
5. Opportunity to link to existing walking/cycling routes

### Cons

1. Not directly serving existing town centre of Cambourne and upcoming development in Bourn Airfield



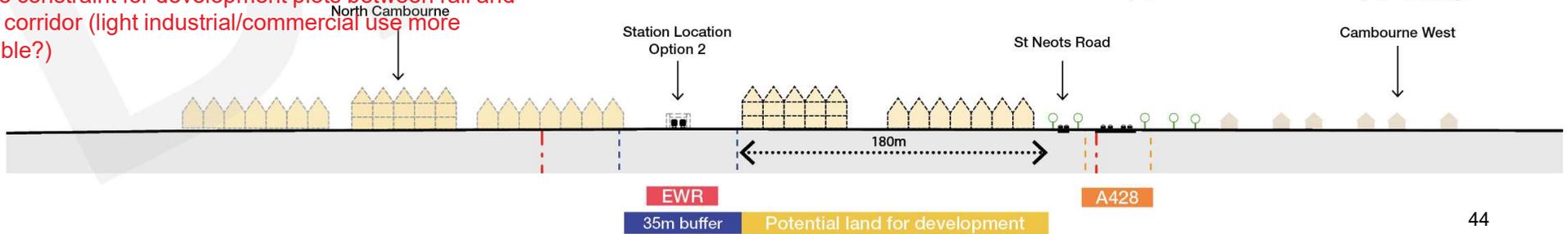
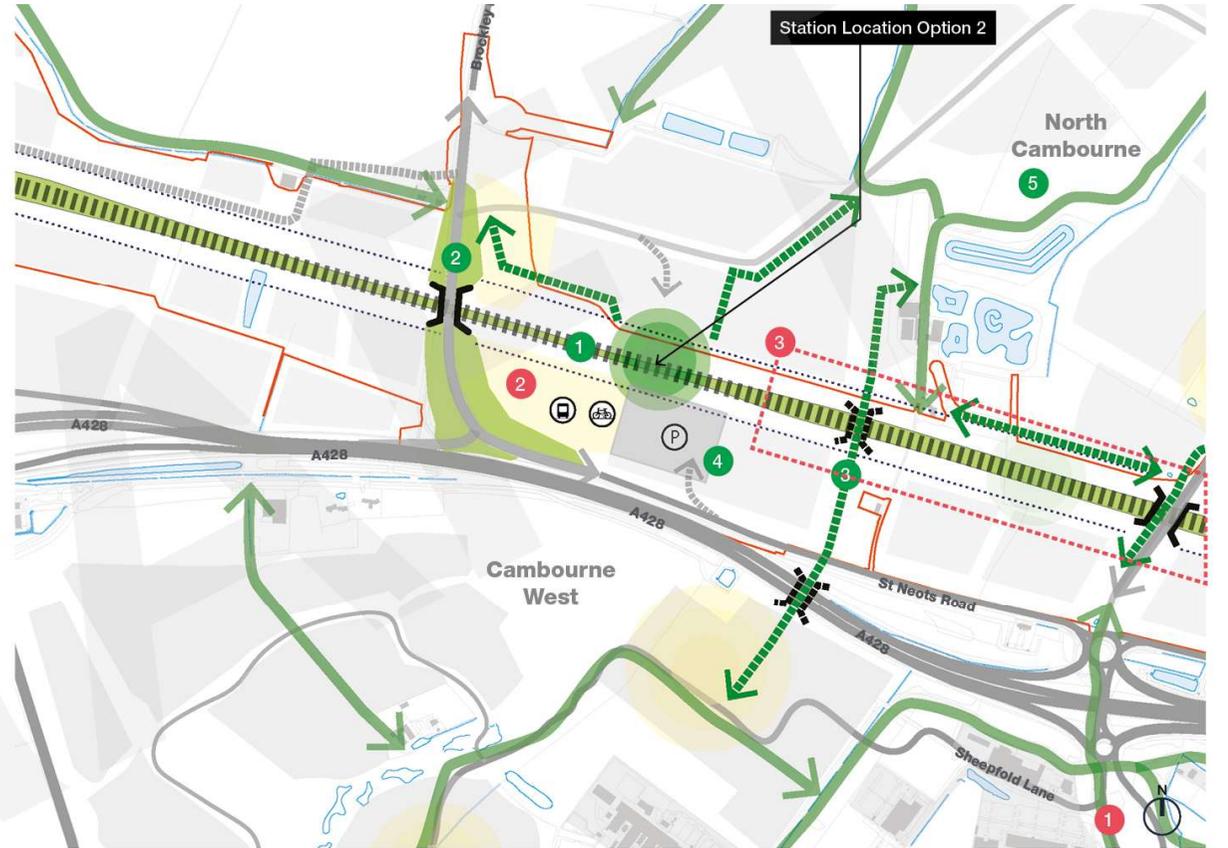
## Station Location – Option 2

### Pros

1. Railway at grade
2. Good connection to road network with new overbridge and link to St Neots Road in close proximity
3. Potential new active travel overbridge east of potential station location to link to Cambourne West and wider network
4. Opportunity to utilise residual space between rail and road to build multi-storey car park and potential other uses (light industrial/commercial)
5. Location in close proximity of North Cambourne

### Cons

1. Not directly serving existing town centre of Cambourne and upcoming development in Bourn Airfield
2. Development plots between the rail and road corridor limited in dimension due to infrastructure and earthworks
3. Proximity to passing loops
4. Noise constraint for development plots between rail and road corridor (light industrial/commercial use more suitable?)



