

Milton Road and Histon Road corridors bus priority infrastructure

1. Purpose

The County Council would like to understand in more detail, the options to deliver the most effective corridor-based public transport scheme (complemented with comprehensive cycling and walking routes) along:

1. the A1309 Milton Road, Cambridge from the A14/A10 junction in the north, to Mitcham's Corner gyratory in the south; and
2. the B1049 Histon Road, Cambridge from the A14 junction in the north to the junction with Huntingdon Road and Victoria Road in the south.

Map 1 shows the two roads, and how they fit into the public transport network in and around Cambridge.

Understanding the benefits of these schemes will assist in the option assessment and selection. The focus of the schemes is on improving conditions for buses, (pedestrians and cyclists) while still ensuring the corridors work as key links in the highway network.

This commission will deliver an assessment of the options for delivering bus based high quality public transport schemes for Milton Road and Histon Road, and develop an outline business case for the preferred options. This work may be used and relied on at a future Local Plan Examination, or as part of a Public Inquiry or consents process for any future schemes.

The principal objective of this brief is to inform and test the options for the development of a high quality public transport scheme as outlined in the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC). A mixture of disciplines will be required including transport planning, transport modelling, engineering, planning and economic assessment.

The specific deliverables are detailed below, but in summary, are:

- Options Report.
- Outline Business Case.
- Non-Technical Summary.
- Technical Note – Proposed methodology for next phase.

The two key deliverables are the completion of a robust Options Report that identifies potential solutions to deliver public transport schemes serving Milton Road and Histon Road, and the development of Outline Business Cases that establish the context, justification and case for the options that emerge.

