



TRANSPORT & INFRASTRUCTURE COMMITTEE

Date: Wednesday, 04 November 2020

Democratic Services

Robert Parkin Dip. LG.
Chief Legal Officer and Monitoring Officer

10:00 AM

72 Market Street
Ely
Cambridgeshire
CB7 4LS

Due to Government guidance on social-distancing and the Covid-19 virus it will not be possible to hold physical meetings of the Combined Authority Board and the Combined Authority's Executive Committees for the time being. The Local Authorities and Police and Crime Panels (Coronavirus) (Flexibility of Local Authority and Police and Crime Panel Meetings) (England and Wales) Regulations 2020 allows formal local government meetings to be held on a virtual basis, without elected members being physically present together in the same place. Meetings will therefore be held on a virtual basis and the procedure is set out in the "Procedure for Combined Authority Virtual Decision-Making" which will be available to view at the foot of the meeting page under the "Meeting Documents" heading ahead of the meeting. That document will also contain a link which will allow members of the public and press to observe the virtual meetings.

[Venue Address]

AGENDA

Open to Public and Press

1- GOVERNANCE ITEMS

1.1 Apologies for absence and declarations of interest

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The Transport & Infrastructure Committee comprises the following members:

For more information about this meeting, including access arrangements and facilities for people with disabilities, please contact

The Combined Authority is committed to open government and members of the public are welcome to attend Committee meetings. It supports the principle of transparency and encourages filming, recording and taking photographs at meetings that are open to the public. It also welcomes the use of social networking and micro-blogging websites (such as Twitter and Facebook) to communicate with people about what is happening, as it happens.

Mayor James Palmer	
Councillor Ian Bates	
Councillor Peter Hiller	
Councillor Nicky Massey	
Councillor Jon Neish	
Cllr Joshua Schumann	
Cllr Chris Seaton	
Councillor Aidan Van de Weyer	
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CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY TRANSPORT AND INFRASTRUCTURE COMMITTEE: MINUTES

Date: Wednesday 9th September 2020

Time: 10.00am – 11.38am

Present: James Palmer (Mayor and Chairman), Councillors Ian Bates, Ryan Fuller, Peter Hiller, Nicky Massey, Chris Seaton, Joshua Schumann and Aidan Van de Weyer

Apologies: Councillor Jon Neish (Councillor Ryan Fuller substituting)

100. APOLOGIES AND DECLARATIONS OF INTERESTS

None received.

Members noted that Councillor Fuller would leave the meeting at 11.20am.

Councillor Schumann declared a non-pecuniary personal interest in agenda item 2.6 – Soham Railway Station Update as he was a trustee of a charity that was currently building a new theatre premises in Soham which was located close to the location of the new station.

101. MINUTES – 8TH JULY 2020

The minutes of the meeting held on 8th July 2020 were agreed as a correct record.

With regard to the minutes, the following points were raised:

- A Member sought clarity for when the timetable for the alternative route would be available to the Committee. The Mayor informed the Committee that work had been ongoing and was now able to take up a position as a non-voting Member on the Greater Cambridge Partnership (GCP) Executive Board. The Mayor would therefore propose at the next meeting of the GCP Executive Board that all parties work together. It was essential that the concerns of residents be listened to and the best solution be adopted. Officers further explained that discussions at an officer level were currently taking place with the GCP during which timescales were being addressed.
- Attention was drawn to the discussion that took place regarding the Jabobs review and how it had not taken account of all the amendments to the scheme and questioned when the updated version of the review would be made available to the GCP. In response, the Mayor emphasised the proactivity of the Combined Authority to find a solution through a combined working ethic at a political level with the GCP. In order for the transport system to work it had to join up through collaborative work. It was also essential not to repeat mistakes of the past where transport infrastructure

was rushed to meet the need of the Local Plan. Local Plans should be informed by the transport solutions. Cambridgeshire highways and transport had suffered due to the planning decisions being based on the need for housing rather than the need for transport. Have to be mindful not to rush through transport corridors to meet housing demand but to provide transport corridors that delivered sustainable housing growth.

102. COMBINED AUTHORITY FORWARD PLAN

It was resolved to note the Combined Authority's forward plan.

103. PUBLIC QUESTIONS

One public question was received. The question and response are published here: [T&I Public Questions and Responses](#)

104. COVID-19 TRANSPORT RESTART

The Committee received a report updating the Committee on how the transport system would be re-started following the COVID-19 restrictions.

The presenting officer highlighted the role of the Restart Group detailed in the report which brought together multiple stakeholders and had met weekly since June 2020. Although home-to-school transport was not within the remit of the group, close work had been undertaken with education teams to assist with the return of children to school.

The Committee was informed of the impact of COVID-19 on traffic levels across the Combined Authority area. Traffic had now returned to pre-pandemic levels and for many areas now exceeded pre-pandemic levels. However, traffic appeared to be more evenly spread throughout the day and 'rat-running' appeared to be less of an issue with people remaining on major routes.

With regard to pupils returning to schools, officers reported that there had been no significant issues reported.

Members noted that the Restart Group had worked closely with education teams and communications teams to encourage active travel. The Combined Authority was awarded £2.9m for active travel and it would be received in 2 tranches, both of which had been forwarded in advance of receipt to Peterborough City Council and Cambridgeshire County Council to avoid delay.

Members noted the comments of the Mayor who informed the Committee that he intended to write to the Secretary of State for Rail regarding cross-country routes due to issues regarding stops.

During discussion of the report Members:

- Expressed disappointment that the recent infrastructure upgrade did not mention the dualling of the A47 and drew attention to the serious incident that had occurred the day before resulting in the road being closed for approximately 8 hours. Officers informed the Committee they were equally disappointed that the A47 had not been included within the RIS 2 programme. Members noted the work that had been undertaken on the project to date. Dialogue with the Department for Transport would continue to develop the A47 outside of RIS 2. A report would be presented to the Committee and Combined Authority Board detailing the proposals in the future.
- Noted that Highways England had committed to undertake work on Guyhirn roundabout and requests had been made for an update regarding timescales. A contractor and designer had been appointed and survey work, both geographical and topographical had begun. When an update was received, officers undertook to inform Members of its content. **ACTION**
- Noted that schemes developed using the tranche 2 funding for active travel were due to be presented at Cambridgeshire County Council's Highways and Transport Committee on 15 September 2020 and illustrate how well all stakeholders had worked together.
- Expressed concern regarding the traffic data for major routes and sought greater clarity regarding the profile of journeys. Although congestion was not yet a significant issue, it would increase in the run up to Christmas and when people return to the office environment in large numbers. Officers informed the Committee that it was a standing item for the Restart Group where the data was discussed and interrogated at length. Data providers were being constantly challenged for how it could be better interrogated. Congestion was a key concern together with the prevention of traffic spilling into local routes. The continued infrastructure programme would address issues in the medium to long-term together with the measures set out in the report.

The Committee noted the Mayor's concern regarding the current usage of public transport and how essential it was for confidence to return. Following the success of the Government backed 'Eat Out to Help Out' scheme, the Mayor suggested whether a similar scheme could be brought forward by the Government for public transport.

It was resolved to:

Note the update and comment on priorities for further activity to restart the transport system.

105. BUS REFORM TASK FORCE

The Committee received a report that sought approval for modifications to the bus reform work programme to reflect the issues arising from the COVID-19 pandemic and also requested that a recommendation be made of the Combined Authority Board to approve the remaining £1.2m budget provision to fund short-term innovation trials to inform subsequent reform proposals. The presenting officer highlighted the current Government COVID-19 funding arrangements for buses that were due to expire in 8

weeks'. Such uncertainty resulted in it being very difficult to take a long-term view on bus reform.

During discussion of the report Members:

- Expressed concern regarding the level of engagement with Peterborough City Council. Officers reassured the Committee that the Combined Authority continued to work closely with Peterborough City Council and was liaising regularly with officers.
- Sought further information regarding the proposed modifications to the project plan mentioned at paragraph 2.13 of the officer report. Officers explained that the purpose of the Task Force was to bring forward ideas. One such idea was Demand Responsive Transport (DRT). There was constant engagement with the Government in order to receive all the assistance possible to re-energise the bus service.
- Emphasised the difficulties for bus companies operating during the pandemic and highlighted the community transport operators and the need to ensure that evaluation of alternative modes was carried out in a joined up way.
- Noted the comments of the Mayor regarding the need to encourage people out of their cars and onto alternative methods of transport. While people were still fearful of the COVID-19 virus it would be difficult and drew attention to the increased sales of second hand cars as evidence of the changed behaviour. There was also therefore a need alleviate congestion in order for buses to flow freely.

It was proposed by Councillor Bates and seconded by Councillor van de Weyer that the recommendation be moved.

It was unanimously resolved to:

- (a) Note the progress of the project to date;
- (b) Note that the COVID-19 emergency has reduced the predictability of the bus operating environment in Cambridgeshire and Peterborough;
- (c) Authorise the Director of Delivery and Strategy, in consultation with the Chair of the Transport and Infrastructure Committee, to amend the BRTF programme milestones to reflect the pace of recovery of the bus market; and
- (d) Recommend the Board to approve the remaining £1.2 million budget provision set out in the MTFP, to be used to fund short-term innovation trials to inform subsequent reform proposals, and to delegate the detailed allocation of the budget for trials to the Director of Delivery and Strategy in consultation with the Chair of the Committee, subject to reporting the detail back to future Committee meetings.

106. CAMBRIDGESHIRE AUTONOMOUS METRO – OUTLINE BUSINESS CASE NON-STATUTORY CONSULTATION SUMMARY REPORT

The Committee was presented a report regarding the Cambridgeshire Autonomous Metro (CAM) Outline Business Case non-statutory consultation and engagement activities undertaken between 21 February and 3 April 2020. The report provided a summary of the initial findings of the non-statutory consultation.

Commenting on the report, a Member highlighted the more positive responses to the consultation that were of interest. Commenting further, it was unclear the level of weight that could be placed on the support for the proposed locations and suggested further, more detailed, discussions regarding the timeline for the project.

It was proposed by Councillor Seaton and seconded by Councillor Schumann to move the recommendation.

It was resolved unanimously to:

- (a) Note the findings of the summary report; and
- (b) Approve its release to the CPCA Board.

107. TRANSFORMING CITIES FUND DELIVERY PLAN

Members received a report that informed the Committee of the Combined Authority's (CA) Transforming Cities Fund Delivery Plan 2019/20. The CA received devolved funding from the Department for Transport and formed part of the CA Investment Fund. Attached to the funding was a requirement for the submission of a report each year on the use of the funding.

Officers undertook to provide a table that illustrated how the projects matched the criteria. **ACTION**

It was unanimously resolved to:

Note the Transforming Cities delivery plan.

108. ENGLAND'S ECONOMIC HEARTLAND CONSULTATION

Members received a report that invited the Committee to advise the Combined Authority Board on the terms of a response to proposals made by England's Economic Heartland in recent consultation documents.

The presenting officer drew Members' attention to the revised recommendations that were published following the publication of the report, together with the five priorities of

the England's Economic Heartland Strategy contained at paragraph 2.6 that broadly aligned strategically with those of the Combined Authority.

During discussion of the report:

- A Member questioned the need for an additional tier of transport authority given the Government's desire to reduce layers of government. In response, the Mayor explained that there were areas that could deliver a transport solution that Cambridgeshire sat between. The Combined Authority had transport powers, and if there was potential to link the east of England with the economic heartland area there was opportunity to create something exceptional. The Mayor had encouraged Norfolk, Suffolk and Essex to join a single scheme and it was anticipated in time that there would be a single route across the central belt of the UK.
- A Member commented that the Government's ambition was for such bodies to be established in order they can undertake large scale strategic work with established organisations. There was a need to be as constructive as possible at this stage of the process as there were significant advantages to being a part of it. Furthermore, the economy of Cambridgeshire was already well integrated with the economic heartland area.

It was proposed by Councillor Bates and seconded by Councillor Schumann that the recommendation be moved. Councillor Fuller and Hiller left the meeting and did not take part in the vote.

It was resolved [5 votes in favour: 0 against: 1 abstention] to:

- (a) Advise the Combined Authority Board the terms of the public consultation response to the England Economic Heartland's (EEH) Transport Strategy and proposal for a sub- national transport body attached at Appendix 1; and

109. SOHAM RAILWAY STATION UPDATE

The Committee received a report that provided an update regarding the Soham Railway Station project. In presenting the report officers highlighted how the delivery of the station would support economic and housing growth for Soham. Work had also commenced on the rail works and completion of the scheme was planned for October 2021 in readiness for timetabling and the new station would be completed in December 2021.

Members noted the comments of Councillor Schumann, as the former County Councillor for Soham welcomed the progress that had been made and that the station would be delivered ahead of schedule. Councillor Schumann drew attention to the history of the station during World War 2 and its eventual demise following the Beeching Report, released in 1963. The station was vital for continued growth in the area and promoted sustainable travel.

The Mayor drew attention to the Combined Authority's ambition for Wisbech Rail, a station at Sawston and the overall commitment to rail transport. The Mayor concluded

by highlighting the role of Newmarket and although it was not within the Combined Authority's area, discussions were taking place to bring forward improvements.

It was resolved unanimously to:

- (a) Note that work has begun on site at Soham Railway Station; and
- (b) Note that Network Rail are indicating that the project can be completed 5 months earlier than originally planned.