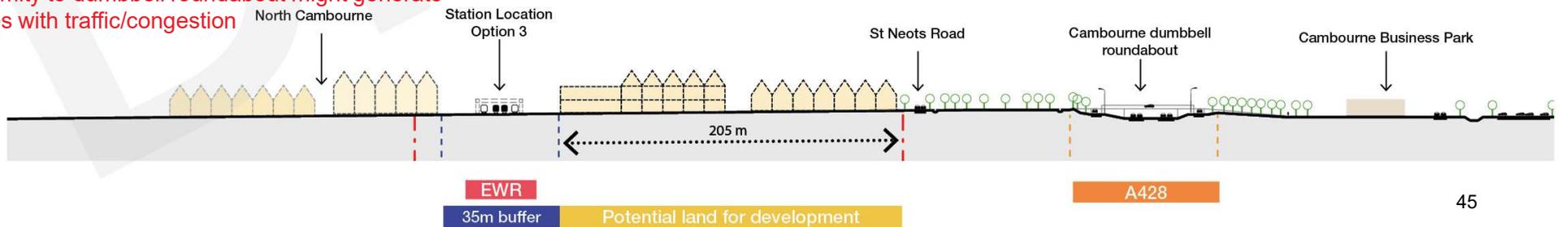
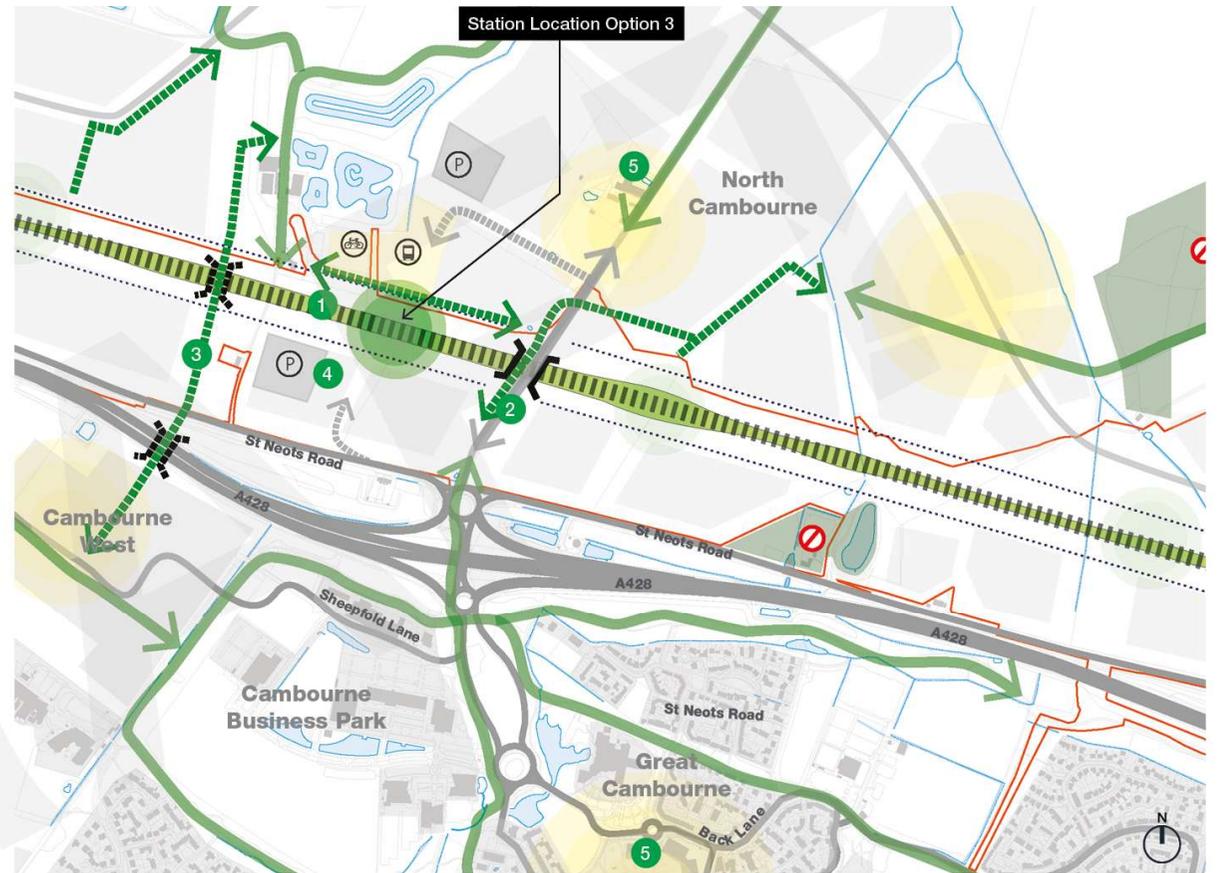
## Station Location – Option 3

### Pros

1. Railway at grade
2. Potential new connection to road network via dumbbell roundabout taking advantage of A428 in cutting
3. Potential new active travel overbridge west of potential station location to link to Cambourne West and wider network
4. Opportunity to utilise residual space between rail and road to build multi-storey car park and potential other uses (light industrial/commercial)
5. Location in close proximity of North Cambourne and Cambourne town centre can act as gateway

### Cons

1. Location overlapping with passing loops means longer station overbridge needed between platforms (+island platforms?)
2. Noise constraint for development plots between rail and road corridor and from waiting freight services (light industrial/commercial use more suitable?)
3. Proximity to dumbbell roundabout might generate issues with traffic/congestion