2. Background

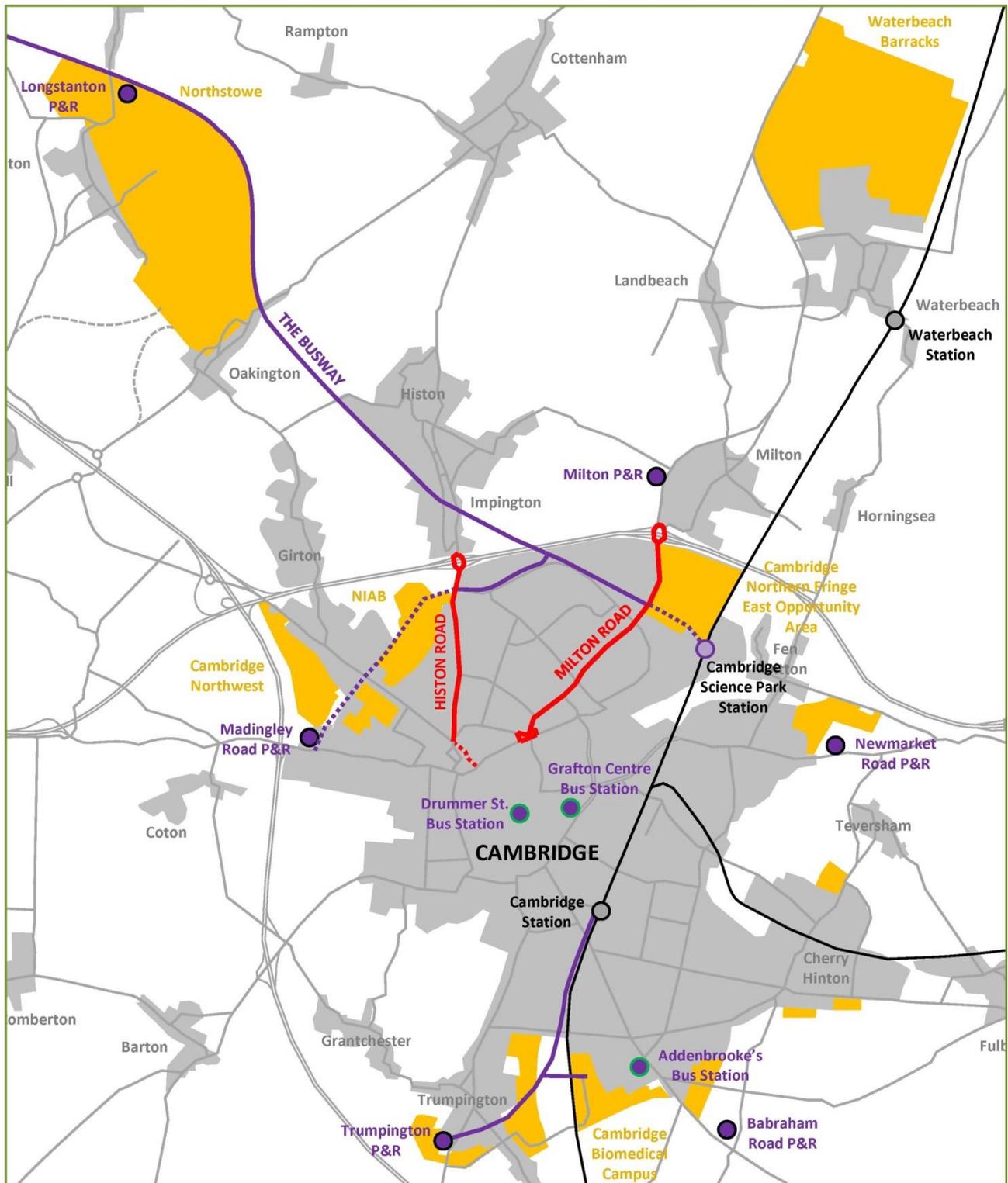
Growth, development and redevelopment

The draft Local Plans for Cambridge and South Cambridgeshire identify the need for 33,000 homes and 44,000 new jobs by 2031. This need derives from an expectation that the buoyant economy of the area will continue.

Cambridge Northern Fringe East Opportunity Area

A parcel of land in north Cambridge, known as Cambridge Northern Fringe East (CNFE) has been identified in both Cambridge City Council and South Cambridgeshire District Council's new draft Local Plans for the period to 2031 as a site for redevelopment (see Map 1). The site is accessed from the northern end of Milton Road.

Map 1 Milton Road and Histon Road in the wider area context



Cambridge City Council and South Cambridgeshire District Council are in the early stages of jointly preparing an Area Action Plan (AAP) for this area. The Councils are seeking the wider regeneration of this part of the city with the creation of a revitalised, employment focussed area. In their draft new Local Plans, land on this site is allocated for high quality mixed-use development including employment uses such as B1, B2 and B8 as well as a range of supporting commercial, retail, leisure and residential uses.

The final AAP will establish the quantum of development, site capacity, viability, timescales and phasing of development. The AAP is expected to be adopted in Autumn 2016.

Waterbeach Barracks

North of the A14, to the east of the A10, the proposed new settlement of c. 8000 homes at Waterbeach Barracks will bring significant additional demand on the A1309, Milton Road. To ensure that these trips can be accommodated, a large proportion will need to be undertaken by bus, bicycle and train. Significant public transport and highway improvements will be needed to cater for growth at this site. Transport improvements to the north of the A14, however, should not be included in this piece of work. This is a separate commission.

Ely North

It is worth noting that further along this corridor at Ely, some 3000 homes are planned in the period to 2031 (5,600 new homes in total in East Cambridgeshire) and with significant levels of out-commuting already in existence from Ely to Cambridge, further pressure is likely to be felt along Milton Road, albeit with many trips expected to be intercepted by rail and Park & Ride.

Mitcham's Corner

At the southern end of Milton Road, towards the city centre, Mitcham's Corner is identified as an Opportunity Area in the draft submission City Local Plan. Cambridge City Council is at the early stages of a piece of work looking to promote high quality redevelopment with the radical transformation of the existing gyratory system as a key public realm and infrastructure project. The area is currently dominated by the gyratory system which is hostile to pedestrians and cyclists. In improving the public realm, however, consideration must be given to the important role of the junction as part of the highway network.

