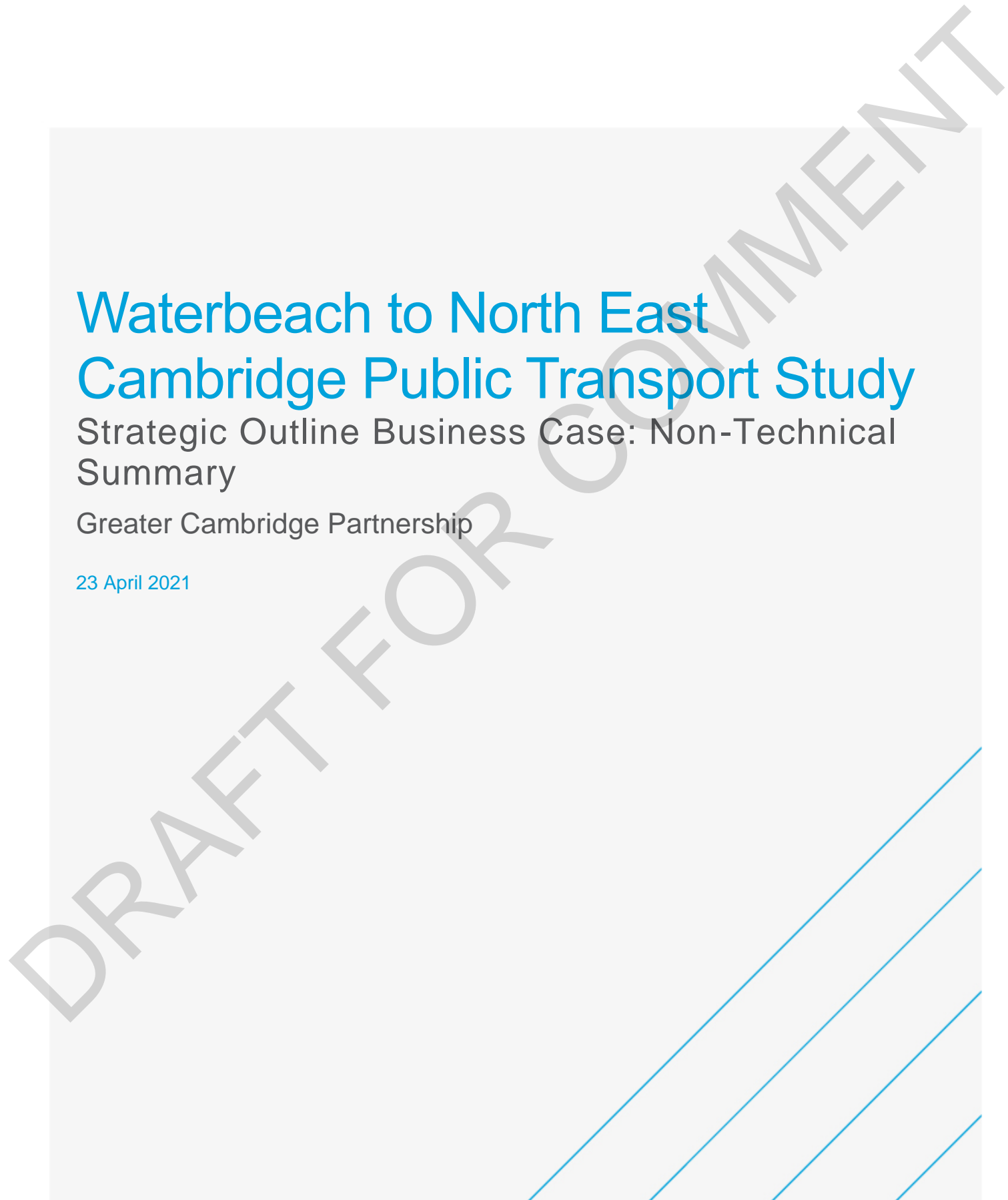


Waterbeach to North East Cambridge Public Transport Study

Strategic Outline Business Case: Non-Technical
Summary

Greater Cambridge Partnership

23 April 2021



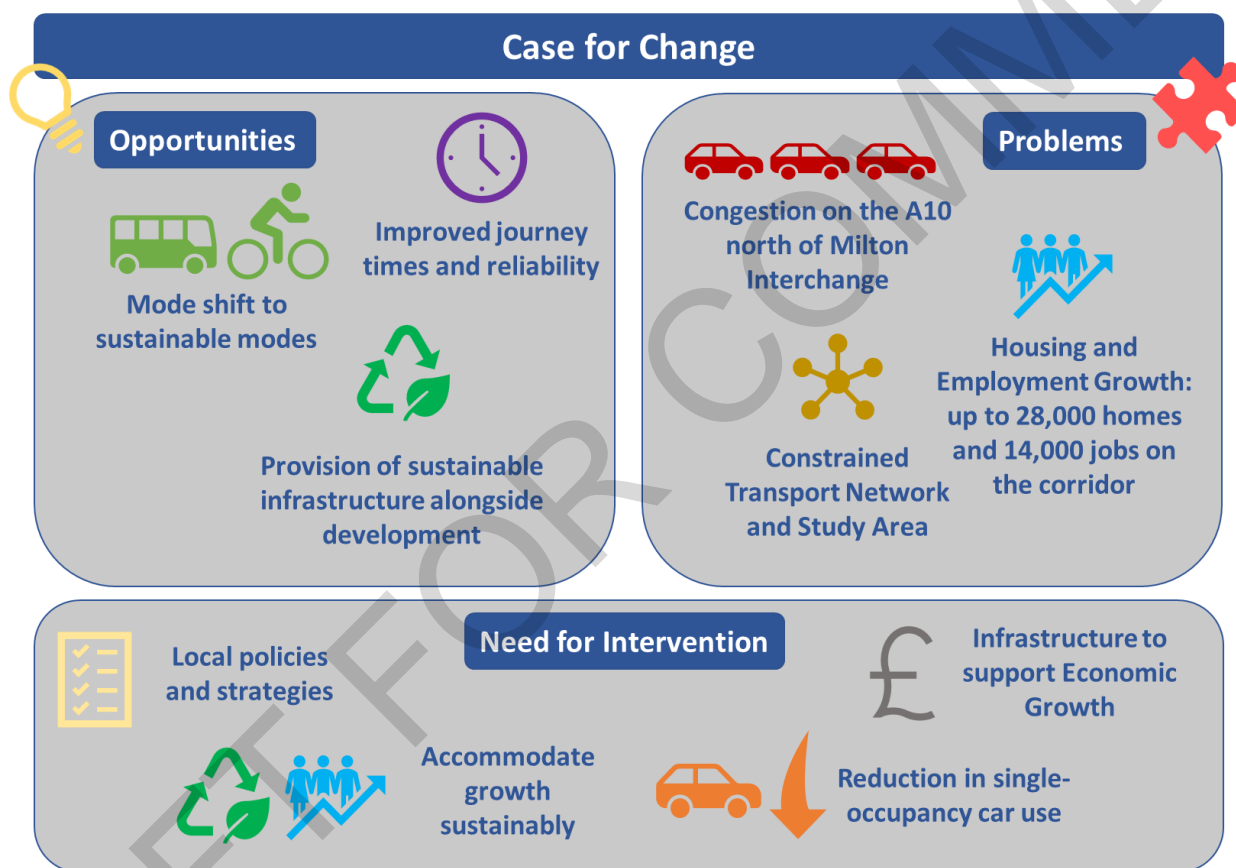
Introduction

This study explores options to deliver an effective public transport connection between Waterbeach New Town and North East Cambridge (NEC). This would allow new housing and jobs to be accommodated without increasing traffic levels within the Greater Cambridge area. The study demonstrates a need for a public transport route which ties-in with the emerging Cambridge Autonomous Metro (CAM) proposals and also provides better facilities for pedestrians and cyclists.

This document summarises the main findings of the study relating to identification and initial comparison of options (as set out in the 'Strategic Outline Business Case' or SOBC).