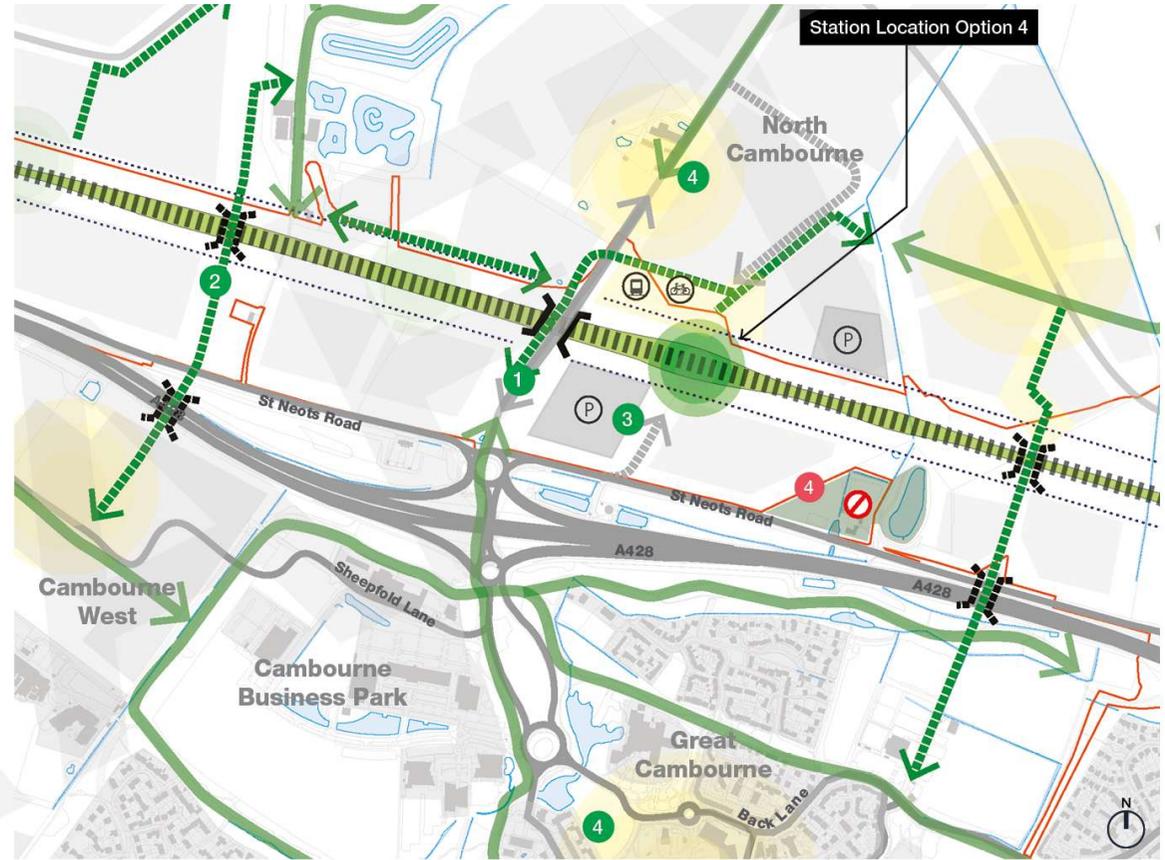
## Station Location – Option 4

### Pros

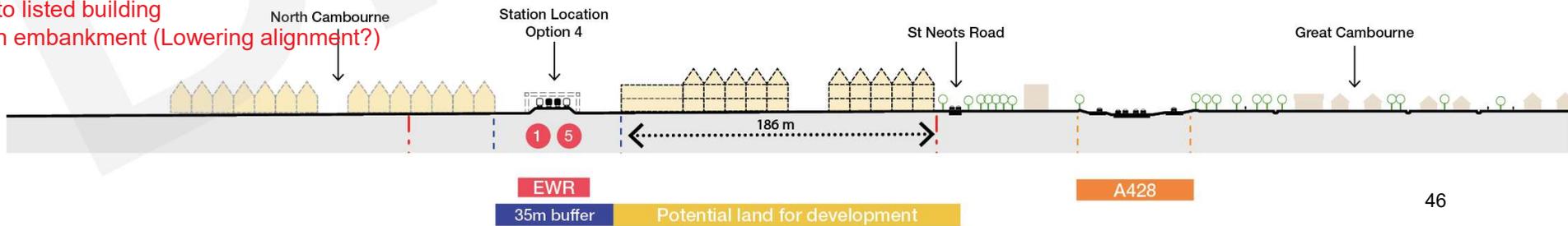
1. Potential new connection to road network via dumbbell roundabout taking advantage of A428 in cutting
2. Potential new active travel overbridge west of potential station location to link to Cambourne West and wider network
3. Opportunity to utilise residual space between rail and road to build multi-storey car park and potential other uses (light industrial/commercial)
4. Location in close proximity of North Cambourne and Cambourne town centre can act as gateway

### Cons

1. Location overlapping with passing loops means longer station overbridge needed between platforms
2. Noise constraint for development plots between rail and road corridor (light industrial/commercial use more suitable?)
3. Proximity to dumbbell roundabout might generate issues with traffic/congestion
4. Proximity to listed building
5. Railway on embankment (Lowering alignment?)



↔ Existing active travel route   
 ↔ Potential new active travel route   
 Proposed EWR overbridge   
 Proposed new active travel overbridge



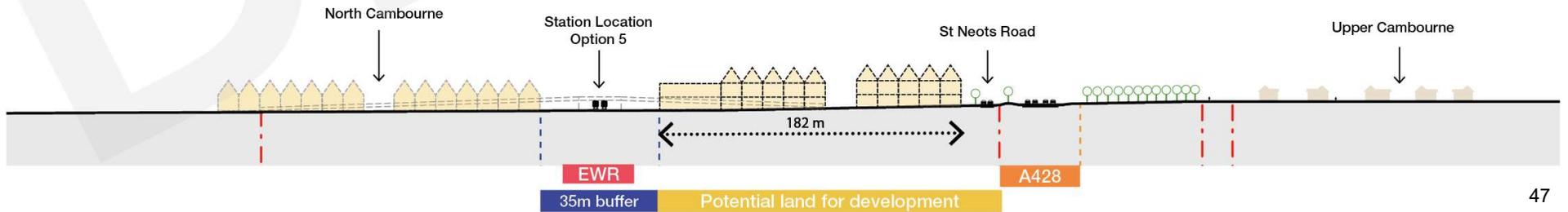
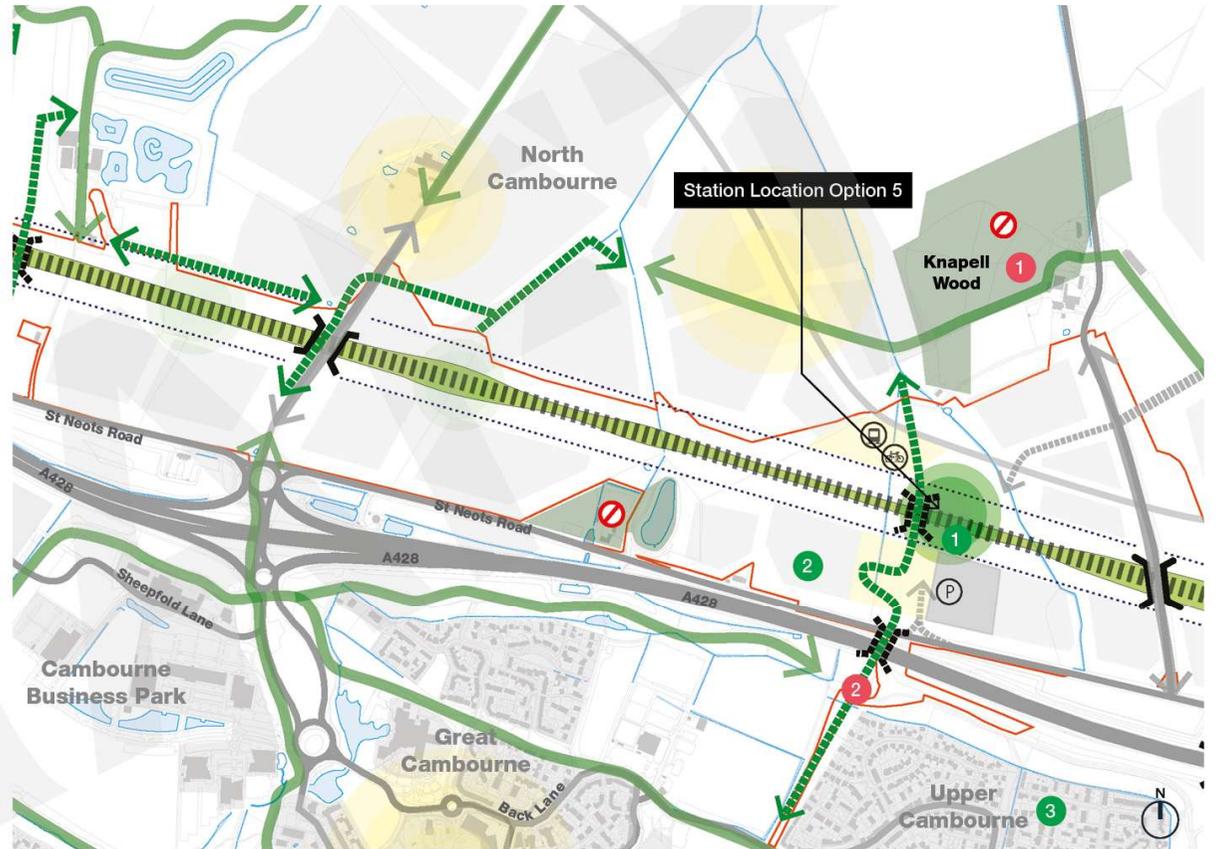
## Station Location – Option 5