North West Cambridge

Development on parcels of land between Madingley Road and Huntingdon Road and Huntingdon Road and Histon Road, identified in the 2006 Cambridge Local Plan is underway. The development known as North West Cambridge will contain a bus only orbital link from Huntingdon Road to Histon Road. <http://www.nwcambridge.co.uk/>

Highway

Milton Road

Milton Road is one of the key radials into Cambridge and is identified as an increasingly important public transport corridor as part of the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) and Long Term Transport Strategy (LTTS). It suffers from congestion at peak times, particularly in the morning from traffic looking to access the city from the A10 (north) and then the reverse journey in the evening peak.

Traffic volumes on the A14 at peak times are already at high levels, with significant queuing at the Milton interchange between the A14, A10 and A1309 Milton Road. Proposed improvements to the A14 may affect future traffic flow on Milton Road. There are several other signal junctions on Milton Road at which congestion occurs:

- Cowley Road / Science Park junctions (signals).
- Busway junction (signals).
- Kings Hedges Road / Green End Road (signals).
- Arbury Road / Union Lane (signals).
- Elizabeth Way / Highworth Avenue (roundabout).
- Gilbert Road (signals).
- Chesterton Road / Victoria Road / Victoria Avenue / Corona Road / Springfield Road (Mitcham’s Corner – part signalised gyratory system).

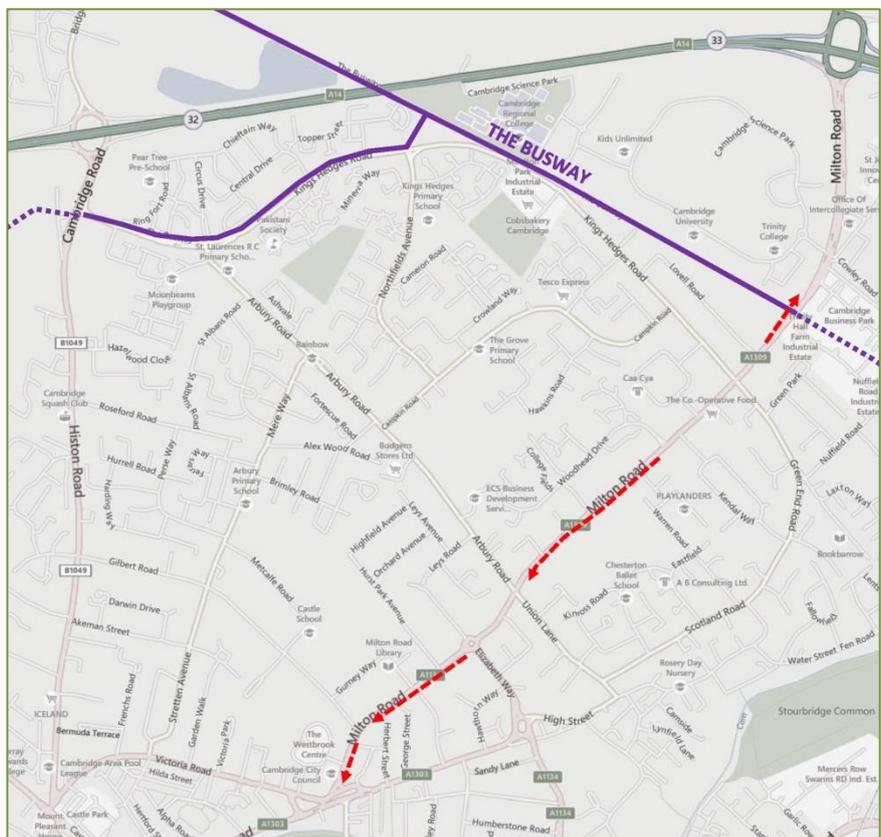
In recent years, junction capacity improvements have been undertaken at the Milton Interchange with the A14 / A10 and to the Cowley Road / Science Park junctions at the northern end of Milton Road to improve traffic flow and increase capacity.