110. PERFORMANCE AND FINANCE REPORT

The Committee received the Performance and Finance report. Members noted the current 'favourable' variance against the budget for the financial year of £112,000.

Officers undertook to provide a briefing regarding the project to regenerate Fenland Stations as it was marked 'red' in the performance report. **ACTION.**

It was resolved unanimously to:

- (a) Note the September budget and performance monitoring update; and
- (b) Note the current Medium Term Financial Plan and consider whether there are any recommendations members wish to make to the Combined Authority Board.

111. DATE OF NEXT MEETING

It was resolved to note the date of the next meeting of the Combined Authority Transport and Infrastructure Committee – Wednesday 4th November 2020

Chairman



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

JAMES PALMER
CAMBRIDGESHIRE &
PETERBOROUGH MAYOR

Cambridgeshire and Peterborough Combined Authority Forward Plan of Executive Decisions

Published Friday 16 October 2020
Updated 26 October 2020

Purpose

The Forward Plan sets out all of the decisions which the Combined Authority Board and Executive Committees will be taking in the coming months. This makes sure that local residents and organisations know what decisions are due to be taken and when.

The Forward Plan is a live document which is updated regularly and published on the [Combined Authority website](#) (click the Forward Plan' button to view). At least 28 clear days' notice will be given of any key decisions to be taken.

What is a key decision?

A key decision is one which, in the view of the Overview and Scrutiny Committee, is likely to:

- i. result in the Combined Authority spending or saving a significant amount, compared with the budget for the service or function the decision relates to (usually £500,000 or more); or
- ii. have a significant effect on communities living or working in an area made up of two or more wards or electoral divisions in the area.

Non-key decisions and update reports

For transparency, the Forward Plan also includes all non-key decisions and update reports to be considered by the Combined Authority Board and Executive Committees.

Access to reports

A report will be available to view online one week before a decision is taken. You are entitled to view any documents listed on the Forward Plan after publication, or obtain extracts from any documents listed, subject to any restrictions on disclosure. There is no charge for viewing the documents, although charges may be made for photocopying or postage. Documents listed on this notice can be requested from Robert Parkin, Chief Legal Officer and Monitoring Officer for the Combined Authority at Robert.Parkin@cambridgeshirepeterborough-ca.gov.uk.

The Forward Plan will state if any reports or appendices are likely to be exempt from publication or confidential and may be discussed in private. If you want to make representations that a decision which it is proposed will be taken in private should instead be taken in public please contact Robert Parkin, Chief Legal Officer and Monitoring Officer at Robert.Parkin@cambridgeshirepeterborough-ca.gov.uk at least five working days before the decision is due to be made.

Notice of decisions

Notice of the Combined Authority Board's decisions and Executive Committee decisions will be published online within three days of a public meeting taking place.

Standing items at Executive Committee meetings

The following reports are standing items and will be considered by at each meeting of the relevant committee. The most recently published Forward Plan will also be included on the agenda for each Executive Committee meeting:

Housing and Communities Committee

1. £100m Affordable Housing Programme Update
2. £70m Cambridge City Council Affordable Housing Programme: Update
3. £100k Homes and Community Land Trusts Update

Skills Committee

1. Budget and Performance Report
2. Employment and Skills Board Update

Transport and Infrastructure Committee

1. Budget Monitor Update
2. Performance Report

Transport and Infrastructure Committee – 4 November 2020

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
1.	Fenland Regeneration Stations	Transport and Infrastructure Committee	4 November 2020	Decision	To receive an update.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.
2.	Local Transport Plan CAM Sub Strategy	Transport and Infrastructure Committee	4 November 2020	Decision	To consider the outcomes of the consultation and to make recommendations on the adoption of the Local Transport Plan CAM Sub Strategy to the Combined Authority Board.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
3.	CAM Metro Programme Update	Transport and Infrastructure Committee	4 November 2020	Decision	To provide an update on the progress of the project.	Relevant internal and external stakeholders	Kim Sawyer Chief Executive	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
4.	A47 Dualling	Transport and Infrastructure Committee	4 November 2020	Decision	To provide an update on the A47 Dualling project and next steps.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
5.	March Area Transport Study	Transport and Infrastructure Committee	4 November 2020	Decision	To summarise work on the March Area Transport Study	Relevant internal and external stakeholders	Paul Raynes Director of	Mayor James Palmer	It is not anticipated that there will be any

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					Quick Win Programme to date, consider a recommendation to approve a budget to construct the programme of Quick Wins as part of the March Area Transport Strategy and make recommendations to the Combined Authority Board.		Delivery and Strategy		documents other than the report and relevant appendices to be published.
6.	Coldhams Lane Roundabout	Transport and Infrastructure Committee	4 November 2020	Decision	To provide an update and an assessment on what partner funding contribution opportunities may be available to support greater	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					enhancements at Coldhams Lane Roundabout. Also to present updated designs, costs and programme for consultation.				appendices to be published.
7.	Cambridge South East Transport Better Public Transport and Active Travel Consultation	Transport and Infrastructure Committee	4 November 2020	Decision	To provide details of consultation.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
8.	New Peterborough Bus Service and other Bus Projects	Transport and Infrastructure Committee	4 November 2020	Decision	To provide details of consultation.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
									relevant appendices to be published.

Housing and Communities Committee – 9 November 2020

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
9.	£100m Affordable Housing Programme Scheme Approvals – November 2020	Housing and Communities Committee	9 November 2020	Key Decision 2020/062	To consider and approve allocations to new schemes within the £100m Affordable House Programme	Relevant internal and external stakeholders	Roger Thompson, Director of Housing and Development	Councillor Chris Boden Lead Member for Housing	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
10.	Housing Market Assessment – Geographical Challenges	Housing and Communities Committee	9 November 2020	Decision	To receive an update on the study into the Housing Needs of Specific Groups commissioned by the local authorities.	Relevant internal and external stakeholders	Roger Thompson, Director of Housing and Development	Councillor Chris Boden Lead Member for Housing	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

Skills Committee – 9 November 2020

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
11.	Kickstart Scheme	Skills Committee	9 November 2020	Decision	To consider mobilisation plans for the Kickstart Scheme to enhance job	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich	It is not anticipated that there will be any documents

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					creation in Cambridgeshire and Peterborough and make recommendations to the Combined Authority Board.			Lead Member for Economic Growth & Lead Member for Skills	other than the report and relevant appendices to be published.
12.	Local Economic Recovery Strategy Update	Skills Committee	9 November 2020	Decision	To review the Local Economic Recovery Strategy with further evidence-based insight.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Economic Growth & Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
13.	Lifetime Skills Guarantee and Post-16 Education	Skills Committee	9 November 2020	Decision	To provide an update on recent government funding developments and the	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for	It is not anticipated that there will be any documents other than

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					Combined Authority's engagement to either administer or facilitate the schemes locally.			Economic Growth & Lead Member for Skills	the report and relevant appendices to be published.

Combined Authority Board – 25 November 2020

Governance Items

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
14.	Minutes of the meeting on 28 October 2020	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To approve the minutes of the previous meeting.	Relevant internal and external stakeholders	Richenda Greenhill Democratic Services Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
									and relevant appendices.
15.	Forward Plan	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To approve the latest version of the forward plan.	Relevant internal and external stakeholders	Robert Parkin Chief Legal Officer and Monitoring Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.
16.	Appointment of Chief Executive of OneCAM Ltd	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To appoint the Chief Executive of OneCAM Ltd	Relevant internal and external stakeholders	Kim Sawyer Chief Executive	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
17.	Budget Monitor Update	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To provide an update on the revenue and capital budgets for the year to date	Relevant internal and external stakeholders	Jon Alsop Section 73 Chief Finance Officer	Councillor Steve Count Lead Member for Investment and Finance	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
18.	Draft 2021-22 Budget and Medium Term Financial Plan to 2024-25 for public consultation	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To approve the Draft Budget for 2021/22 and the Medium Term Financial Plan to 2024/25 for consultation purposes and approve the timetable for consultation and those to be consulted.	Relevant internal and external stakeholders	Jon Alsop Section 73 Chief Finance Officer	Councillor Steve Count Lead Member for Investment and Finance	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Mayoral decision

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
19.	Allocation of Additional funds to Highways Agencies	Mayor James Palmer	25 November 2020	Key decision 2020/080	To consult the Board and allocate pothole grants, Challenge Fund and Home to School Transport Funds to Cambridgeshire County Council and Peterborough City Council to meet expenditure incurred by them as Highways Authorities.	Relevant internal and external stakeholders	Jon Alsop Section 73 Chief Finance Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Combined Authority Decisions

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
20.	CAM Special Purpose Vehicle – Budget Update and Award of the CAM Conceptual Design Contract	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/068	To provide an update on the progress of the project (including the procurement) and budget, and seek approval to award the CAM Conceptual Design Contract.	Relevant internal and external stakeholders	Kim Sawyer Chief Executive	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
21.	Fengate Phase 1	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/079	To summarise the outcome of the Strategic Outline Business Case and seek approval for funding to commence the Full Business Case and detailed design.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
22.	Wisbech Rail	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To provide an update on the progress of Wisbech Rail and next steps.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
23.	Market Towns Programme Investment Prospectus – Approval of Second Tranche of Recommended Projects [May contain exempt appendices]	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/042	To approve the second tranche of recommended projects under the Market Towns Programme Investment Prospectus.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

By recommendation to the Combined Authority Board

Recommendations from the Transport and Infrastructure Committee

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
24.	Fenland Regeneration: Stations	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/063	To consider the outcomes of the business case and proposals to approve the drawdown of budget to proceed to the next stage.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
25.	Local Transport Plan CAM Sub Strategy	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/074	To consider the outcomes of the consultation and recommendations regarding the adoption of the Local Transport Plan CAM Sub Strategy.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
26.	March Area Transport Study	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/075	To consider a recommendation to approve a budget to construct the	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					programme of Quick Wins as part of the March Area Transport Strategy.				report and relevant appendices to be published.
27.	A47 Dualling	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To provide and update on the A47 Dualling project and next steps.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Recommendations from the Business Board

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
28.	Local Growth Fund Programme Management November 2020	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/060	To review the Local Growth Fund budget and amend as required.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
29.	Growth Deal Project Proposals November 2020	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/069	To review and approve the recommendations from the Business Board for individual project funding.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
30.	Local Economic Recovery Strategy Update	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Decision	To update members on the latest version of the Local Economic Recovery Strategy following further evidence-based insight.	Relevant internal and external stakeholders including Skills Committee	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
31.	2020-21 Business Board Annual Report and Delivery Plan	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	To note	To note the Business and Skills Annual Report and Delivery Plan.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
32.	iMET Project Local Growth Fund Recovery [May contain exempt appendices]	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/078	To approve recommendations for the recovery of Local Growth Funding from the iMET project.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
33.	Kickstart Scheme	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/066	To approve mobilisation Plans for the Kickstart Scheme to enhance job creation in Cambridgeshire and Peterborough.	Relevant internal and external stakeholders including the Skills Committee	John T Hill Director of Business and Skills	Austen Adams Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Transport and Infrastructure Committee 6 January 2021

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
34.	A16 Norwood Improvements	Transport and Infrastructure Committee	6 January 2021	Decision	To provide a summary of the outcomes of the Strategic Outline Business Case and seek the approval of the Combined Authority Board to proceed to Outline Business Case.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Housing and Communities Committee 11 January 2021

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
35.	The role of the Housing & Communities Committee in relation to tourism	Housing and Communities Committee	11 January 2021	Decision	To clarify the role of the Committee in relation to tourism.	Relevant internal and external stakeholders	Roger Thompson Director of Housing and Development	Councillor Chris Boden Lead Member for Housing	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Skills Committee 11 January 2021

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
36.	Adult Education Budget Annual Review	Skills Committee	11 January 2021	Decision	To update Members following the first year of local delivery of the Adult Education Budget.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
37.	Local Economic Recovery Strategy: Updated refresh	Skills Committee	11 January 2021	Decision	To update Members on the latest version of the Local Economic Recovery Strategy following further evidence-based insight.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
38.	Business Growth Service Mobilisation Update	Skills Committee	11 January 2021	Decision	To update Members on progress made with mobilising the Business Growth Service.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
39.	University of Peterborough Update	Skills Committee	11 January 2021	Decision	To provide an update on progress on the University of Peterborough.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
									appendices to be published.
40.	University of Peterborough Phase 2: Incorporation of PropCo2 [May contain exempt appendices]	Skills Committee	11 January 2021	Decision	To consider proposals for the incorporation of PropCo2 for the University of Peterborough and make recommendations to the Combined Authority Board.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Economic Growth & Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
41.	Insight & Evaluation Programme – Local Industrial Strategy and Strategy Refresh Update	Skills Committee	11 January 2021	Decision	To update Members on progress with the strategy refresh and updating of the Local Industrial Strategy.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
42.	Adult Education Budget	Skills Committee	11 January 2021	Decision	To update members on the Adult Education	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
	Innovation Fund Update				Budget Innovation Fund.				than the report and relevant appendices to be published.
43.	Skills Dashboard Update	Skills Committee	11 January 2021	Decision	To provide Members with an update on the Skills Dashboard.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Combined Authority Board – 27 January 2021

Governance items

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
44.	Minutes of the meeting on 2 November 2020	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve the minutes of the previous meeting.	Relevant internal and external stakeholders	Richenda Greenhill, Democratic Services Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.
45.	Forward Plan	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve the latest version of the forward plan.	Relevant internal and external stakeholders	Robert Parkin Chief Legal Officer and Monitoring Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices.
46.	Budget Monitor Update	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To provide an update on the revenue and capital budgets for	Relevant internal and external stakeholders	Jon Alsop Section 73 Chief Finance Officer	Councillor Steve Count Lead Member for	It is not anticipated that there will be any documents other than the report and

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
					the year to date			Investment and Finance	relevant appendices to be published.
47.	Performance Report	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To provide performance reporting updates.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
48.	Mayor's Budget 2021/22	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Key Decision 2020/070	To request the Combined Authority approve the Mayor's draft budget for 2021-22.	Relevant internal and external stakeholders	Jon Alsop Section 73 Chief Finance Officer	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
49.	2021-22 Budget and Medium Term	Cambridgeshire and Peterborough	27 January 2021	Key Decision 2020/071	To approve the revenue budget for	Relevant internal and	Jon Alsop Section 73 Chief	Councillor Steve Count	It is not anticipated that there will be

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
	Financial Plan to 2024-25	Combined Authority Board			2021/22 and the Medium-Term Financial Plan to 2024/25 and approve the capital programme 2021/22 to 2024/25	external stakeholders	Finance Officer	Lead Member for Investment and Finance	any documents other than the report and relevant appendices to be published.