### Pros

1. Railway at grade + access off St Neots road
2. Small development plots
3. Location serving Upper Cambourne + Bourn Airfield

### Cons

1. Proximity to Knapwell Woodland constraining proposed district centre location
2. Convoluted and long active travel route to Cambourne town centre due to level changes (A428) + not overlooked



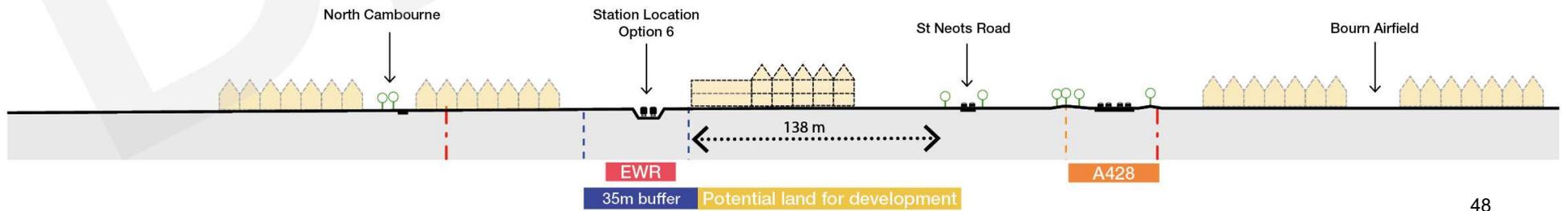
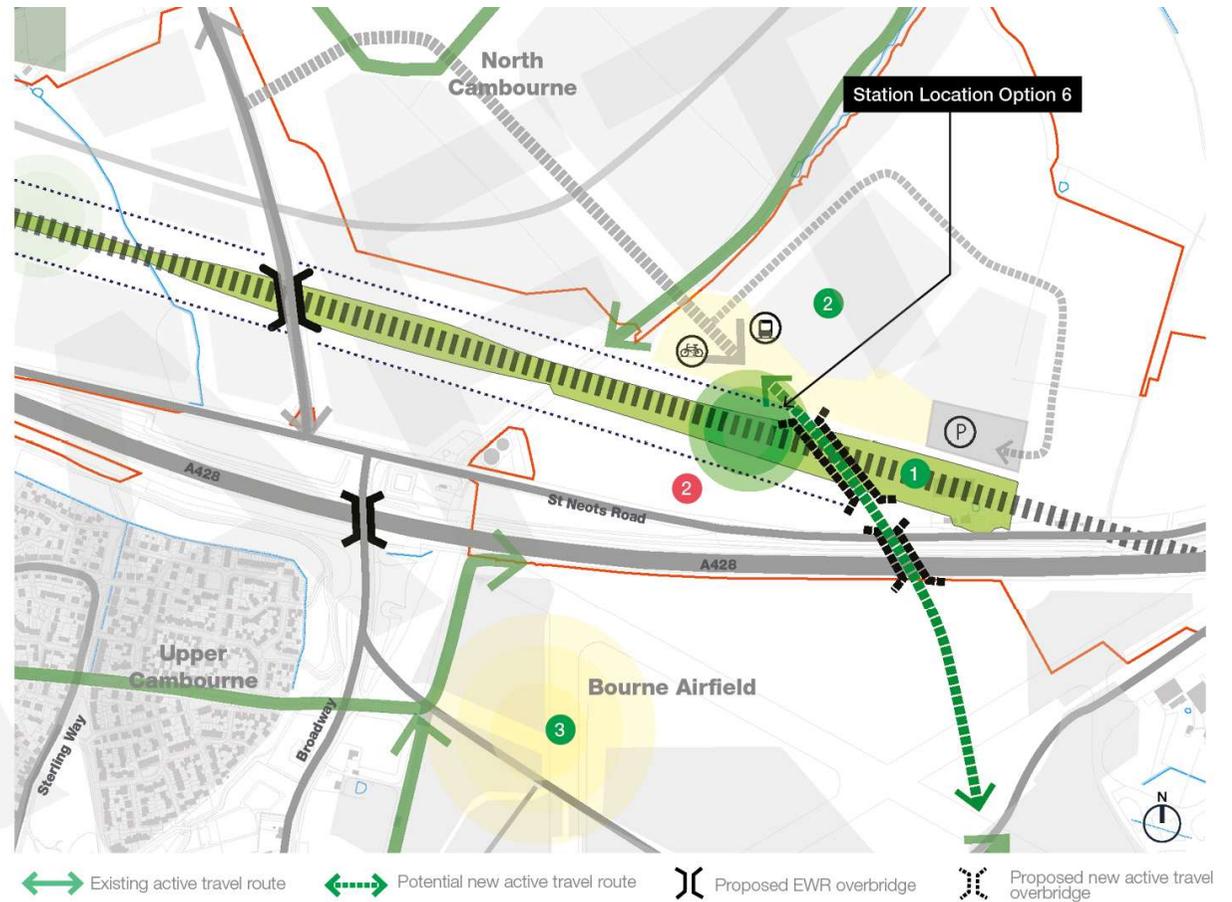
## Station Location – Option 6

### Pros

1. Railway in cutting means improved connectivity above ground
2. Large development plots to the north of station
3. Link to Bourn Airfield within reasonable walking distance