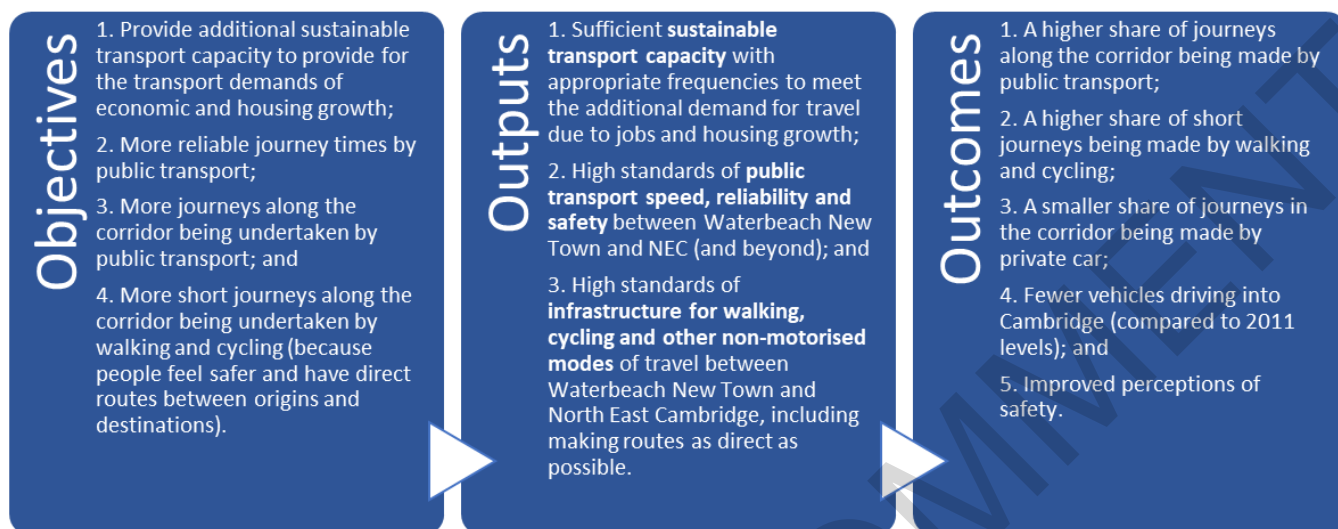
Case for change

The following diagram summarises the benefits which a new connection would bring and the problems it would help solve. It also shows how the new connection would help to achieve key policies and priorities.



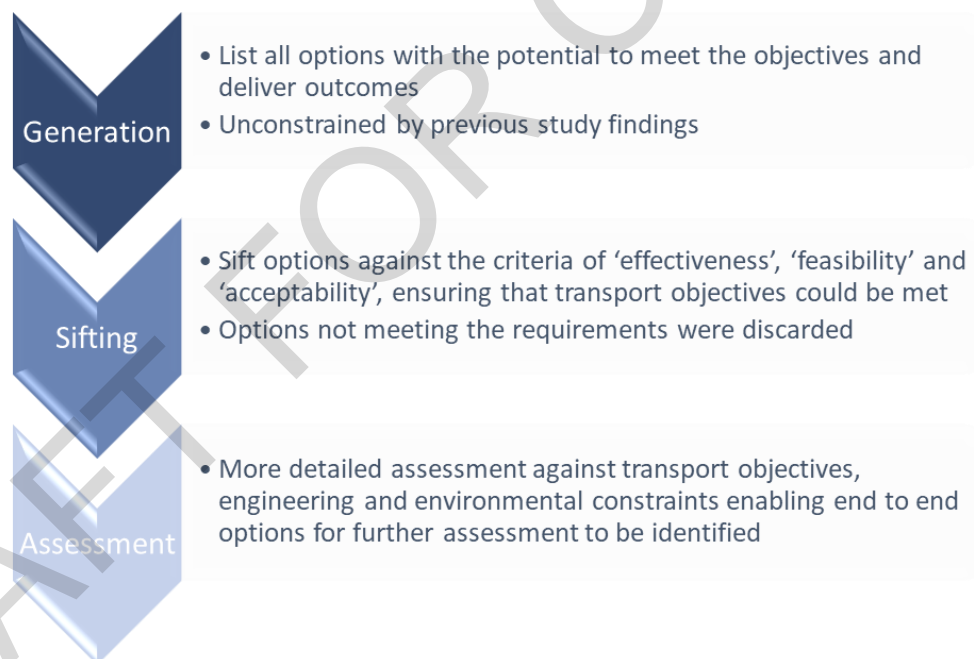
Scheme objectives and outcomes

The **objectives** of the proposed scheme are shown below, which were agreed based on the ‘case for change’ shown above. To help to identify and compare options, the ideal **outputs** of the scheme were also identified, as were the resulting **outcomes** which are sought.