Combined Authority Decisions

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
50.	£100m Affordable Housing Programme (Non-grant) January 2020	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Key Decision 2020/073	To request Board approval of scheme/s that form a part of and will require an investment from the £40m revolving fund.	Relevant internal and external stakeholders	Roger Thompson Director of Housing and Delivery	Councillor Chris Boden Lead Member for Housing	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
51.	Proposed Loan to Laragh Homes	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Key Decision 2020/072	To consider granting a loan to Laragh Homes of up to £10m.	Relevant internal and external stakeholders	Roger Thompson Director of Housing and Delivery	Councillor Chris Boden Lead Member for Housing	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

By recommendation to the Combined Authority

Recommendations from the Transport and Infrastructure Committee

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
52.	A16 Norwood Improvements	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To provide a summary of the outcomes of the Strategic Outline Business Case and seek approval to proceed to Outline Business Case.	Relevant internal and external stakeholders	Paul Raynes Director of Delivery and Strategy	Mayor James Palmer	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Recommendations from the Skills Committee

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
53.	University of Peterborough Update	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To provide an update on progress on the University of Peterborough.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
54.	University of Peterborough Phase 2: Incorporation of PropCo2 [May contain exempt appendices]	Cambridgeshire and Peterborough Combined Authority Board	25 November 2020	Key Decision 2020/076	To approve the incorporation of PropCo2 for the University of Peterborough.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Economic Growth & Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

Recommendations from the Business Board

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
55.	Local Growth Fund Programme Management Review January 2020	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Key Decision 2020/077	To review the Local Growth Fund budget and amend as required.	Relevant internal and external stakeholders including Skills Committee	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
56.	Local Economic Recovery Strategy: Updated refresh	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve the updated refresh of the Local Economic Recovery Strategy for Cambridgeshire and Peterborough.	Relevant internal and external stakeholders including Skills Committee	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
								Economic Growth	
57.	Local Assurance Framework Annual Review	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve updates to the Local Assurance Framework.	Relevant internal and external stakeholders including Skills Committee	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published
58.	Local Enterprise Partnership Partnering Strategy – 2021 Update	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve the Local Enterprise Partnership Partnering Strategy	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
								Economic Growth	
59.	Coterminous and Strategic Partnership Agreements Update	Cambridgeshire and Peterborough Combined Authority Board	27 January 2021	Decision	To approve Memorandums of Understanding with the remaining seven neighbouring Local Enterprise Partnerships.	Relevant internal and external stakeholders	John T Hill, Director of Business & Skills	Austen Adams, Chair of the Business Board Councillor John Holdich Lead Member for Economic Growth	It is not anticipated that there will be any documents other than the report and relevant appendices to be published

Skills Committee – 15 March 2021

	Title of report	Decision maker	Date of decision	Decision required	Purpose of report	Consultation	Lead officer	Lead Member	Documents relevant to the decision submitted to the decision maker
60.	Sector-Based Work Academies and High Value Courses Update	Skills Committee	15 March 2021	Decision	To update Members on Sector-Based Work Academies and High Value Courses.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.
61.	National Retraining Scheme Pilot	Skills Committee	15 March 2021	Decision	To update Members on progress with the National Retraining Scheme Pilot.	Relevant internal and external stakeholders	John T Hill Director of Business and Skills	Councillor John Holdich Lead Member for Skills	It is not anticipated that there will be any documents other than the report and relevant appendices to be published.

How to send your comments or queries about the Forward Plan to Cambridgeshire and Peterborough Combined Authority

Please send your comments or queries to Robert Parkin, Chief Legal Officer and Monitoring Officer, at Robert.Parkin@cambridgeshirepeterborough-ca.gov.uk . We need to know:

1. Your comment or query:
2. How can we contact you with a response (please include your name, a telephone number and your email address).
3. Who you would like to respond to your query.

TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.1
4th November 2020	PUBLIC REPORT

BUDGET AND PERFORMANCE UPDATE

1.0 PURPOSE

- 1.1. This report provides the regular budget and performance reporting to the Transport and Infrastructure Committee.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Director of Delivery and Strategy
Forward Plan Ref:	Key Decision: No
<p>The Transport and Infrastructure Committee is recommended to:</p> <p>(a) Note the November budget and performance monitoring update</p>	<p>Voting arrangements</p> <p>Simple majority</p>

2.0 BACKGROUND

- 2.1. The Combined Authority Board has decided that budget and performance reporting should be seen in the round.
- 2.2. At its January 2020 meeting, the Combined Authority Board approved a new Business Plan and Medium-Term Financial Plan (MTFP), including Revenue and Capital projects for 2020/21. This report presents the progress made against these budgets along with any changes in line with subsequent Executive Committee and Board decisions.

3.0 BUDGET

Revenue Budget

3.1. The Revenue position for the Transport programme, for the 6-month period to 30th September 2020, is set out in the table below:

Delivery and Strategy	Budget				Year to-date	Whole Year		
	August Budget £'000	Sept Board Approvals £'000	Adjustments £'000	Revised Budget £'000	Actuals £'000	Forecast Outturn £'000	Change in FO £'000	FO Variance £'000
A10 Dualling SOBC	297.1			297.1	180.5	185.1	-	(112.0)
A141 Huntingdon SOBC	350.0			350.0	-	250.0	(100.0)	(100.0)
Bus Review Implementation	644.0	1,200.0		1,844.0	116.3	1,844.0	1,200.0	-
Bus Service Subsidisation	245.0			245.0	-	245.0	-	-
CAM Metro OBC	1,356.4			1,356.4	1,340.0	1,356.4	-	-
CAM SPV Setup	2,691.5	4,223.7		6,915.2	1,821.3	6,915.2	4,223.7	-
COVID Bus Service Support Grant	439.5			439.5	374.0	439.5	-	-
Schemes and Studies	100.0			100.0	3.3	100.0	-	-
Sustainable Travel	150.0			150.0	60.1	150.0	-	-
Transport Levy	12,347.6			12,347.6	6,173.8	12,347.6	-	-
Total Transport	18,621.1	5,423.7	-	24,044.8	10,069.2	23,832.8	5,323.7	(212.0)

3.2. A10 Dualling (SOBC) - £112,000 saving from the budget was made possible because the project was procured and has been managed internally by CPCA, thus saving on external project management costs.

3.3. A141 Huntingdon (SOBC) - £350,000 was approved by the Board at its August meeting. It is expected to complete in Summer 2021 and therefore the budget will be split between the two financial years. The procurement exercise has been completed and Atkins have been appointed and work has commenced.

3.4. Bus Review Implementation - £1,200,000 was approved by the Board in September to fund short term innovation trials to inform subsequent reform proposals. The bus reform project identifies ways to deliver improved bus services within the Authority's area. The Covid-19 crisis has had a very significant impact on the bus market and on 9 September 2020 the Transport and Infrastructure Committee approved proposals to amend the Bus Reform Task Force programme milestones to reflect the pace of recovery of the bus market.

3.5. CAM Special Purpose Vehicle (SPV) Setup – Additional budget was approved by the Board at its September meeting to complete the Delivery Strategy by the Deloitte Client Side Advisory (CSA) team. Whilst CPCA is building up internal resource within the CAM SPV, the Deloitte CSA team will continue to support the CPCA in advancing the programme at pace. This team will be focused on overseeing and coordinating all workstreams across the CAM programme, while setting up the programme for transition from the CPCA to the SPV.

Capital Budget

3.6. The capital position for Transport for the 6-month period to 30th September 2020, is set out in the table below.

	Budget				Year to-date	Whole Year		
	August Budget £'000	Sept Board Approvals £'000	Adjustments £'000	Revised Budget £'000	Actuals £'000	Forecast Outturn £'000	Change in FO £'000	FO Variance £'000
A10 Dualling OBC	-	2,000.0		2,000.0	-	500.0	500.0	(1,500.0)
A1260 Nene Parkway Junction 15	653.8			653.8	31.4	653.8	-	-
A1260 Nene Parkway Junction 32/3	517.0			517.0	62.3	517.0	-	-
A141 capacity enhancements	978.0			978.0	161.0	978.0	-	-
A16 Norwood Dualling	61.0			61.0	57.8	61.0	-	-
A47 Dualling	40.0			40.0	53.4	53.4	13.4	13.4
A505 Corridor	422.0			422.0	185.0	272.0	-	(150.0)
A605 Oundle Rd Widening - Alwalton-Lynch Wood	792.5			792.5	792.5	792.5	-	-
A605 Stanground - Whittlesea	1,110.2			1,110.2	185.3	1,110.2	-	-
Active Travel Grant payments to Highways Authorities	2,942.4			2,942.4	2,942.4	2,942.4	-	-
CAM SPV Investment	1,995.0			1,995.0	-	1,995.0	-	-
Cambridge South Station	385.3			385.3	-	385.3	-	-
Coldhams Lane roundabout improvements	409.1			409.1	87.9	409.1	-	-
Ely Area Capacity Enhancements	2,163.3			2,163.3	554.6	2,163.3	-	-
Fengate Access Study - Eastern Industries Access - Phase 1	344.1			344.1	5.1	74.1	24.0	(270.0)
Fengate Access Study - Eastern Industries Access - Phase 2	146.6			146.6	101.1	146.6	-	-
Highways Maintenance (with PCC and CCC)	23,080.0			23,080.0	11,962.2	23,080.0	-	-
King's Dyke	8,619.8			8,619.8	2,815.0	9,360.3	740.4	740.4
Lancaster Way	2,633.5			2,633.5	633.3	2,633.5	-	-
March Junction Improvements	1,736.8			1,736.8	168.4	1,736.8	-	-
Regeneration of Fenland Railway Stations	1,707.5			1,707.5	104.0	1,707.5	-	-
Soham Station	5,736.7			5,736.7	1,761.6	5,619.4	-	(117.3)
Wisbech Access Strategy	5,494.5			5,494.5	456.1	5,494.5	-	-
Wisbech Rail	341.4			341.4	322.9	341.4	-	-
Transport Total	62,310.6	2,000.0	-	64,310.6	23,443.3	63,027.1	1,277.8	(1,283.5)

3.7. A10 Dualling (OBC) - £2,000,000 was approved by the Board at its September meeting and will be delivered over two financial years, subject to further funding confirmation from DfT.

3.8. A505 Corridor Royston to Granta Park – This pre-SOBC stage is due to complete in November with a potential saving of £150,000. A further update will be provided at a future Committee and Board.

3.9. Fengate Access Study Phase 1 – This SOBC stage has now been completed and is being independently reviewed with a potential saving of £270,000.

3.10. King's Dyke – This project is progressing well, on time and to overall budget. The team and on-site contractor have made efficiencies in one sector and are accelerating work in another sector to try and maximise these efficiencies.

3.11. Soham Station – This project is also progressing ahead of timeline and is expected to be delivered earlier than planned. Whilst efficiencies have been identified the budget will need to be carried forward into the future years until the project is complete.