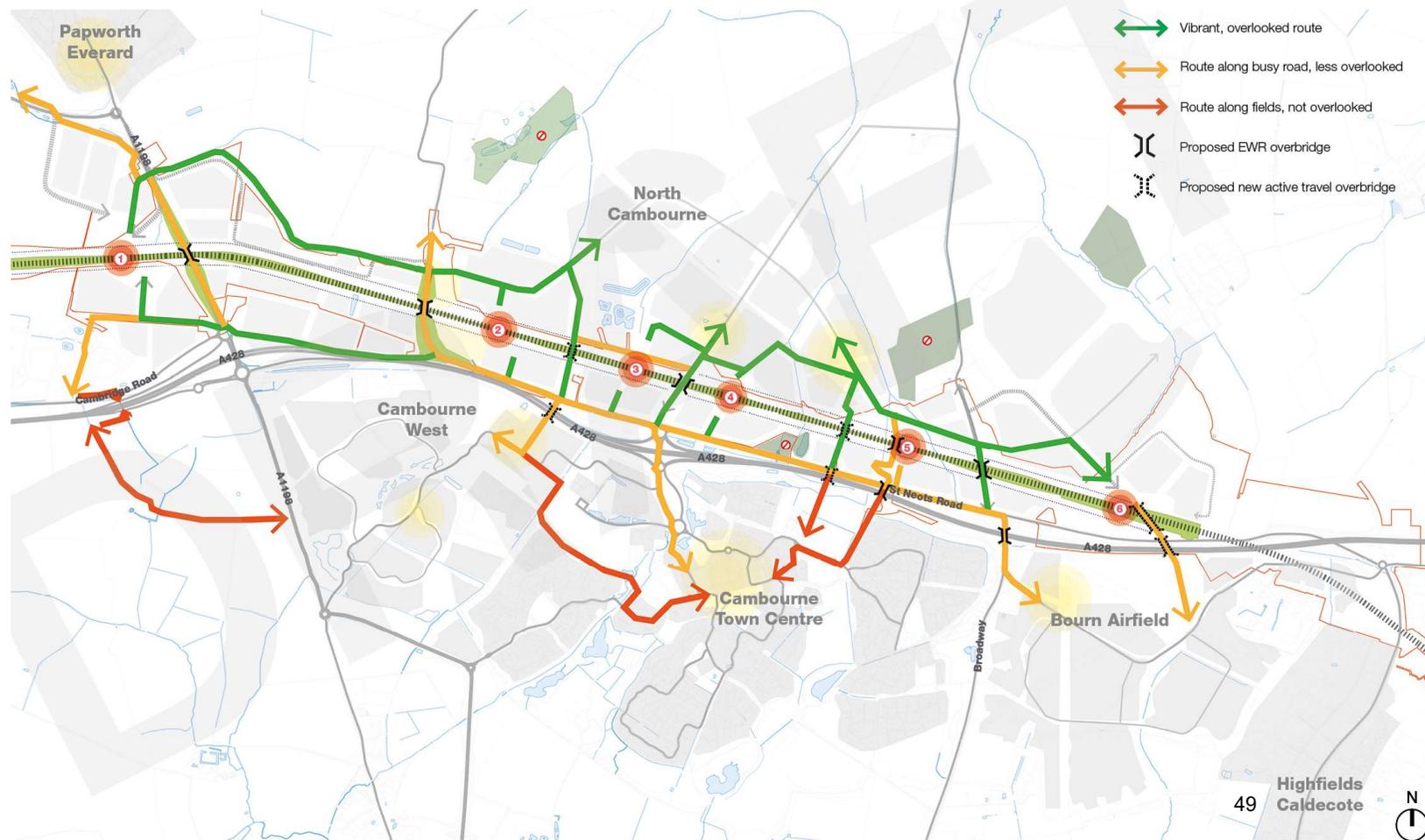
### Cons

1. Location on the edge of Cambourne and North Cambourne with no direct route to town centre
2. Limited space available for development plot between road and rail corridor



## Active travel connections

- Diagram to the right shows the quality of routes to different station location options.
- The assessment has assumed overlooked street as presented in the Martin Grants Homes proposal.
- Due to the extensive green buffer to the A428 and green wedges between settlements in Cambourne, active travel route options that would be at least relatively overlooked limited and restricted to the existing road network.