Options

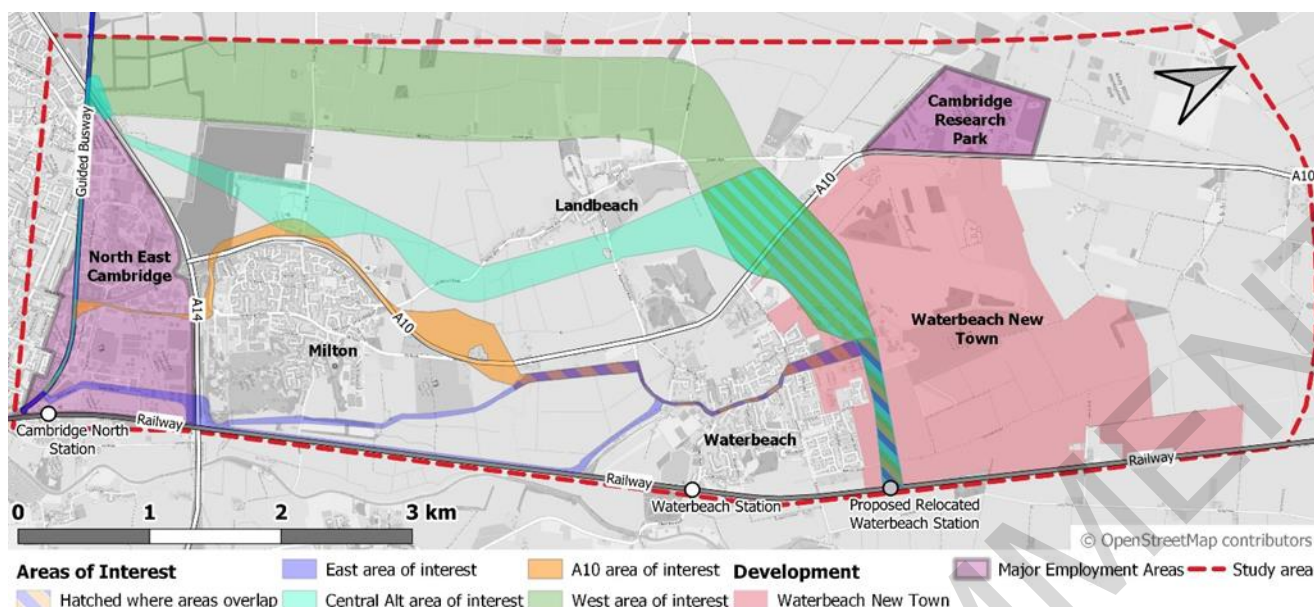
Options were identified and compared using the scheme objectives, outputs and outcomes in a three-stage process.



Comparison of the route options using a range of criteria identified the following as being most promising:

- **Western corridor (Green);**
- **Central alternative corridor¹ (Cyan);**
- **A10 corridor (Orange);** and
- **Eastern corridor (Blue).**

¹ The previous route of the Central corridor was amended following public consultation feedback and further technical assessment.



These options will now be taken forward to the Outline Business Case and Full Business Case and examined in more detail as part of the Business Case preparation process. This stage focusses on the need for new infrastructure, whereas future phases provide more detailed design and consider cost and impacts in closer detail.

What might the High Quality Public Transport infrastructure look like?

The project is still at an early stage, meaning the details of the what the corridor will look like have not yet been agreed. However, in broad terms it is envisaged that the route will be mainly a 'bus only road', wide enough to allow for two-way movement of public transport vehicles between Waterbeach and NEC. Where this is not possible, there would be some short sections on existing roads, depending on the route. A wide, well-lit, path for use by non-motorised users will be provided, set back from one or both sides of the bus only road.

New routes will be served by modern, electric vehicles to limit air pollution and noise and will be optically guided to maximise efficiency, speed and safety. The route will also be complemented by travel hubs to encourage park and ride journeys and end-to-end space for active travel options like walking and cycling.

An indicative typical cross-section of the corridor is shown below². Detailed designs for the routes will be prepared during future stages of the study, including for pinch points, such as where the route crosses the A14 where different cross-sections may be required.