Changes to the Subject to Approval Budget

3.12. The table below shows the change in requirements to the Subject to Approval budget:

		Subject to Approval budget				Changes in requirements				Revised Subject to Approval budget			
		2020-21	2021-22	2022-23	2023-24	2020-21	2021-22	2022-23	2023-24	2020-21	2021-22	2022-23	2023-24
Revenue	Local Transport Plan	-	100.0	-	-	-	-	-	-	-	100.0	-	-
Capital	Kings Dyke	2,100.0	-	-	-	-	-	-	-	2,100.0	-	-	-
	Regeneration of Fenland Railway Station	874.0	1,059.0	-	-	-	-	-	-	874.0	1,059.0	-	-
	Wisbech Rail	987.6	2,000.0	3,000.0	5,000.0	-	-	-	-	987.6	2,000.0	3,000.0	5,000.0
	A16 Norwood Dualling	320.0	730.0	12,000.0	-	-	-	-	-	320.0	730.0	12,000.0	-
	A141 Capacity Enhancements	-	650.0	5,000.0	3,000.0	-	-	-	-	-	650.0	5,000.0	3,000.0
	A1260 Nene Parkway J15	-	7,754.6	-	-	-	-	-	-	-	7,754.6	-	-
	A1260 Nene Parkway J32-3	4,030.1	3,500.0	-	-	-	-	-	-	4,030.1	3,500.0	-	-
	CAM Innovation Co. Set-up	-	1,000.0	-	-	-	-	-	-	-	-	-	-
	CAM Delivery to OBC	-	5,000.0	5,000.0	5,000.0	-	-	-	-	-	-	-	-
	CAM FBC Preparation	-	-	1,500.0	1,500.0	-	-	-	-	-	-	-	-
	Coldhams Land Roundabout	700.0	1,500.0	-	-	-	-	-	-	700.0	1,500.0	-	-
	Lancaster Way Phase 2	1,168.2	-	-	-	-	-	-	-	1,168.2	-	-	-
	Ely Area Capacity Enhancement	4,141.4	-	-	-	(4,141.4)	-	-	-	-	-	-	-
	Fengate access 1	1,000.0	4,890.0	-	-	-	-	-	-	1,000.0	4,890.0	-	-
	Fengate access 2	120.0	700.0	1,280.0	-	-	-	-	-	120.0	700.0	1,280.0	-
	March Junc Improvements	2,198.0	1,550.0	-	-	-	-	-	-	2,198.0	1,550.0	-	-
	Wisbech Access Strategy	930.0	3,000.0	-	-	-	-	-	-	930.0	3,000.0	-	-
Total required capital budget		18,569.3	33,333.6	27,780.0	14,500.0	(4,141.4)	-	-	-	14,427.9	27,333.6	21,280.0	8,000.0

3.13. Ely Area Capacity Enhancements – Future phase is funded by the DfT and therefore the CPCA Subject to Approval budget is no longer required.

4.0 PERFORMANCE REPORTING

4.1. The Cambridgeshire and Peterborough Devolution Deal is about delivering better economic outcomes for the people of our area and commits us to specific results. The Combined Authority needs to monitor how well it is doing that.

4.2. Appendix 1 shows the Transport Performance Dashboard. It includes an update on delivery against the following growth outcomes set by the Devolution Deal, which are reported to the Combined Authority Board:

- Prosperity (measured by Gross Value Added (GVA))
- Housing
- Jobs

Appendix 2 includes indicators relating to the Transport programme chosen by the Committee, to supplement the corporate headline indicators.

4.3. Also provided is the RAG status of projects within the Transport portfolio. These are based on the September reporting month.

5.0 FINANCIAL IMPLICATIONS

5.1. There are no other financial implications other than those included in the main body of the report.

6.0 LEGAL IMPLICATIONS

6.1. No significant legal implications.

7.0 SIGNIFICANT IMPLICATIONS

7.1. There are no other significant implications.

8.0 APPENDICES

8.1. Appendix 1 and 2 – Transport Performance Dashboard

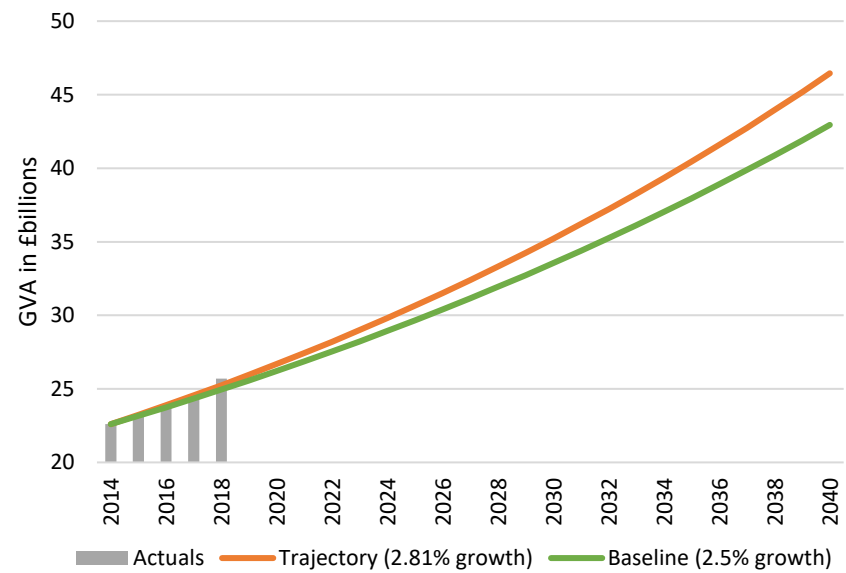
8.2. Appendix 2 – Transport Programme Indicators

<u>Background Documents</u>	<u>Location</u>
None	

Sources:
Baseline: Current trend without Devolution Deal interventions
Outturn data source: GVA and Jobs - Office of National Statistics (ONS);
Housing - Council Annual Monitoring Reports/Cambridgeshire Insights.

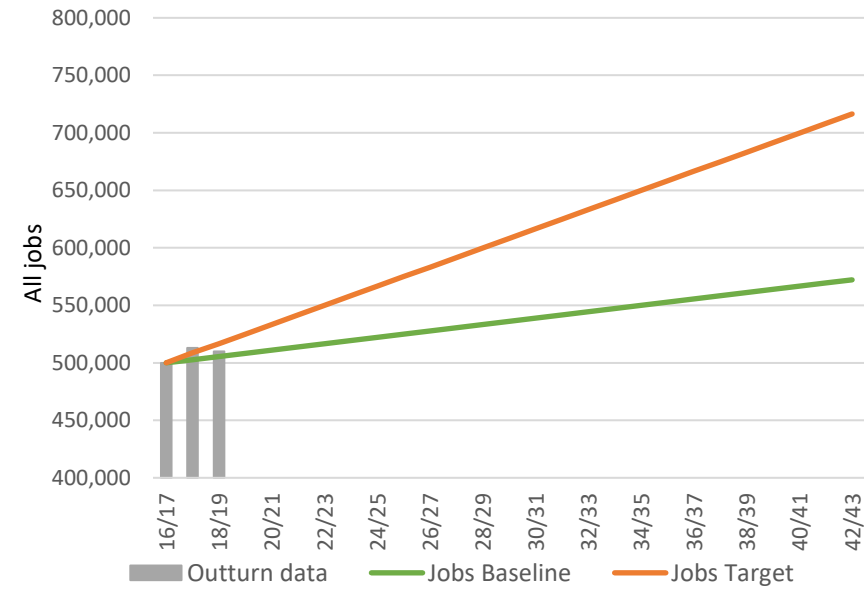
TRANSPORT AND INFRASTRUCTURE COMMITTEE
COMBINED AUTHORITY PERFORMANCE DASHBOARD
DEVOLUTION DEAL TRAJECTORY

GVA TARGET V BASELINE



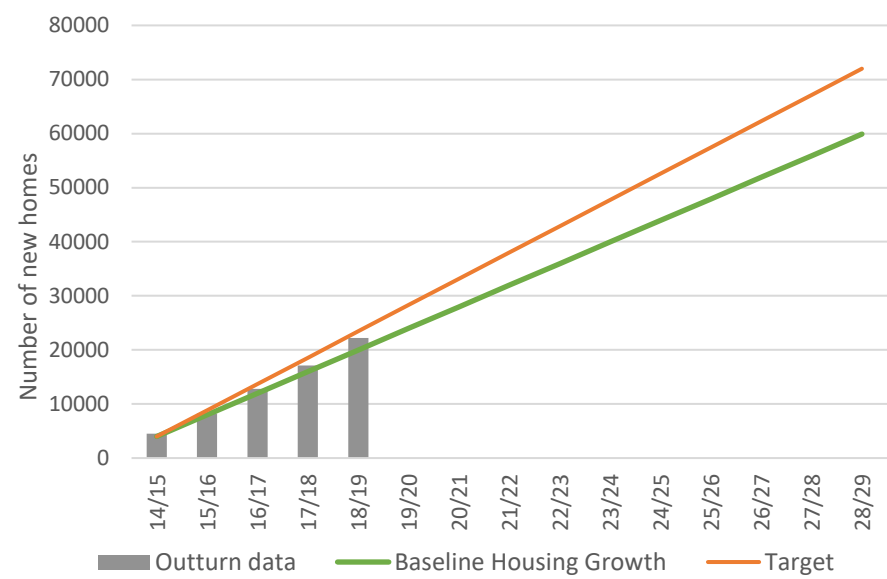
This has been updated in line with National Reporting standards. The CPCA Devolution Deal committed to doubling GVA over 25 years with 2014 as the baseline. To achieve this target the CPIER identified the region would require annual growth of 0.31% on top of the 2.5% baseline growth.

JOBS TRAJECTORY V BASELINE



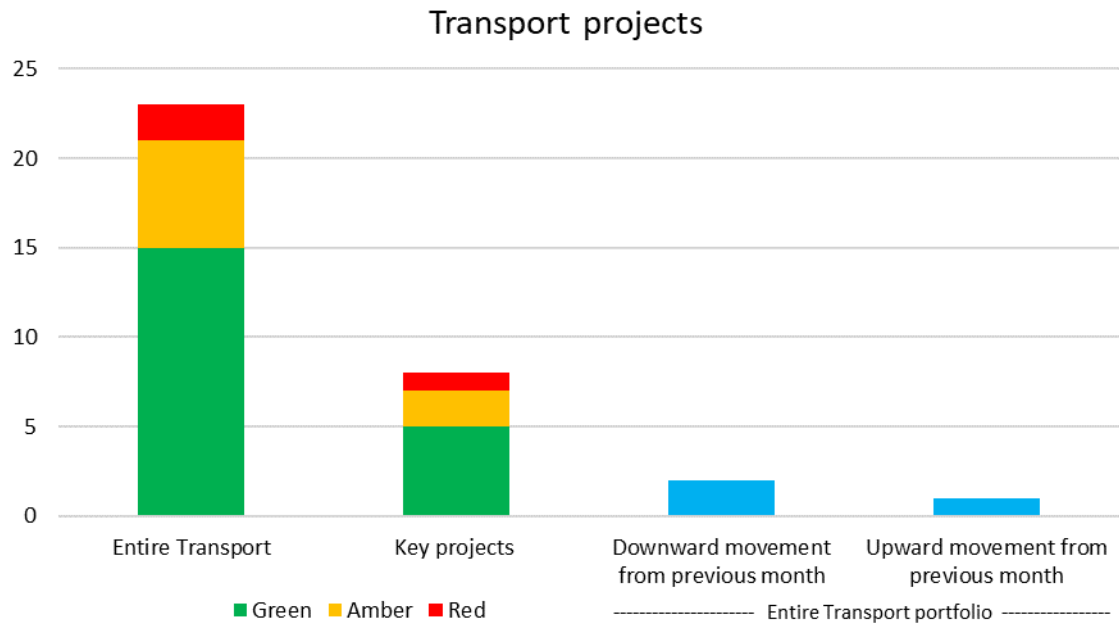
Target is derived through the CPIER by the GL Hearn report with a high growth scenario of 9,400 additional job growth per annum and a baseline of 4,338 jobs per annum.

HOUSING PERFORMANCE (*cumulative figures)



Devolution Deal target to deliver 72,000 new homes over a 15-year period. £170m affordable homes programme is expected to deliver over 2,500 additional homes.

Combined Authority Transport Project Profile



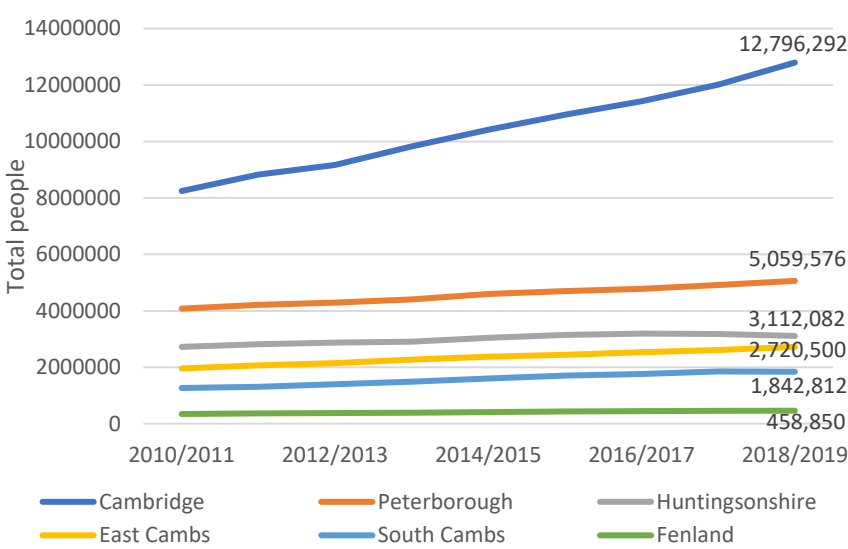
Transport Key Project Breakdown	
Project name	RAG status
A47 Dualling Study	Green
Cambridge South Station	Green
King's Dyke Level Crossing	Green
Soham Station	Green
Wisbech Rail	Green
Bus Reform Task Force	Amber
Cambridgeshire Autonomous Metro (CAM)	Amber
Regeneration of Fenland Stations	Red