Histon Road

Histon Road is another key radial into the city, and is constrained in its width, which contributes to congestion and makes the consideration of small scale improvements difficult. It suffers similar patterns of congestion to Milton Road, and the Histon Interchange with the A14 often sees significant queuing, as do the signalised junctions with:

- Kings Hedges Road.
- Gilbert Road / Warwick Road.
- Victoria Road / Huntingdon Road.

Map 2 Current bus lane provision (in red) on Milton Road



Public transport

The Busway

The northern section of Busway into Cambridge joins the local road network at two points – at Milton Road, and on Kings Hedges Road at its junction with Histon Road. Busway services use both roads to access the centre of Cambridge.

Park & Ride

In 2008 Cowley Road Park & Ride site was closed and Milton Park & Ride was opened to the north of the A14,

accessed via the A10 and Butt Lane. Park & Ride buses access the city via Milton Road. The former Cowley Road site is now used as part of Stagecoach's bus depot operations.

Bus priority infrastructure

There are three stretches of inbound bus lane on Milton Road, and a stretch of outbound bus lane on the approach to the Busway junction (see Map 2). The Citi 2 bus service runs from the Science Park at the very northern end of Milton Road, before turning off Milton Road onto Green End Road through Chesterton and then down to Mitcham's Corner. From Mitcham's corner, it enters the city centre on Victoria Avenue. No bus priority measures exist on Histon Road, other than a hurry call facility for buses at traffic signal junctions. Hurry calls are also in place at signals on Milton Road.

Histon Road has limited space and so options for this corridor are likely to be more limited than for Milton Road.

Rail

Cambridge Science Park Station (CSP), a new railway station for Cambridge, has been granted planning permission and is expected to open by May 2016 (see Map 1). The Station sits within the CNFE AAP site. A new section of busway will link CSP with Milton Road and the existing Busway to St Ives. The access works are expected to commence in July 2014, with completion in March 2015. This new transport asset will significantly strengthen the public transport offer in this area of Cambridge. There are a number of key employment destinations in this part of north Cambridge including the Cambridge Science Park, Cambridge Business Park and St John's Innovation Centre. The access to these employment areas will be greatly enhanced by the new rail station.

Cycling and walking

'The Chisolm Trail' is a strategic cycle route planned to run alongside the railway line to form an eastern link between the new station, Cambridge station and on to Addenbrooke's Hospital and the Cambridge Biomedical Campus. The exact route is still being looked at. The new section of Busway from Milton Road into the new station area will also make provision for pedestrians and cyclists. Other new cycle routes are expected to be built in the vicinity of the new station to link it with Cowley Road and Nuffield Road.

Funding

The Government's City Deal funding has been signed, providing £100M of investment in the five years from 2015/16. The funding is available to unlock economic growth and development, so while the work should be compliant with WebTag Option Selection (Stage 1), it will also be important to understand the contribution of any schemes to economy, and to housing and employment growth. In addition to City Deal funding, it is still expected that developer funding would contribute to any schemes coming forward both in terms of the capital cost and operating costs.

3. Relevant available information

Transport Strategy for Cambridge and South Cambridgeshire & Action Plan

Following large scale public and stakeholder consultation, in March 2014 Cambridgeshire County Council adopted a Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) as part of Cambridgeshire's Third Local Transport Plan (LTP3). TSCSC sets out

a large number of transport schemes to help facilitate the housing and jobs growth proposed in Cambridge City Council and South Cambridgeshire District Council's draft submission Local Plans.