How long will it take to get from Waterbeach New Town to North East Cambridge?

Based on some assumptions about the average speed of the public transport vehicles, the number of stops and so on, the journey time between Waterbeach New Town and Cambridge City Centre on a typical weekday morning peak has been estimated. For all four preferred route options, the public transport journey time is expected to be much less than the current (pre-COVID pandemic) bus journey time of around 45 minutes.

² Source: <https://www.greatercambridge.org.uk/transport/transport-projects/cambridgesoutheast/cambridge-south-east-transport-background> - The Waterbeach to North East Cambridge Public Transport Scheme is likely to be similar in design to that of the Cambridge South East Transit route.

Estimated journey times for each option

Option	Estimated journey time range
Western	14 to 15 minutes
Central Alternative	14 to 15 minutes
A10	12 to 13 minutes
Eastern	11 to 12 minutes

How many more people will use public transport as a result of the scheme?

All four corridor options are expected to increase the number of people using public transport and park and ride; and reduce the number of journeys made by car. Some options are expected to be better at encouraging more people to walk and cycle, because some options (Western and Eastern) run adjacent to either existing or planned walking and cycling routes, such as Mere Way or the proposed Waterbeach Greenway.

Change in the expected number of trips by different mode (07:00-19:00 in in 2036)

Mode of travel	Route options			
	Western corridor	Central Alternative	A10	Eastern
Car / van	-800	-1,900	-2,300	-950
Public transport	+500	+900	+550	+350
Park and ride	+800	2,450	+2,700	+1,100
Walking or cycling	-100	-100	+100	-150






















Value for money

The graphic below summarises the current estimates of the costs, benefits and overall value for money of the four corridor options. These values will be refined as the study looks at some options in more detail.

All options are expected to provide significant transport, environment and health benefits. The Western and Central Alternative corridors perform better because they are expected to generate more monetary benefits than their monetary costs; whereas A10 and Eastern corridor options are expected to generate benefits which are of lower value than their costs.

The benefits of the proposed scheme will be partly dependent on the number of new jobs and houses in the corridor in the future. This study has assumed that there will be high growth in the local area as a 'worst case scenario' for the local transport network. In the next phase of work, enhanced tools will also allow for more accurate forecasts of longer-term benefits; and resolution of uncertainties, such as the routing of the proposed A10 upgrade, will allow production of more accurate cost estimates.

Value for Money

<p>Costs £</p> <p>Infrastructure costs</p> <p>£43.5 million - £162.5 million</p> <p>Operation and Maintenance Costs</p> <p>£17.1 million - £23.3 million</p>	<table style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">  Greenhouse Gas benefits  Air quality and noise improvements </td> <td style="width: 33%;">  Social distributional benefits </td> <td style="width: 33%;">  Benefits Physical activity benefits where active travel infrastructure is provided </td> </tr> <tr> <td>  User benefits – journey time, vehicle operating cost, user charges </td> <td>  Journey quality benefits </td> <td>  Accident reduction benefits Up to 3,250 new public transport & Park and Ride trips </td> </tr> </table>	 Greenhouse Gas benefits  Air quality and noise improvements	 Social distributional benefits	 Benefits Physical activity benefits where active travel infrastructure is provided	 User benefits – journey time, vehicle operating cost, user charges	 Journey quality benefits	 Accident reduction benefits Up to 3,250 new public transport & Park and Ride trips
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Value for Money	£ benefits per £ spent	Value for Money
Western	1.135	Low
Central Alternative	1.134	Low
A10	0.619	Poor
Eastern	0.565	Poor

Funding

The current costs of construction for the four options are shown below. These are indicative costs based on the typical cross-section shown above and any associated structures (such as crossings over/under the A14).

Option	Western	Central Alternative	A10	Eastern
Capital Cost Estimate	£54.2 million	£55.4 million	£196.4 million	£47.8 million

Most of the scheme costs are expected to be met through the Greater Cambridge City Deal. City Deals provide a funding framework for central Government and local partners to agree investment programmes, centred on the promotion of local economic growth and development. Cambridgeshire County Council will be seeking to financial contributions from local developers to cover the remainder of the costs. The local developer contributions are dependent upon on-going negotiations and may vary between options.