*Project RAG status as at end of September 2020

Sources:
CambridgeshireInsight (2018)
Net Zero Cambridgeshire (2019)
Cambridgeshire City Council Traffic Monitoring Report (2018)
Department for Transport (2020)

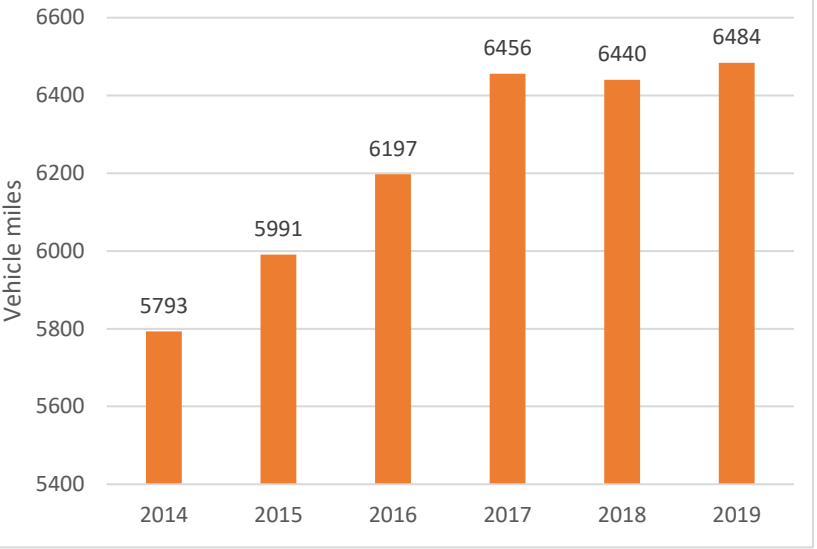
TRANSPORT METRIC REPORTING

Entries and Exits across all train stations by District



1.87m growth in station usage from 2016/17 to 2018/19

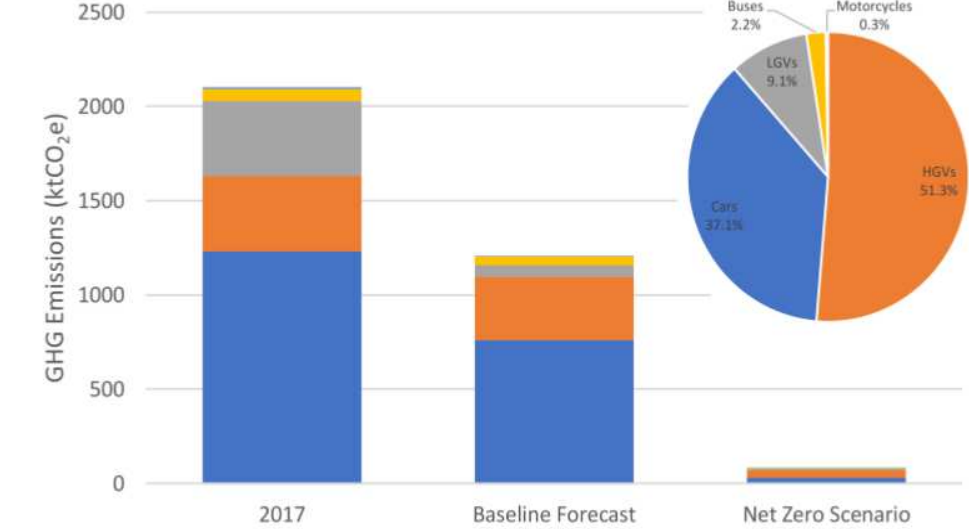
Motor Vehicle Traffic (Vehicle miles)



*Estimates for the period since 2010 have been revised to take in to account the minor road benchmarking exercise

0.4% increase in motor vehicle traffic from 2017 to 2019

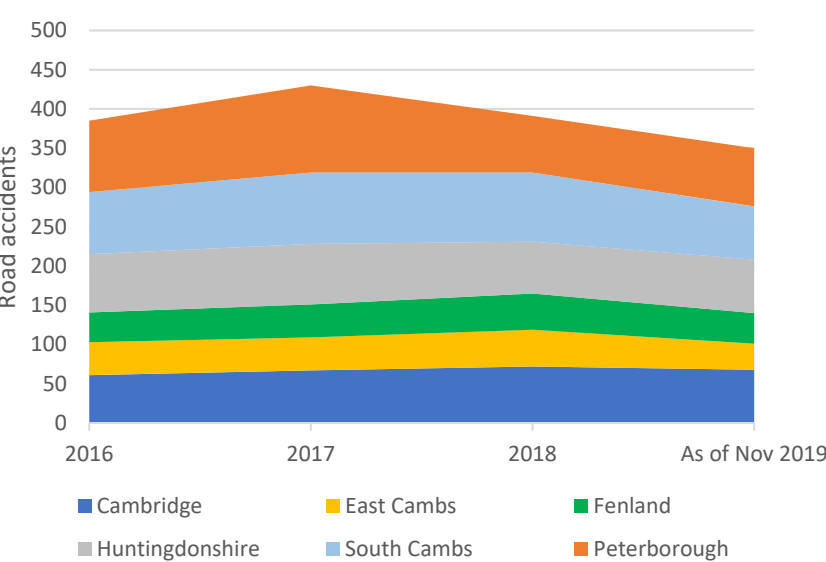
Total Green House Gas emissions for road transport (Cambridgeshire and Peterborough)



*Emissions in 2050 for the baseline projection and emissions in 2050 for the net zero scenario

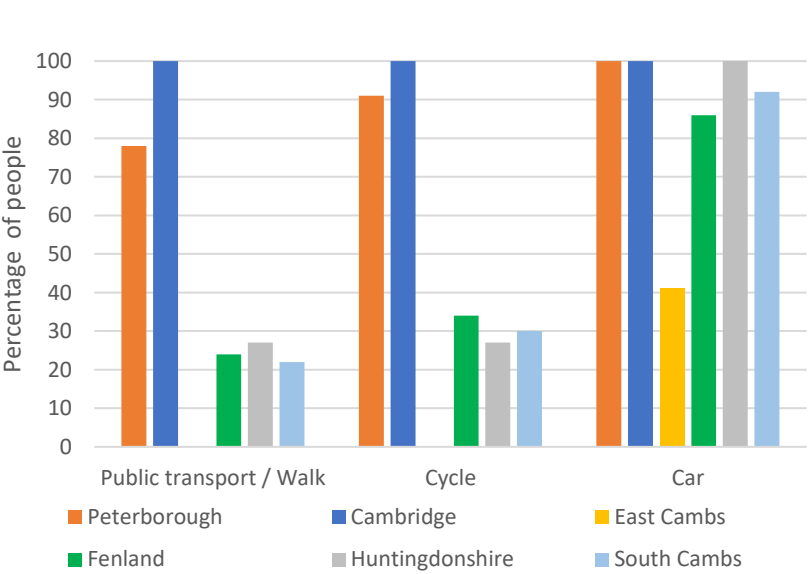
97% of transport emissions from road traffic; the major contribution from traffic on A-roads

Total serious and fatal (KSI) road collisions by District



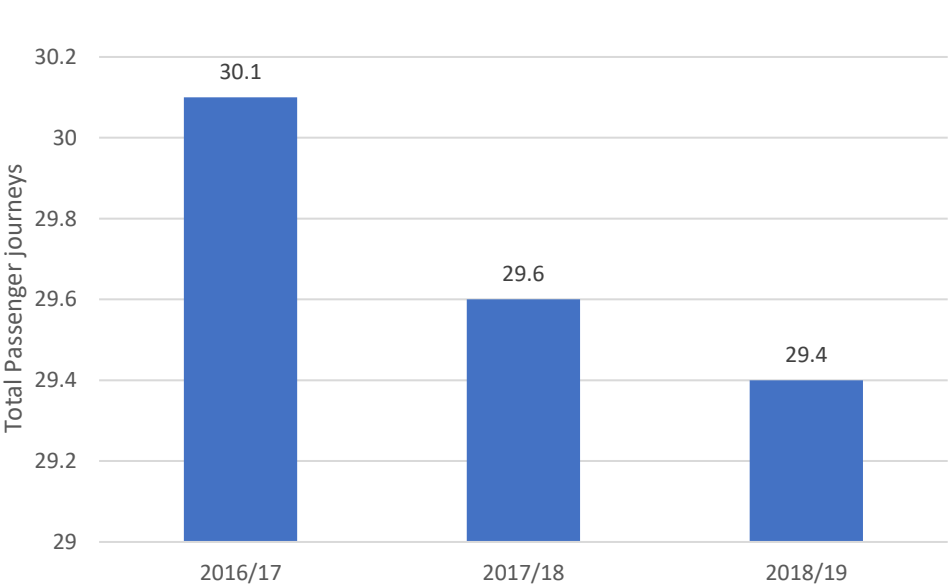
9% reduction in serious and fatal road collisions from 2017 to 2018

Within 30 mins travel of major employment centres (2017)



>95% of residents within 30 mins of a major employment centre

Passenger journeys on local bus services (Cambridgeshire and Peterborough)



3% decrease in bus usage from 2016/17 to 2018/19



TRANSPORT & INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.2
4 NOVEMBER 2020	PUBLIC REPORT

LOCAL TRANSPORT PLAN CAM SUB-STRATEGY

1.0 PURPOSE

- 1.1. To review and agree the amendments to the Local Transport Plan (LTP) draft sub-strategy setting out the vision for the Cambridgeshire Autonomous Metro (CAM) following consultation, to allow for its adoption by the Combined Authority Board.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor of Cambridgeshire and Peterborough
Lead Officer:	Paul Raynes, Director of Delivery and Strategy
Forward Plan Ref: N/A	Key Decision: No
<p>The Transport and Infrastructure Committee is recommended to:</p> <ul style="list-style-type: none"> (a) Note the consultation responses to the Cambridgeshire Autonomous Metro (CAM): Local Transport Plan (LTP) sub-strategy; (b) Agree the amendments made to the CAM: LTP sub-strategy in light of the consultation responses; (c) Note that the CAM LTP sub-strategy sets out the vision for CAM, against which, schemes contributing to the CAM will be considered; and (d) Recommend the approval of the CAM: LTP sub-strategy by the Combined Authority Board. 	<p>Voting arrangements</p> <ul style="list-style-type: none"> (a) N/A (b) Simple Majority (c) N/A (d) A vote in favour by at least two thirds of all Members (or their Substitutes) appointed by the Constituent Councils to include the Members appointed by Cambridgeshire

	County Council and Peterborough City Council.
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2.0 BACKGROUND

- 2.1. The Combined Authority's first Local Transport Plan (LTP) for Cambridgeshire and Peterborough was approved by the Board in January 2020. The LTP said that it would be supported by specific sub-strategies and policies that would continue to be developed and reviewed over the course of the LTP.
- 2.2. At the March meeting of the Transport and Infrastructure Committee it was agreed that a LTP sub-strategy should be developed setting out in more detail the LTP policy foundation for the CAM as a whole network.
- 2.3. The CAM sub-strategy, which is consistent with the LTP, will ensure that individual components of the CAM network, are fully compliant with a coherent and consistent overall vision for the transport network for Cambridgeshire and Peterborough.
- 2.4. CAM is an essential component of the overarching LTP vision and the Authority's overarching transport strategy as it will provide high quality, high frequency metro services, delivering a step change in connectivity and helps to deliver agglomeration benefits.
- 2.5. Individual schemes which are intended to form part of the CAM, other public transport proposals within the CA area, and CA positions on partners' schemes such as East-West Rail, will be evaluated against the strategy.

Consultation

- 2.6. Following Board approval, the draft sub-strategy was subject to public consultation ahead of its final adoption by the Board. This is required by the Transport Act 2000. The consultation lasted for 12 weeks between 4th May and 17th July 2020 and was conducted with regard to the constraints imposed due to COVID 19. This consultation enabled the Combined Authority to better understand the views of key stakeholders on the overarching strategic vision, aims and objectives of the CAM strategy.
- 2.7. A total of 88 responses were received by the advertised feedback deadline, including 65 survey responses and 23 freeform submissions. Following the submission of comments, the officers of the Combined Authority have reviewed and considered all the comments provided. This paper details how the officers of the Combined Authority have amended the sub-strategy in light of the comments received.
- 2.8. A review of the feedback received found that:
 - 67% strongly agreed or agreed with the objectives of the sub-strategy;
 - Only 18% strongly disagreed or disagreed that the aims of the LTP and sub-strategy strongly aligned;

- Just 10% of respondents disagreed with the objectives and sub-objectives of the sub-strategy;
- 62% strongly support or support the wording of the economic sub-objectives;
- 62% strongly support or support the wording of the societal sub-objectives; and
- 68% strongly support or support the wording of the environmental sub-objectives.

2.9. Freeform responses to the request for additional information noted that respondents supported the sub-strategy, and many felt that the timelines for CAM should be accelerated if possible. There were several suggested improvements to the document, including the provision of more detail within the sub-objectives, and proposed minor re-wording and clarification of various aspects of the document.

2.10. The principle updates to the sub-strategy included:

- Additional clarification of CAM Policy E1, E2, E15 and E17;
- Removal of the programme section. The overarching CAM programme should be further developed in line with CAM Policy E17;
- Minor verbal alterations to the narrative; and
- An update to the network map.