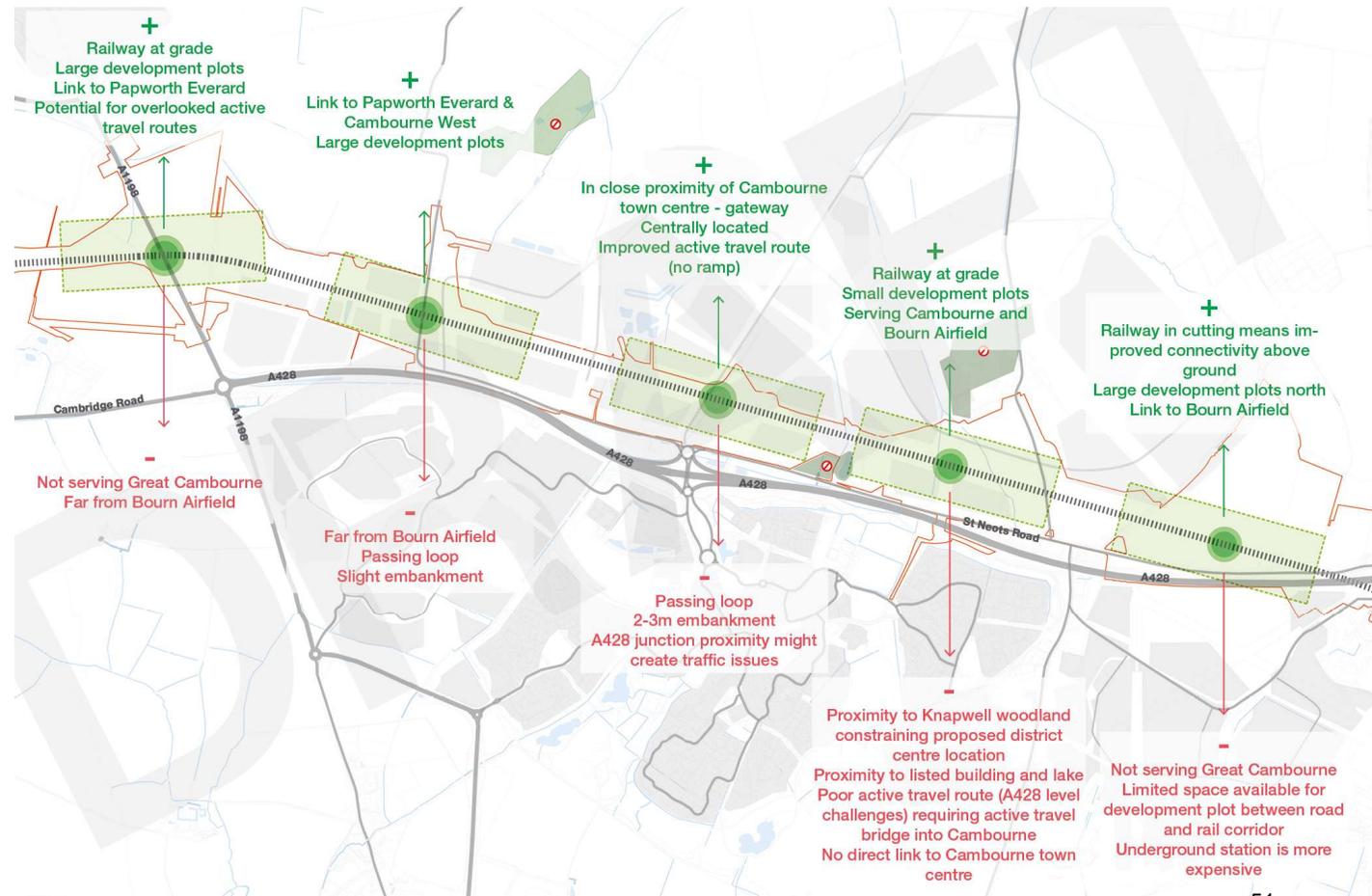


# Summary and next steps

This section provides a summary of recommendations and potential next steps

## Summary

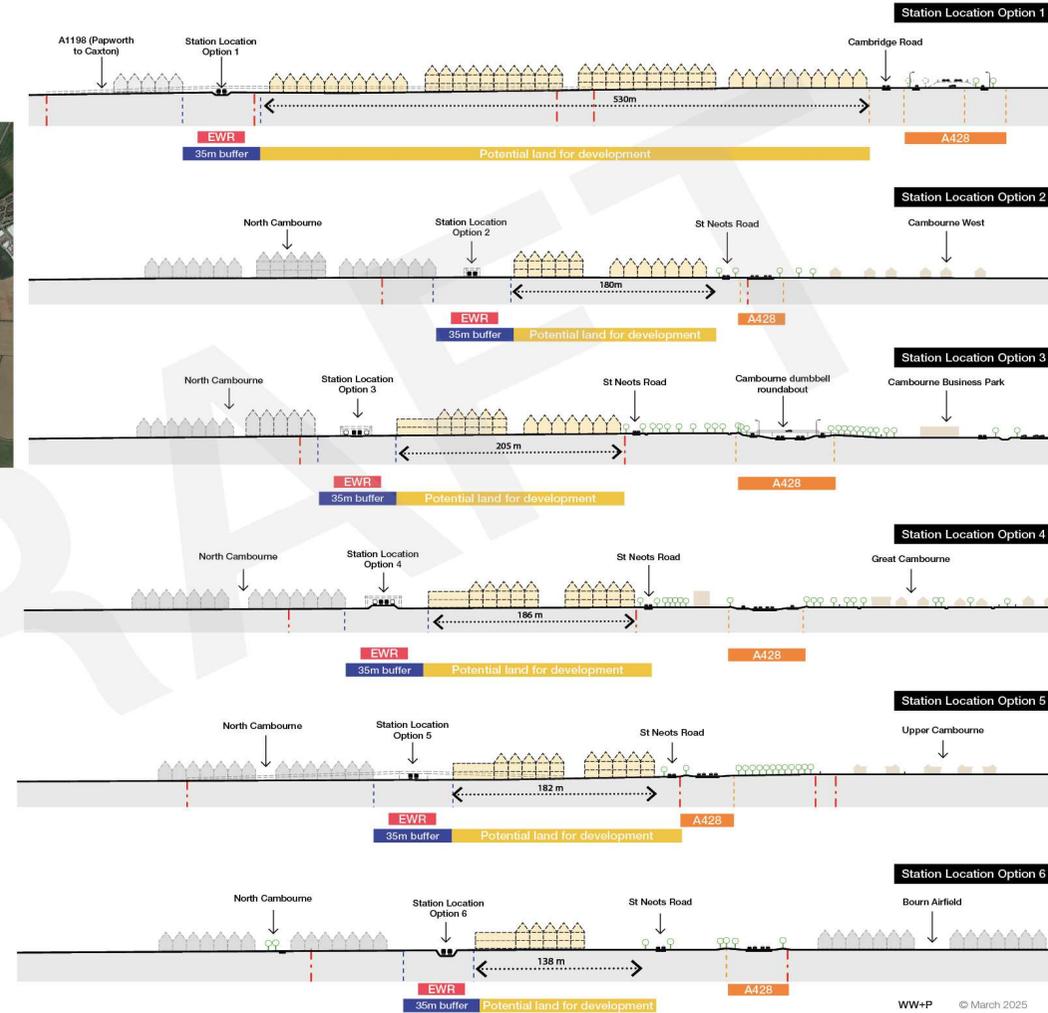
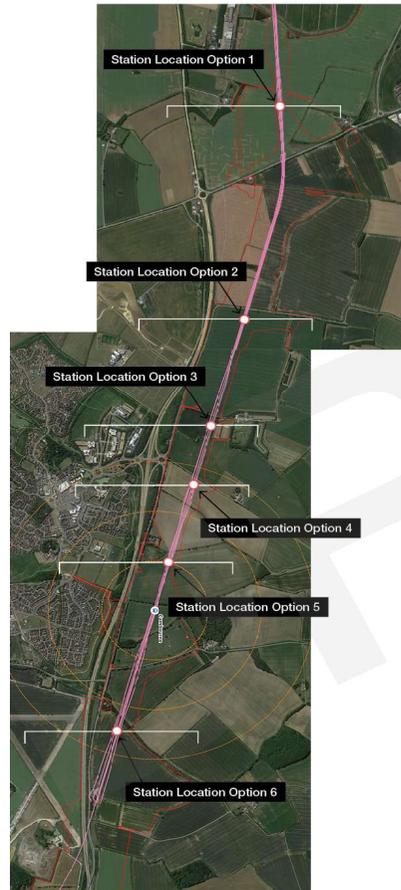
- This high-level study finds the station options that are located closer to the dumbbell roundabout performing best due to:
  - Proximity to the town centre and overlooked road network
  - Centrality to catchment and future growth potential
  - Ability to develop adjacent lands
- However, the locations have also constraints, in particular with regards to traffic impacts, passing loops and raised levels of the track.
- Overall, their advantages and disadvantages are not clear differentiators and further testing is required for a more detailed analysis, supported by greater planning, engineering and environmental considerations.
- The study also identified the clear dependency of the station location and unlocking growth to the north, and without further clarity on this development, a location will be difficult to determine.