The TSCSC Action Plan sets out the expectation to deliver high quality bus priority measures on Milton Road and Histon Road as part of the City Deal package (see page B5 and B6).

http://www.cambridgeshire.gov.uk/info/20006/travel_roads_and_parking/66/transport_plans_and_policies/2

Long Term Transport Strategy

The Long Term Transport Strategy (LTTTS) for Cambridgeshire, currently in draft, examines at a strategic level, the implications of the growth proposed for the whole of Cambridgeshire including that within and on the edge of Cambridge. It is expected that this will be adopted as part of LTP3 in autumn 2014. The draft LTTTS identifies both Milton Road and Histon Road for bus priority improvements.

http://www.cambridgeshire.gov.uk/info/20006/travel_roads_and_parking/66/transport_plans_and_policies/5

Cambridge and South Cambridgeshire draft submission Local Plans

<https://www.cambridge.gov.uk/draft-local-plan-2014> and
<https://www.scambs.gov.uk/content/stages-in-preparing-local-plan>

Survey data and modelling work

Survey data and traffic monitoring has recently been undertaken to provide an up to date baseline and data to build a new Paramics model for Milton Road. This model will be available in November 2014.

Additional traffic survey data may be required for Histon Road, and will be commissioned by the County Council if this is the case.

Previous runs of the Cambridge Sub Regional Model (CSRM) will be made available. Further model runs may be undertaken if required.

Corridor Area Transport Plans

<http://www.cambridgeshire.gov.uk/transport/strategies/transport-plans/atp.htm>

Cambridge Access Strategy

http://www.cambridgeshire.gov.uk/transport/strategies/transport-plans/cambridge_central_area_access_strategy.htm

Controlled Parking Zones

<http://www.cambridgeshire.gov.uk/transport/parking/restrictions/cpz/>

City Deal

A number of further studies and Business Case development briefs are being worked on or are in the process of being commissioned. Two relevant studies are noted below.

Cambridge Access Study 2014

This study will assess conditions and challenges on the transport network in and around Cambridge and recommend improvements and interventions to improve access, capacity, interoperability and movement to and within the city whilst maintaining traffic at or below current levels. The Access Study may make recommendations that affect Milton Road and Histon Road, but it is not envisaged that these would be to an extent that would lead to changes to the scope of this brief.

A10 North and Waterbeach New Town development

A separate study will look at the need for additional transport capacity between the planned new settlement at Waterbeach Barracks and Cambridge. This will look at all modes of transport, and will consider implications across the wider Ely to Cambridge corridor. As one of the underlying principles of the City Deal programme is that additional capacity in Cambridge must be provided by sustainable modes, it is considered that the scope of this brief is unlikely to be affected by the outputs of the A10 North / Waterbeach Barracks Study.

Any implications of emerging proposals from either study will be communicated to the consultants working on the other study, to ensure emerging options are complementary. However, it is likely that the A10 North and Waterbeach New Town study will follow on from this study.

Transport Innovation Fund (TIF)

Previous schemes for Milton Road were considered as part of the TIF package. Summary information is available.

Stakeholder input

The Friends of Mitcham's Corner is a proactive local residents' association and is keen to be involved in the development of the area.

4. Objectives

Objectives for this work are set out below:

- To provide comprehensive priority for buses in both directions along Milton Road and where possible, on Histon Road.
- To make provision for cyclists along Milton Road and Histon Road which is segregated from buses and general traffic wherever possible.
- To improve provision for cyclists and pedestrians in line with the public realm proposals at Mitcham's Corner whilst maintaining traffic flow through the junction.
- To generate options capable of maintaining traffic levels at today's levels in Cambridge.
- To consider the potential for enhancing the environment, streetscape and air quality in these corridors.
- To assess the impacts on existing residents and highway capacity for each option.

5. Outcomes

Outcomes for this work are set out below:

- Additional sustainable transport capacity to provide for the transport demands of economic and housing growth.
- Buses are able to travel along Milton Road and Histon Road unimpeded by congestion from general traffic, making the journey time more reliable
- More journeys along the corridor being undertaken by bus (rather than car)
- More short journeys being undertaken by bicycle because people feel safer and have direct routes between origins and destinations
- More short journeys being undertaken on foot.