2.11. Respondents saw affordable fares and good first and last mile links from CAM stations as essential to the success of the network, and said that infrastructure such as CAM should be delivered prior to the delivery of additional housing. Stakeholders also shared the views of survey respondents that strong integration with existing and proposed public transport links (including East-West Rail) and the provision of good first and last mile links are crucial to ensuring modal shift and enabling multi-modal journeys.

2.12. Feedback was received from the Greater Cambridge Partnership specifically in relation to the delivery of the Cambourne to Cambridge route component of the CAM. This part of the CAM network will be assessed against this sub-strategy, including at later stages when statutory consents are being sought.

2.13. In addition to the feedback provided via the survey, freeform responses received from various stakeholders were also largely positive, with the majority supporting the objectives and sub-objectives, and agreeing that the sub-strategy aligns with the LTP.

Geographical spread of respondents

2.14. Respondents were concentrated in and around the city of Cambridge, with a small number of individuals located in/close to regional settlements such as Huntingdon, Peterborough, and Ely. Notably, stakeholder respondents were distributed over a wider area, with only two located in Cambridge – this is likely to be a result of organisations' registered offices being located further afield. Three stakeholder responses did not provide an address.

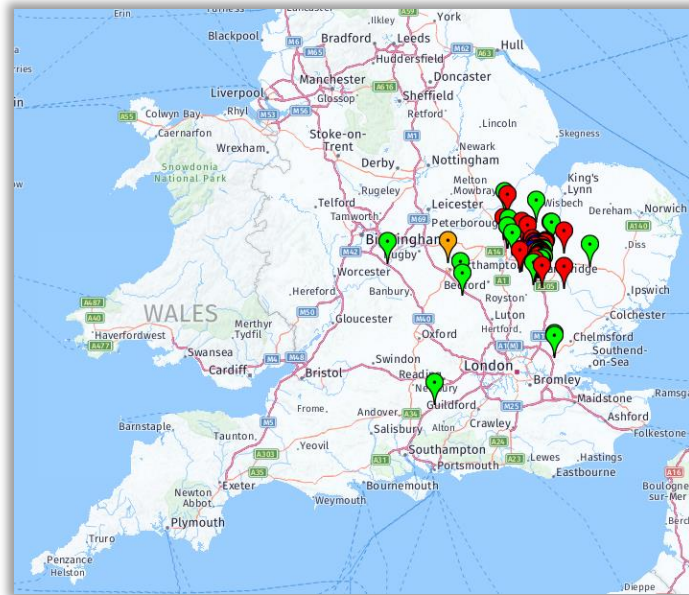


Figure 1: Respondents by given address (National view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)

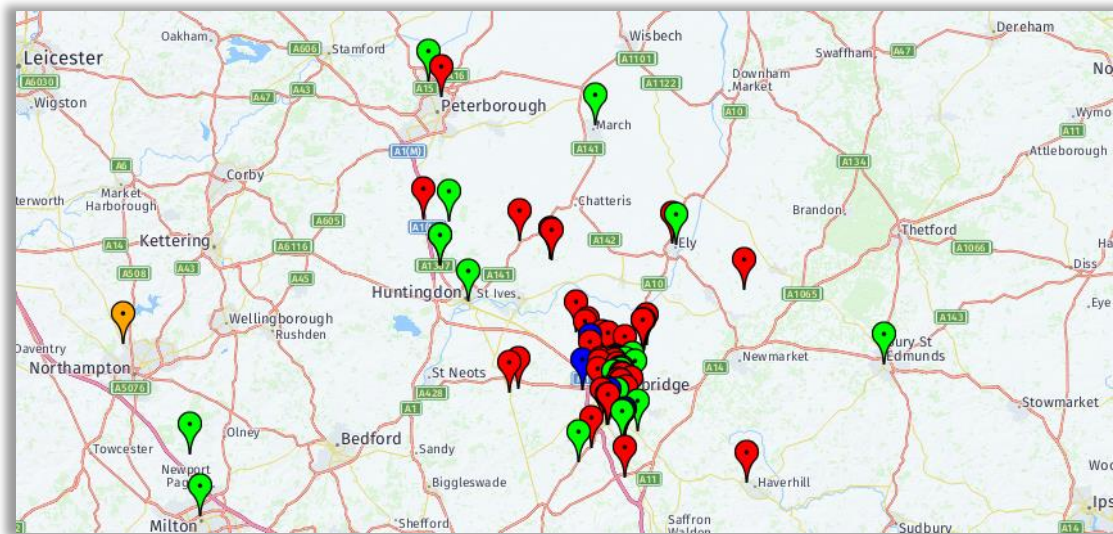


Figure 2: Respondents by given address (Regional view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)

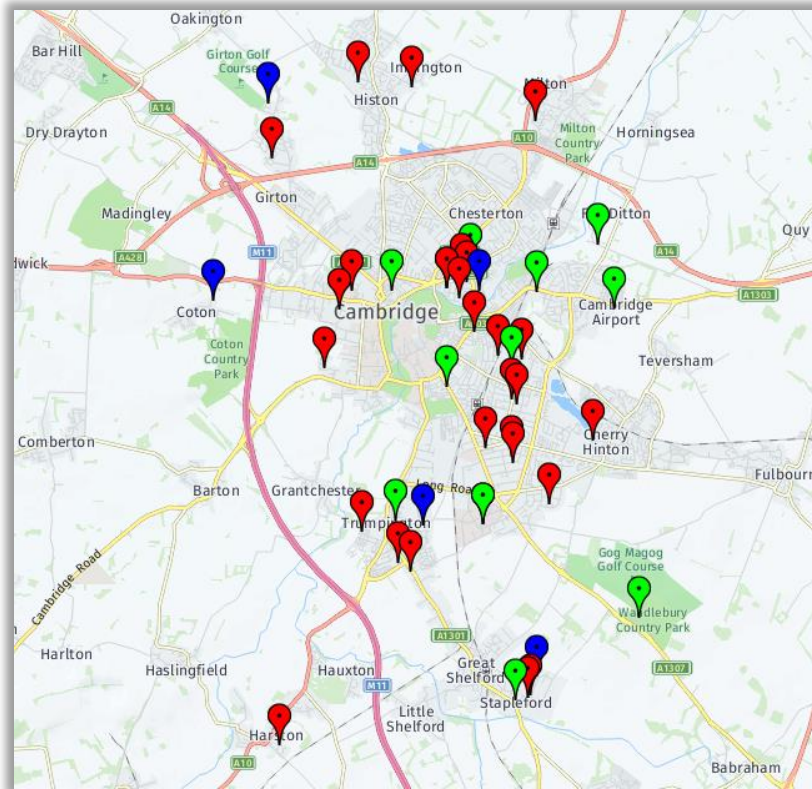


Figure 3: Respondents by given address (City Centre view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)

Nature of Respondents

2.15. Approximately half of responses were received from members of the public – 46 in total. Thirty-four of the remaining responses were received from a variety of stakeholders, including businesses, voluntary/community organisations, and public sector bodies. Seven responses were received from individuals classified as both residents and having a business interest, whilst one response was provided by a visitor to the region.

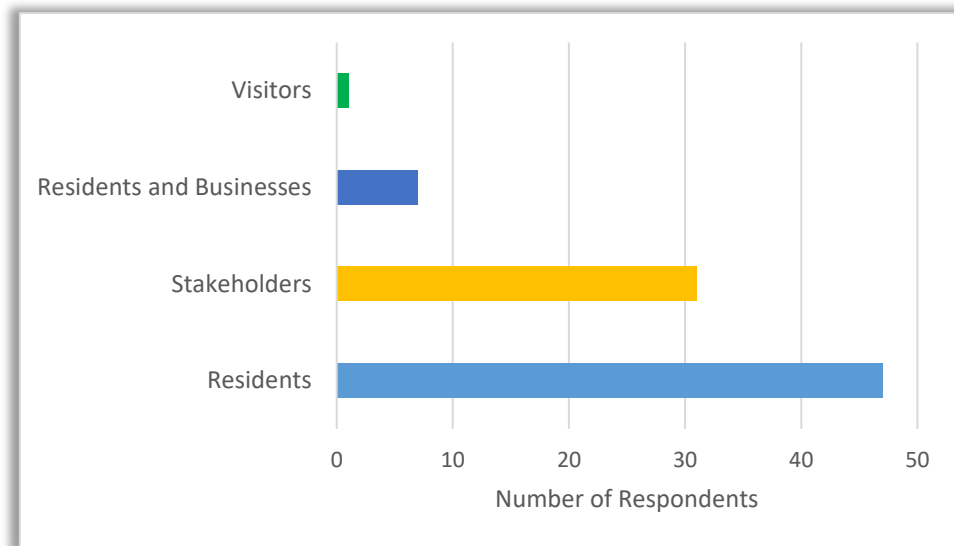


Figure 4: Respondents by nature

Amendments made to the CAM sub-strategy

2.16. Following the feedback received from the consultation, a number of minor changes have been made to the sub-strategy. These are not significant or material enough to require re-consultation. All the comments received and how the Combined Authority has responded to them can be found in Appendix 3. In the main the changes are around providing greater detail within the sub-objectives and updating the document to ensure that all active modes align with local and central government policy. The list below summarises the key amendments:

- Changed reference to cycling and walking to read active travel to align with government policy and ensure the project consider impacts on horse riders;
- The overarching positioning of the objectives and sub-objectives has remained as there was support following consultation; however, the objectives themselves have been amended to ensure they are SMART;
- The map of the network has been updated to correct an error; and
- Greater emphasis within the document illustrating the alignment with the Local Transport Plan and emerging Local Plans.

Adoption of sub-strategy

2.17. Once agreed by the Committee, approval from the Board will be sought for the sub-strategy. Following approval, the CAM: LTP sub-strategy will have a statutory grounding and the document will be a benchmark against which schemes forming part of the CAM will be considered. More detail on this is in the Legal Implications section of this paper.

3.0 FINANCIAL IMPLICATIONS

- 3.1. None at this stage directly in relation to the development and agreement of the sub-strategy.

4.0 LEGAL IMPLICATIONS

- 4.1. The Peterborough and Cambridgeshire Combined Authority Order 2017 (SI 2017/251) confirmed the Cambridgeshire and Peterborough Combined Authority as the Local Transport Authority for its area. The Combined Authority by way of Part 3 Article 8 of the 2017 Order assumed powers and duties contained within Parts 4 (Local Passenger Transport Services) and 5 [Financial Provisions] of the Transport Act 1985, and Part 2 [Local Transport] of the Transport Act 2000 (as amended), which included the duty to produce a Local Transport Plan as set out at section 108(3) of the Transport Act 2000.
- 4.2. Since the making of the 2017 Order the Combined Authority has delegated some of its transport functions to Cambridgeshire County Council and Peterborough City Council, which previously had responsibility for transport functions in the Combined Authority's area. At its meeting on 29th January 2020 the Combined Authority Board made further delegation of some of its transport functions to those authorities for the 2020/21 municipal year. The power to exercise the transport functions currently being exercised by the County Council and Peterborough City Council derive solely from the statutory transport powers of the Combined Authority as detailed above. The Greater Cambridge Partnership, as a joint committee of the County Council, Cambridge City Council and South Cambridgeshire District Council, derives its authority to exercise transport functions from the transport delegation granted to the County Council by the Combined Authority. The Combined Authority would have to authorise any sub-delegation from the County Council to the Greater Cambridge Partnership for the 2020/21 municipal year.
- 4.3. The Local Transport Plan adopted by the Combined Authority Board at its meeting on 29th January 2020 met the statutory requirement to set out its policies for the promotion and encouragement of safe, integrated, efficient and economic transport and its proposals for the implementation of those policies.
- 4.4. Section 109 (1) of The Transport Act 2000 requires the Combined Authority to keep its Local Transport Plan under review and to alter it if it considers it appropriate to do so. As the policies in the Plan are developed it will become necessary to review the Plan and to consider whether the Plan should be expanded to provide more detailed proposals for the implementation of the policies. Any proposed alteration to the Plan would be subject to statutory consultation.
- 4.5. Section 108 (1) of The Transport Act 2000 also requires the Combined Authority's functions to be carried out so as to implement the policies set out in its Local Transport Plan.

- 4.6. Further to paragraph [2.15], there will be a number of key impacts following adoption of the LTP sub-strategy from a planning and consenting perspective. First, relevant local planning authorities will need to have regard to this sub-strategy, and the LTP itself, when preparing development plan documents. This applies, for instance, to the preparation of the emerging Greater Cambridge Local Plan.
- 4.7. In addition, from a consenting perspective CAM is expected to be authorised by one or more orders (statutory instruments) made by the Secretary of State for Transport under the Transport and Works Act 1992 or the Planning Act 2008. Irrespective of which consenting route is pursued for this sub-strategy, and the LTP itself, will have an important role to play when authorisation is sought for CAM. Any application for the authorisation of CAM will be scrutinised to determine the extent to which the application is compatible with the LTP and with this sub-strategy.
- 4.8. The recommendations accord with CPCA's powers under Parts 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251).
- 4.9. The meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus) (Flexibility of Local Authority and Police and Crime Panel Meetings) (England and Wales) Regulations 2020.