## Next Steps

The following next steps are recommended:

- Maintain flexibility in station location design until the strategic growth masterplan north of the railway matures.
- Collaborate with stakeholders (land promoters, GCSP, etc.) to plan and fund active travel routes and vehicle crossings, addressing access issues and minimizing future costs.
- Refine station location options with support from engineering, transport, and environmental planning, and through the Assessment Factor process.
- Use passenger modelling and demand forecasts to evaluate access patterns by various transport modes.
- Implement coordinated environmental mitigation strategies in collaboration with stakeholders.
- Develop a phased implementation plan for facilities to support gradual development over the next 20+ years.



# Appendix A2

## Station Place Background Study

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

# Station place

This section summarises the main challenges, opportunities and best practice related to the station quarter

# Station Place

## Considerations and Challenges

To achieve an optimal outcome for place, travel and regeneration of a new station at Cambourne, the following considerations and challenges must be addressed:

### A. Station Location and Accessibility as proposed by EWR

The station location proposed by EWR in the 2024 non-statutory consultation lacked direct and overlooked routes to the town centre for walking and cycling. The proposed station design did not include any clear concept for local bus or the proposed busway to serve the station.

The proposed station location's proximity to Knapwell Wood created constraints on future expansion and environmental impact mitigation while the station layout, orientation, and access prioritise car users from existing Cambourne over sustainable modes.

### B. Future Growth and Network Integration

- **Limited Future-Proofing:** Prior to current work on the Spatial Framework and Rail Integration Study, no strategic consideration had been given to integrating the station with future development areas, aside from a passive northern entrance.
- **Poor Access for Surrounding Settlements:** Restricted access points (southwest via A1198 and north via the dumbbell roundabout) hinder movement into Cambourne from nearby villages.

### C. Cycling Infrastructure and Connectivity

- **Lack of Strategic Cycle Links:** Cambourne is not connected to any national or regional cycleways.
- **Substandard Local Cycling Conditions:** Existing cycle paths run on footways or busy roads like St Neots Road, without dedicated infrastructure.

### D. Physical Severance and Land Use Constraints

- **Rail and Road Barrier Effects:** The parallel alignment of the A428 and proposed railway line creates severance—visual, acoustic, and physical—between existing and future Cambourne.
- **Development Constraints:** Residual space between infrastructure corridors is difficult to develop effectively, in particular at bridges.

### E. Town Centre and Public Realm

- **Car-Dominated Core:** Cambourne Town centre is car dependent, with an over-reliance on car parking, particularly near the 'gateway' roundabout.
- **Unattractive Pedestrian Routes:** Low town centre density and extensive but quiet (lack of overlooking) footpath networks reduce perceived safety and attractiveness, especially at night.

# Station Place

## Strategic Opportunities

Measures to address the challenges should consider the following strategies:

### A. Reconsider Station Location

- **Alternative Site Feasibility:** A station location west of the current proposal—between the dumbbell roundabout and the listed barn and pond—could better balance accessibility, environmental impact, and future growth potential.

### B. Active Travel and Sustainable Access

- **Prioritise Non-Car Modes:** Embed walking, cycling, and bus access as the primary design principles in both station location and design.
- **Integrated Forecourt and Network Design:** Design the station forecourt and surrounding infrastructure to support multi-modal connectivity from the outset.

### C. Enabling Future Growth

- **Context-Led Planning:** Align station development with planned growth areas, ensuring access points, public spaces, and routes support phased urban expansion.
- **Secondary Station Entrance:** Incorporate a secondary, well-connected entrance near proposed employment cluster to improve permeability.

### D. Enhance Regional and Local Connectivity

- **Develop Strategic Cycle Infrastructure:** Connect Cambourne to national/regional cycle networks and implement safe, dedicated cycleways within the town and growth zones.
- **Link Surrounding Villages:** Improve public transport and active travel connections to surrounding settlements through infrastructure upgrades and integrated planning.

### E. Transform the Town Centre

- **Shift Away from Car Dominance:** Reimagine the town centre layout to reduce reliance on car parking and promote walking, cycling, and public transport.
- **Comprehensive Movement Strategy:** Deliver a cohesive pedestrian, cycle, bus and road network that connects West Cambourne, Bourn Airfield, and future North Cambourne development.

### F. Public Realm and Safety Improvements

- **Leverage Green Infrastructure:** Formalise and integrate existing green and Public Rights of Way routes into a well-overlooked, legible network.
- **Improve Night-Time Safety:** Ensure pedestrian routes are lit, visible, and aligned with active frontages or community uses to increase security and usage.

# Station Place

## Best Practice Principles: Compactness, active uses and sightlines

Regardless of location, size and age, successful station places follow these principles:

### Key Principles:

- Pedestrian priority
- Compactness of space
- Mixed use and amenities
- Visibility and sightlines
- Safety and overlooking
- Servicing
- Connectivity
- Completeness of place:  
Residential, park, leisure, commercial, transport, high street, healthcare - all within 5-minute walk from station
- Landmark building



# Station location – Eastward option

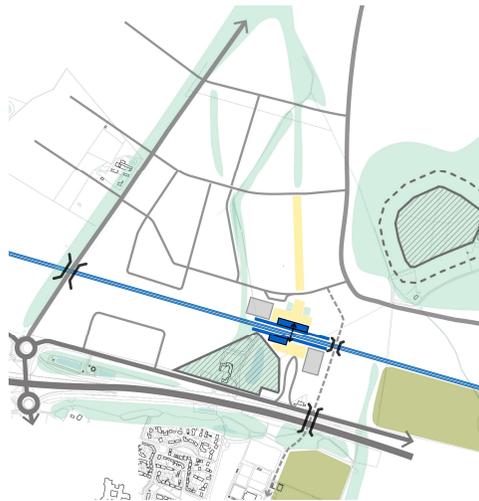
This section summarises the discounted eastward option for station location that was tested during the design development process

# Station Place

## Eastward Station Location Option - discounted

During further design development for the Spatial Framework Strategy and Rail Integration Study (i.e. after the completion of the EWR Urban Integration Study), an option closer to the proposed active travel crossing point was tested, as this improved the network planning and interchange. However, the option was discounted due to:

- Growth limited by the closeness to Knapwell Wood.
- The station forecourt is tightly positioned next to the listed building site.
- **The option was not pursued as the preferred choice.**