6. Deliverables

Options Report

Consideration of all options to deliver the objectives for the corridors should be undertaken, including both the use of just the existing highway or additional land-take. It could include central tidal bus priority interventions, traffic reduction or removal to reallocate road space, highway capacity improvements, guided busway, bus lanes, a combination of these, or another alternative. Options should be summarised and shortlisted to rule out options or routes that are clearly unacceptable in terms of cost, deliverability, or environmental impact. Key issues and risks associated with each option should be identified and the alignments and schemes suggested compiled into a shortlist that can be discussed with the client before further assessment.

More detailed assessment of the shortlist must be undertaken and compared against a 'do nothing', and a 'do minimum' option.

- The objective is to have congestion free PT serving the corridor
- Scheme characteristics should be identified and described
- Alignments should be clearly shown at a suitable scale, with standard sections, and more detailed drawings showing pinch points, highway interfaces, or other details.
- Work should concentrate on the section of the corridor between the A14 interchange at the northern end and the Mitcham's Corner gyratory to the south, but should be mindful of development and pressures on the network on the A10, north of the A14 and other radials.
- Journey times for public transport and car journeys should be assessed.
- A cost estimate should be identified for each option, including a breakdown of the different elements (land / civils / structures / etc).
- Key risks / constraints should be identified.
- An assessment should be undertaken to evaluate whether any highway interventions are required, either to improve capacity at pinch points on the network, or to add highway capacity that can be used in either the short, medium, or long term to meet the objectives for the corridor.
- Engineering feasibility drawings should be provided.
- Consideration of construction requirements should also be made and possible land requirements identified.
- Commentary on Planning requirements and identification of the scope of any potential environmental assessments should be provided.
- Description of any consents required (DCO / TWA / other) should be included
- Recommendations
- All work must be suitable for use in either an Examination in Public in support of the TSCSC or Local Plan, or any Inquiry required as part of future scheme development and implementation. Representation as an Expert Witness may be required.

Outline Business Case

- All deliverables should be WebTAG compliant to fully satisfy Stage 1 (Option Development), but should also consider that as well as the transport case for the schemes, the economic case and benefits of any schemes need to be defined given the City Deal funding stream.
- An Outline Business Case will be developed by the consultant that establishes the context and need for the schemes, and sets out clearly the reasons why the investment is required.
- The options that have been considered, including a 'do nothing', and a 'do-minimum' option, should be assessed and presented in a standard format.
- A fully assessed BCR for each option should be determined.
- Patronage and PT demand for each option should be assessed and described, with a full analysis of movement / mode split in the corridors by all modes.
- Demographics in the corridors should be analysed and presented as part of the supporting evidence.
- Development sites should be identified and described using available information and the relationship of any proposed schemes to them, should be identified.
- Key employment sites should be identified and compared to unemployment rates in the corridors to identify potential demand for key origins and destinations of journeys.
- Funding requirements should be identified.
- Commentary on proposed bus operations and capacity should be provided.
- Quantified benefits should be demonstrated comparing for example, predicted journey times against the do nothing and do minimum scenarios, for both current and future years.

The Outline Business Case will need to identify the appropriate measures in order to:

- Integrate new development and redevelopment into the existing transportation network;
- Provide a comprehensive network of safe and convenient walking and cycling routes;
- Make provision for High Quality Public Transport Services;
- Reduce the need to travel by car;
- Ensure that there is an appropriate level of highway capacity
- Link effectively to the local and national highways network
- Set out any mitigation measures

Non-Technical Summary

Non-technical summaries of the identified options and the business case work must be provided in plain English and suitable for a non-technical audience including potentially any future public consultation on the scheme. The options, and any others that have been discounted, should be presented.

Technical Note – Proposed methodology for next phase

Subject to the successful completion of this study and available funding, it is anticipated that this study will lead to further work including full business case development and securing the appropriate consents for the schemes. The preferred approach and scope for this work should be set out, particularly with regard to any further modelling that would be required.

7. Project details

Contract management

The contract will be managed by Cambridgeshire County Council. The lead contact will be Natasha Hincks.

The Local Authority democratic decision-making processes are critical to the success of this work. The work will need to inform committee reports and the consultants may need to present their work at committee.