5.0 APPENDICES

Appendix 1 – Revised LTP sub-strategy

Appendix 2 – CAM Sub-strategy Consultation Feedback Report

Appendix 3 – Summary of Authority's position regarding each comment received

<u>Background Papers</u>	<u>Location</u>
Transport and Infrastructure Committee reports 6 March 2020	Transport and Infrastructure Committee papers 6 March 2020

Cambridgeshire and Peterborough Local Transport Plan: Cambridgeshire Autonomous Metro (CAM) sub-strategy

Local Transport Plan

Background

The Local Transport Plan (LTP) was published in March 2020 and was the first for Cambridgeshire and Peterborough. The Plan describes how transport interventions will help to address current and future challenges and opportunities for Cambridgeshire and Peterborough. It sets out the overarching policies and strategies needed to secure growth and ensure that planned large-scale development can take place in the county in a sustainable way.

The LTP provides a robust platform for the planning and delivery of the Authority's ambitious programme of priority transport schemes. The Authority continues to work closely with its partners in spatial planning and the delivery of transport priorities to identify the most appropriate time to refresh the LTP and/or its supporting daughter documents.

This document outlines the CAM draft sub-strategy, which is a daughter document of the LTP. It provides the policy framework for the CAM and contributes to the wider policy platform for the delivery of growth in the CPCA region. Schemes which form part of the CAM will be expected to be compliant with the policies in this document.

Vision, Goals and Objectives

The overarching vision for the Local Transport Plan is:

To deliver a world-class transport network for Cambridgeshire and Peterborough that supports sustainable growth and opportunity for all











This vision guides the Authority's overall direction of this sub-strategy and the underpinning sub-strategies. From the vision the Authority developed a number of key goals. These three goals are intended to outline what wider outcomes we want the transport network in Cambridgeshire and Peterborough to achieve.

- **Economy:** Deliver economic growth and opportunity for all our communities.
- **Society:** Provide an accessible transport system to ensure everyone can thrive and be healthy.
- **Environment:** Protect and enhance our environment and implement measures to achieve net zero carbon.

The LTP's overarching vision to deliver a world-class transport network for Cambridgeshire and Peterborough that supports sustainable growth and opportunity for all can only be realised if a public transport system that offers a genuine alternative to the car is implemented.

The LTP's ten objectives are strongly aligned to the goals outlined above. These form the basis against which transport schemes (such as CAM) should be and are assessed.

Local Transport Plan objectives

Goal	Objective	
Economy		Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues
		Connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity
		Ensure all of our region's businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports
		Build a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability
Society		Embed a safe systems approach into all planning and transport operations to achieve Vision Zero – zero fatalities or serious injuries
		Promote social inclusion through the provision of a sustainable transport network that is affordable and accessible for all
		Provide 'healthy streets' and high-quality public realm that puts people first and promotes active lifestyles
		Ensure transport initiatives improve air quality across the region to meet good practice standards
Environment		Deliver a transport network that protects and enhances our natural, historic and built environments
		Reduce emissions to 'net zero' by 2050 to minimise the impact of transport and travel on climate change

Supporting sub-strategies

The LTP sets out a plan to tackle Cambridgeshire and Peterborough's transport challenges. The Authority's overarching vision is to create a transport system in which active travel modes and public transport (including CAM) are natural choices for the majority of journeys because they are affordable, healthy, convenient and safe alternatives to the private car.

The Authority continues to develop and iterate the supporting strategies for each specific area of transport planning that complement the LTP and will ensure its delivery. In addition, locational transport plans and strategies will evolve that focus

on the transport improvements within a specific area and therefore will be updated in a timely manner.

One of the strategies underpinning the LTP is this sub-strategy for CAM.

The Cambridgeshire Autonomous Metro – Policy Alignment

The need for CAM

To date, economic growth in the region has not been matched by basic infrastructure, particularly transport. To nurture and sustain this growth, new infrastructure is needed to support the delivery of new jobs and new homes and enable existing communities to benefit from greater access to transport options, jobs and opportunities.

CAM will connect key regional centres of employment, existing settlements, key railway stations, new homes and planned growth, to create a platform for sustainable and inclusive growth. CAM will transform people's day-to-day lives, by connecting communities and creating new jobs and widening access to opportunities across the region.

Introduction to CAM

One of the LTP's key objectives is to connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity. In order to achieve this objective, the LTP outlines how large-scale investment in public transport must provide extra capacity for people to travel sustainably across the region.

The vision is intended to capture the aspirations for Cambridgeshire and Peterborough's transport network, reflecting future ambition to provide:

'A world-class transport network' – Cambridgeshire and Peterborough aspire toward a transport system of the highest quality on a global stage, which meets the needs of residents, businesses, and visitors.

The Cambridgeshire Autonomous Metro (CAM) forms part of these enhanced infrastructure plans. The vision of the CAM is to 'act locally, impact nationally, and attract globally'. The CAM will act locally by delivering a fast, reliable, convenient, integrated transport network made world-class by deploying the latest technologies. It will support the sustainable growth of the local economy, unlocking new homes, creating new jobs and opportunities for more people, while protecting and enhancing the environment.

The benefits of CAM extend far beyond the region – it will have national and global impact. Through connecting employment sites and increasing the region's attractiveness to highly skilled experts, tech companies and international investor capital, the CAM will make the region's tech cluster larger and more concentrated.

Additionally, the first-mover benefits from the development of the CAM, including the accumulation of skills and intellectual property, could birth a new growth industry, complementing existing sectors, and offering commercial opportunities if applied to

small and medium-sized cities across the globe. These factors will enable future growth of knowledge-intensive sectors, stimulate entrepreneurship activity, and help Cambridgeshire and Peterborough compete with tech hubs globally, supporting greater economic growth across the UK as a whole.

Alignment to Local Transport Plan (LTP)

Better connecting people, markets and businesses, and future transport provision will help to improve regional productivity and this is set out in the LTP. This will help the Authority to deliver its economic vision and improve quality of life for all. Public transport such as CAM will play a key part in achieving those outcomes.

CAM is an essential component of the overarching LTP vision and transport strategy as it will deliver a step change in connectivity, helping to deliver agglomeration benefits, and encouraging modal shift to low-carbon modes.

Alignment with Cambridgeshire and Peterborough Independent Economic Review

The Cambridgeshire and Peterborough Independent Economic Review (CPIER) published its final report in September 2018. The report was developed by the Cambridgeshire and Peterborough Independent Economic Commission, chaired by Dame Kate Barker. The findings from the review form the basis of a number of key regional policies and strategies, including the Local Transport Plan and the Local Industrial Strategy to name a couple.

The report evidences the fast rate of economic and employment growth in the region and highlights the importance of planning now to ensure that strong growth will be sustainable and more inclusive. The report highlighted the potential transformation benefits of CAM stating *“in areas of more dense population, ambitious new projects such as the introduction of a form of rapid transit through the Cambridge Autonomous Metro (CAM) could transform the economy and many people’s day-to-day lives. These can provide for continued sustainable growth”*.


The CPIER report demonstrated that economic growth in the region has not been matched by investment in basic infrastructure, particularly transport. It recommended that:



“A package of transport, and other infrastructure projects to alleviate the growing pains of Greater Cambridge, should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term.”


A key conclusion to the report is that closer alignment between spatial and transport planning can allow economic growth without driving increased travel. Therefore, it is essential that CAM schemes are considered when new developments and plans for future growth.



Alignment between CAM objectives and the Local Transport Plan objectives


The table below sets out the Authority’s objectives for the CAM and how they support its overall aims and objectives.




Goal	Objective	CAM Objective	CAM sub-objective	Desirable
Economy	 <p>Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues</p>	<p>CAM 1: Promote economic growth and opportunity</p> <p>CAM 2: Support the acceleration of housing delivery as set out in existing and emerging Local Plans</p>	<ul style="list-style-type: none"> • CAM-E1: CAM will facilitate greater productivity in Greater Cambridge and the wider region (including Garden Villages) through enhanced efficiencies in travel • CAM-E2: Support new employment by enhancing sustainable access to and attractiveness of key existing and planned employment zones and major areas of housing growth: <ul style="list-style-type: none"> - New settlements and enterprise zones already included in existing adopted Local Plans - Future growth as identified in Local Plans - New Garden Village settlements - Existing settlements with anticipated employment growth (including growth of offices, research and laboratories facilities) <p>Supporting the development of</p> <ul style="list-style-type: none"> - New settlements being brought forward by any future development corporations created in the Oxford-Cambridge corridor. <ul style="list-style-type: none"> • CAM-E3: Increase labour market catchment through linking jobs with 	<ul style="list-style-type: none"> • 24/7 operation • Utilisation of smart infrastructure

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
			<p>homes and better connecting more people and places to underpin a wider transport network for Cambridgeshire and Peterborough that is grounded in active travel and frequent, reliable and convenient public transport</p> <ul style="list-style-type: none"> • CAM-E4: Serve and support new areas for sustainable housing development contained within emerging and future Local Plans • CAM-E5: Provide overall transport capacity to enable and accommodate future employment and housing growth 	
	 <p>Connect all new and existing communities sustainably so residents can easily access a good job within 30 minutes, spreading the region's prosperity</p>		<ul style="list-style-type: none"> • CAM-E6: Improve transport connectivity to/with existing and new settlements • CAM-E7: Improve journey time reliability • CAM-E8: Direct high-quality public transport access to key housing sites (short and longer term) 	
	 <p>Ensure all of our region's businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports</p>		<ul style="list-style-type: none"> • CAM-E9: Directly serve and link into transport hubs (where appropriate) including existing and planned rail stations (to facilitate the necessary outward and inward commuting to/from Cambridge) 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
			<ul style="list-style-type: none"> • CAM-E10; At transport hubs, support easy and rapid mode changes and transfers • CAM-E11: Integrate with active travel and other transport initiatives that provide safe first and last mile connectivity to CAM • CAM-E12: CAM will be fully integrated with the public transport network, including support the development of and connection to demand response modes • CAM-E13: Integration with other modes, including active travel, rail, bus and coaches 	
	 <p>Build a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability</p>		<ul style="list-style-type: none"> • CAM-E14: Integrated with main arterial corridors, including the projected East West Rail route and the upgraded A428, and key LTP infrastructure projects • CAM-E15: CAM is anticipated to be segregated as a default assumption; subject to full demand and transport planning analysis to justify the need for segregation • CAM-E16: CAM will use future ready technology, infrastructure and concepts of operations that delivery safe, reliable, regular, resilient and inclusive transport 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
			<ul style="list-style-type: none"> • CAM-E17: CAM will commence delivery in late 2024 and will be delivered in next decade • CAM-E18: CAM will be designed to ensure that it is future proofed and flexible in terms of capacity and technology so that any advances in technology do not unduly delay the programme • CAM-E19: CAM will utilise sustainable, highly flexible, zero emission vehicles • CAM-E20: CAM will be designed to maximise passenger trips in both directions and across the whole day 	
Society	 Embed a safe systems approach into all planning and transport operations to achieve Vision Zero – zero fatalities or serious injuries	CAM 3: Promote Equity	<ul style="list-style-type: none"> • CAM-S1: The CAM network will be safe and secure – safe by design, safe in construction and safe in operation – to meet all standards and global best practice • CAM-S2: CAM will meet all planning and environmental requirements 	
	 Promote social inclusion through the provision of a sustainable transport network that is		<ul style="list-style-type: none"> • CAM-S3: CAM will ensure an affordable and fair fare structure is in place that is comparable to any public transport service offered within the UK 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	affordable and accessible for all		<ul style="list-style-type: none"> • CAM-S4: CAM will be fully compatible with a county-wide future integrated ticketing regime • CAM-S5: CAM will promote seamless connectivity between regional settlements, major city fringe employment sites and key satellite growth areas across Cambridgeshire and Peterborough • CAM-S6: Facilitates seamless cross country and city journeys to outlying regional settlements, urban fringe employment sites and key satellite growth areas • CAM-S7: CAM will improve opportunities for all residents and communities • CAM-S8: CAM will promote high quality public realm at stations • CAM-S9: Reduces adverse impacts of public transport provision on city, urban and village centres 	
	 Provide 'healthy streets' and high-quality public realm that puts people first and promotes active lifestyles		<ul style="list-style-type: none"> • CAM-S10: CAM will support and be complementary to active travel modes 	

Goal	Objective	CAM Objective	CAM sub-objective	Desirable
	 <p>Ensure transport initiatives improve air quality across the region to meet good practice standards</p>		<ul style="list-style-type: none"> • CAM-S11: CAM will support measures that will result in an improvement in air quality • CAM-S12: CAM will derive its power primarily from 'cleaner' or less carbon-intensive energy sources, such as wind, solar and hydroelectric power rather than carbon-intensive sources such as fossil fuels 	
Environment	 <p>Deliver a transport network that protects and enhances our natural, historic and built environments</p>	CAM 4: Promote sustainable growth and development (including factors effecting environment, heritage, biodiversity and community)	<ul style="list-style-type: none"> • CAM-EV1: CAM will support and enhance environmental sustainability (delivering biodiversity net gains. <ul style="list-style-type: none"> - Minimise adverse impacts on conservation areas, heritage and natural community assets, including protecting the character of towns and villages and the city of Cambridge, whilst avoiding encouraging unsustainable village fringe development. - Meets net gain requirements and where possible offers additional visual and environmental enhancements 	
	 <p>Reduce emissions to 'net zero' by 2050 to minimise the impact of</p>		<ul style="list-style-type: none"> • CAM-EV2: CAM infrastructure will utilise zero emissions vehicles; other public transport zero 	

Goal	Objective		CAM Objective	CAM sub-objective	Desirable
		transport and travel on climate change		<p>emissions vehicles should be able to use sections of the CAM infrastructure if they are CAM compatible</p> <ul style="list-style-type: none"> • CAM-S11: Improve air quality • CAM-S12: Promote low carbon economy 	

CAM Network

The CAM programme is comprised of several main elements to be delivered over time:

- The City Tunnel Section, including underground tunnels and planned major interchange hubs at the city centre and at the mainline railway station, under the city of Cambridge;
- Inner Corridors, often referred to as the ‘GCP Corridors’; and
- Regional Routes to extend the system to reach Garden Villages, employment sites and other major housing and employment locations.