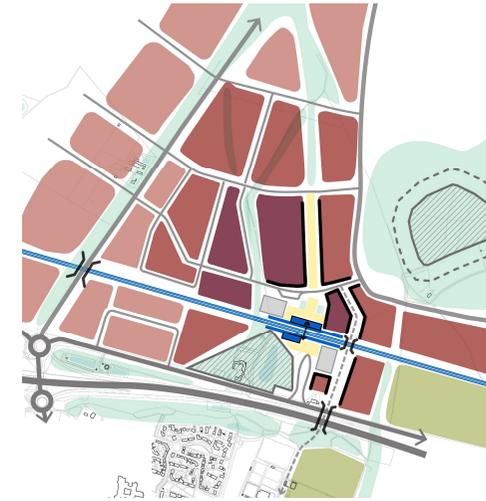
### Landscape & Public Realm

- Green Connectors/Ancient Woodlands
- Playing Fields
- Station Forecourt/High Street
- Protected Assets



### Road Hierarchy & Public Transport

- Primary Road
- Secondary Road
- Local Streets
- Rapid Service (Links to C2C Busway)

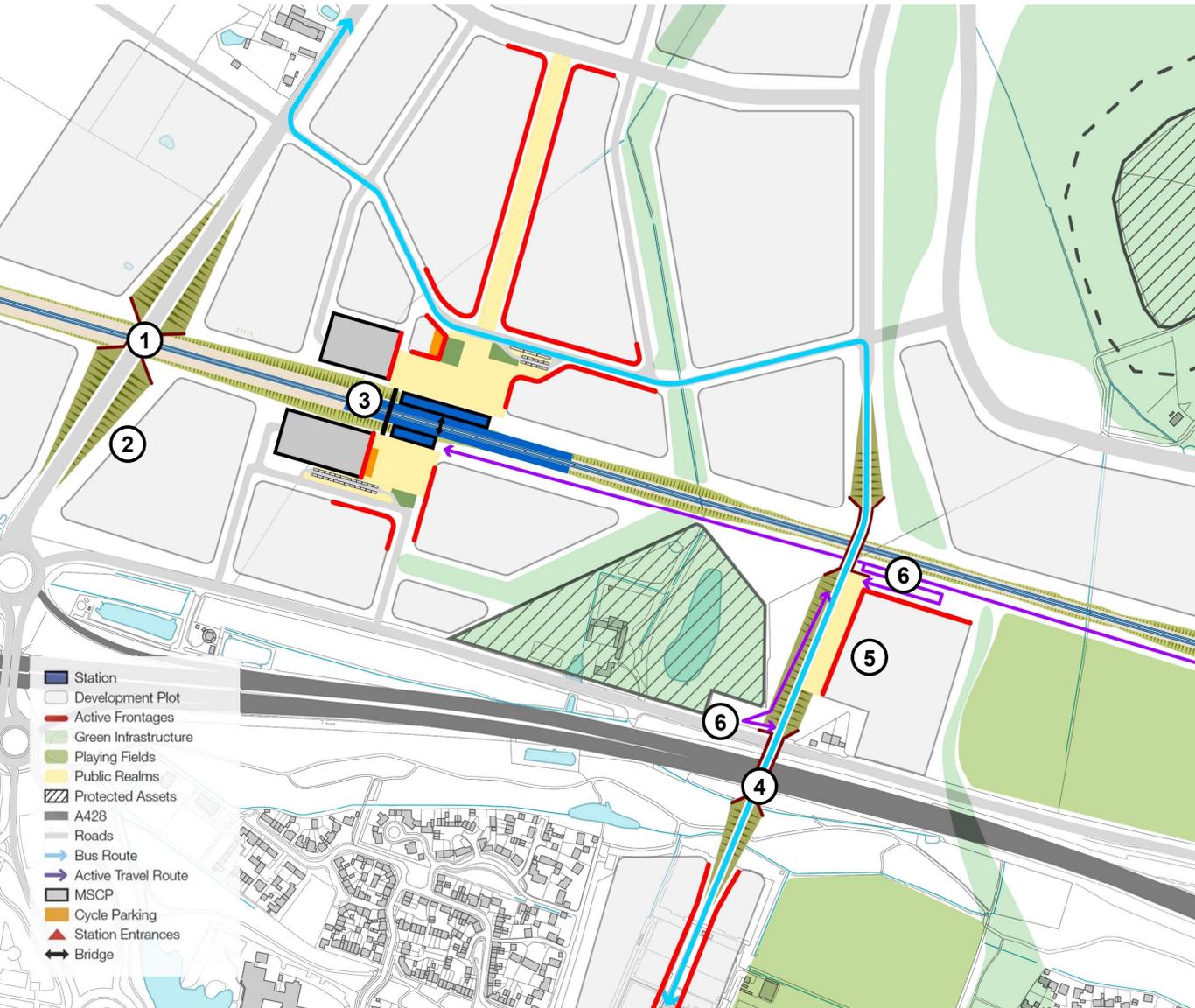


### Density and Active Frontages

- High Density
- Medium Density
- Low Density
- Active Frontages

# Station alignment height – current design

This section summarises key characteristics of the current rail alignment in relation to alignment height



## Current vertical EWR Alignment

The current vertical alignment of the EWR track aims to minimise earthworks and keeping the track level. This results in a vertically level track, with minor raises and cuttings in relation to the existing topography. At the proposed station location, the track is higher than the ground. This approach results in the following issues:

1. Multi-modal railway overbridge (1:21 slope)  
Assumption:  
Roundabout is at approx. +65m  
Railway tracks are on approx. +67- 68m  
Bridge rise approx. 9m. No frontage or gateway design possible.
2. Space for embankment needed reduces the development plot size.
3. Unpaid connection. A bridge or underpass is required with either lifts or ramps to facilitate connectivity to either side of the station forecourts.
4. New overbridge for public transport and active travel to be built on the location of existing sports centre.
5. New sports and leisure centre re-provided with active frontages that supports overlooking for the active travel route on the new overbridge. Entrance is **directly from the overbridge embankment** into the building's first floor.
6. Stairs and ramps **needed** for access onto new overbridge embankment.

**The option was not pursued as the preferred choice.**

# Image Attribution

Page 17 – Beatus Rhenanus Bridge on Tramline D Strasbourg 2017 5 by smiley.toerist is licensed under CC BY-SA 4.0

Page 17 – The Green Bridge, Mile End by Philip Lane Photography

*Other images in this document are from sources which do not require attribution.*

WW+P



ARUP