Maximise opportunities to link with other transport initiatives and expand the CAM network beyond the currently planned network will continue to be explored by the Authority, and as such, all planned network components must be designed to properly link with one another and not preclude future linkages.

In line with CAM Policies E9 and E14, these projected routes will need to complement and be integrated with other major transport infrastructure developments along the corridors they serve. National government's commitment to an East-West Rail route and proposed new heavy rail improvements and/or station developments at St Neots, West of Cambourne, Cambridge South, and Waterbeach will need to be taken into account in developing business cases.

Subject to receipt of the necessary powers and consents and funding, the Regional Routes are planned to become operational from late 2024 onwards.

CAM is designed to provide a best-in-class passenger experience in terms of journey time reliability, smoothness of ride, vehicle and stop quality, level boarding, fully

electric operation and off-vehicle ticketing. CAM is currently anticipated to be segregated as a default assumption.

To enhance safety and reduce operating costs it is expected CAM will eventually become driverless once autonomous vehicles have been approved for use in the UK and the appropriate safety regulations have been established.

The CAM scheme is scalable and has the potential to further increase carrying capacity in line with the future demands as it is encouraged and support a modal shift away from the private car following the scheme's introduction.

The LTP ambition

The Authority's core transport strategies aim to encourage the shift to active travel and public transport: from providing sustainable connectivity to and within new developments, to delivering world-class active travel infrastructure, and a new, more integrated and accessible, public transport network. Major projects, such as CAM and East West Rail (EWR), will provide new journey opportunities, with fast, frequent services and competitive journey times, designed to act as a genuine alternative to the private car.

The Combined Authority will continue to encourage developments in those places where transport can be provided through schemes such as the CAM, including along existing transport corridors and new garden villages.

Complementing CAM will be a comprehensive, better integrated network of local bus services, connecting the suburbs of the urban areas and smaller towns and villages to employment centres across the area and the CAM network. Existing and new transport hubs, interchanges and Park & Ride sites will provide sustainable travel options. These will be better integrated into surrounding local transport networks, acting as travel hubs with high-quality interchange between CAM and local bus and demand-responsive services, together with the active travel network. Local buses – and demand-responsive transport – will be designed to ensure that no one is outside of the reach of safe, reliable public transport, and hence helping to maximise social inclusion for those who lack access to a car.

For CAM to be successful, high-quality interchanges will be needed. This means they will be attractive, safe, inclusive and secure with excellent information and integrated feeder transport arrangements – active travel, rail, bus, taxi and other modes.

To ensure that the CAM system is accessible to our customers and communities, we propose involving our communities, including older people, disabled people and young people in the design and delivery of the CAM system.

CAM 1: Promote economic growth and opportunity

The CPIER highlighted the incredible economic success story of the Greater Cambridge-focused science and tech industries over the last 50 years, underpinned by the presence of the Universities and science parks in and around Cambridge. The area is a global leader in innovation and commercialisation of ideas, and a

magnet for companies across the globe. In the last few years this has delivered employment and business growth far above average. However, CPIER also found that this growth was uneven, with surrounding parts of Cambridgeshire not necessarily sharing in that same level of success. The CPIER also noted the clusters of activity in other towns, for example advanced materials (composites) in Huntingdon.

The Local Industrial Strategy has a priority to improve the long-term capacity of the area by supporting the foundations of productivity. It also has a priority to broaden the base of economic growth, including by spreading the benefits of high growth beyond the Cambridge area. There are, however, signs that constraints on growth are starting to bite. In particular, transport issues will significantly reduce this success if not dealt with.

The CAM, in providing an integrated network through its Regional Routes, will connect many towns and key locations, including science parks. This will help deliver the Local Industrial Strategy priorities. Firstly, the CAM will improve employment opportunities as more residents will have 30 minutes or better access by high quality sustainable travel to key employment locations. Secondly, it will increase the attractiveness of surrounding towns to businesses to establish and expand their operations, thus spreading the growth benefits of the science and tech economy across the wider region.

CAM 2: Support the acceleration of housing delivery

As a result of its strong economy, the world-class education offer and good living environment, this part of Cambridgeshire has seen rapid growth in both employment and households (but also increases in house prices as supply has not kept up with demand). To cater for that growth, local councils in the area have plans in place for an additional 61,000 homes by 2031. The CAM is critical to delivering sustainable transport to support the anticipated growth up to 2031 and beyond.

Much of the new development is on the edge or outside of Cambridge in large-scale developments. These include new settlements on proposed CAM routes at places such as Northstowe, Bourn Airfield, north of Waterbeach, and Alconbury Weald, Huntingdon. Some of these locations will continue to provide housing beyond 2031. The plans for the Greater Cambridge area are also under review to extend them to cover the period to 2040.

As highlighted in the Combined Authority's Growth Ambition Statement, the CAM enables the development of new sustainable settlements along its route. New developments can be designed from the ground-up to be integral with the CAM, including access by active travel, maximising the sustainable travel benefits. As Garden Villages these communities will be exemplars in sustainable ways of living and working, with local community infrastructure, job opportunities and attractive green space and public realm areas. Long-term stewardship of community assets is a feature of Garden Villages. Locations of Garden Villages will be examined through the planning process.

In the March 2020 budget, the government announced that it was going to examine and develop the case for new Development Corporations in the Oxford-Cambridge Arc with a focus on St Neots/Sandy, Cambourne and Cambridge. This included plans to explore the case for a New Town at Cambridge. It is therefore important that the CAM scheme is adaptable and helps to meet the travel demands emerging from these new developments through its integration into the fabric of the development with appropriate interchange and services.

CAM 3: Promote Equity

Integration with the wider passenger transport network

The public transport strategies for Cambridge and Peterborough (previously developed by the County and City Councils) set out the long-term strategy and short-term delivery plan for public transport. As with the other underpinning daughter documents to the LTP, these strategies will be reviewed and refreshed in a timely manner. It is essential that the CAM scheme is fully integrated with the wider public transport network to enhance the opportunities for all. Therefore, it is imperative that CAM delivers the following:

- CAM will be fully integrated and embedded within the public transport provision to ensure a high-quality network with appropriate interchange opportunities are provided;
- The scheme provides services and develop infrastructure that meets the needs of customers; the residents of, employees based within, and visitors to Cambridgeshire and Peterborough, whilst at the same time having regard to economy, efficiency, and effectiveness; and
- CAM will provide a high-quality, integrated passenger transport network to provide people, in both the urban and rural areas, with access to the opportunities and benefits that contribute to the enjoyment of a better quality of life.

Alignment to the Bus Reform Task Force

The Bus Reform Task Force (BRTF) was launched in early 2019 and is exploring the best operating and delivery model for our public transport network. It has three main workstreams: to establish an integrated framework to assess subsidy requirements, to identify and implement tangible short-term improvements to bus services, and to develop and examine the business case for a number of alternative delivery options for bus services in Cambridgeshire and Peterborough. CAM will be aligned with the conclusions from the BRTF that are due to be published in late 2020.

Alignment to emerging public transport schemes (such as East-West Rail and Cambridge South Station)

The Authority continues to explore opportunities to enhance strategic public transport accessibility and support growth through new infrastructure and the connectivity between the CAM and other public transport schemes and networks. The developments in the transport network need to be successfully planned to integrate with the CAM network and the EWR proposals. The interchange and connectivity

between the two networks and the traditional bus network needs to be seamless to maximise the benefits of these complementary modes to reduce the dependency on the private car by offering a real alternative and opportunity to the people of the region. This integration of modes will significantly reduce journey times to major cities elsewhere, creating new opportunities for work and leisure for our residents while supporting expanding the labour market and Cambridgeshire and Peterborough's productivity.

East-West Rail

CAM should complement the new EWR link, serving the smaller communities that the heavy rail line will pass without stopping. It is important to consider how the EWR route relates to the CAM network, to maximise integration between modes and how they will interact. This interaction needs to be understood to ensure that the schemes genuinely complement each other thereby maximising the benefits for all. Providing appropriate and effective interchanges between CAM and EWR that are safe, accessible, sustainable and seamless to provide a fully integrated public transport network that maximises the "offer" between St Neots and Cambridge.

Cambridge South Station

A key element in the development of Cambridge South Station as a multi-modal interchange is understanding the requirements of the users, both existing and potential travellers and how this scheme will seamlessly interact with CAM.

Integration with emerging highways schemes (A428, A10, A505)

The Authority is currently developing schemes within the A428, A10 and A505 corridors and examining how connectivity can be improved along and through the corridor, with a particular focus on improving the "offer" to the people of Cambridgeshire and Peterborough. Any developments and/or improvements to the highway network needs to fully integrate with CAM to ensure a truly seamless network is delivered with adverse impacts minimised wherever possible. Therefore, as and when these schemes and others being developed by the Authority and the Greater Cambridge Partnership, it is essential that due consideration is given to CAM's requirements.

CAM 4: Promote sustainable growth and development

Integration with active travel

- CAM interchanges with easy step free access will ideally located at either major attractors or generators of passengers and within 10 to 15 minutes' walk to key locations ensuring ease of access to major attractors;
- Access should be designed to radiate from CAM stops; and
- Locating the CAM stops at the optimum location for accessibility helps to reinforce the sustainable transport message.



CAM
CAMBRIDGESHIRE
AUTONOMOUS METRO

Sub-Strategy Consultation Feedback Report

[Document Reference]

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1. Executive Summary

This Feedback Report provides a summary of the responses received to the Cambridgeshire and Peterborough Combined Authority's (CPCA) consultation on the Sub-Strategy for the Cambridgeshire Autonomous Metro (CAM) that was undertaken between Monday 4 May and Friday 17 July 2020.

The draft CAM sub-strategy is a daughter document of the Local Transport Plan (LTP) and describes the policy framework for the CAM. The document aims to ensure that individual components of the CAM network, are fully compliant with a coherent and consistent overall vision for the network.

A total of 88 responses were received by the advertised feedback deadline of Friday 17 July 2020, including 65 survey responses and 23 freeform submissions. CPCA will review and consider all comments provided as part of the consultation before publishing a final version of the Sub-Strategy for approval.

Commented [TB1]: Tim/Emily to confirm

A review of the feedback received found that:

- 67% strongly agreed or agreed with the objectives of the Sub-Strategy
- 53% strongly agreed or agreed that the aims of the LTP and Sub-Strategy strongly align with one another
- 62% strongly support or support the wording of the economic sub-objectives
- 62% strongly support or support the wording of the societal sub-objectives
- 68% strongly support or support the wording of the environmental sub-objectives

In addition, freeform responses to the request for additional information noted that respondents supported the Sub-Strategy, and many felt that the timelines for CAM should be accelerated if possible. Numerous suggested improvements to the document were also provided, including the provision of more detail within the sub-objectives, and proposed re-wording of various aspects of the document.

It was also evident that respondents saw affordable fares and good 'first and last mile' links from CAM stations as essential to ensure the success of the network, and that infrastructure such as CAM should be delivered prior to the delivery of additional housing. Some also took this opportunity to air their opposition to CAM, stating that Light Rail technology should be preferred due to the environmental impacts of rubber tyred vehicles, whilst others saw CAM as a 'vanity project' and that funding should instead be used to improve the existing public transport infrastructure within the region.

In addition to the feedback provided via the survey, freeform responses received from various stakeholders were also largely positive, with the majority supporting the objectives and sub-objectives, and agreeing that the Sub-Strategy aligns with the LTP.

Many stakeholders took this opportunity to provide specific suggestions relating to the sub-objectives, with the most common being a request for CAM to provide a biodiversity net gain, a desire to see CPCA to adopt the National Planning Policy Framework (NPPF) pyramid of environmental impacts that puts prevention before mitigation, and ensuring all references to future development are inclusive of the expansion of existing settlements and are not limited to the creation of new settlements. Stakeholders also shared the views of survey respondents that strong integration with existing and proposed public transport links (including East-



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West Rail) and the provision of good 'first and last mile' links are crucial to ensuring modal shift and enabling multi-modal journeys to be made.

Responses provided by local authorities suggested that the Sub-Strategy does not currently accurately capture the relationship between the LTP, CAM and the Local Plan process, noting that, in its current form, the document implies that CAM will help to dictate/shape the location(s) of future development in the region, when in reality such decisions would be taken as part of the Local Plan process that the relevant Local Planning Authorities hold responsibility for.

It should also be noted that a reasonable portion of the stakeholder submissions received were from land promoters with interests in various strategic and non-strategic sites, many of whom were keen to discuss how their promotions could interlink with and help to realise the aims of CAM. This desire for continued co-operation and engagement was also shared by the vast majority of stakeholders that are not seeking to promote land for development, including Cambridge United, Cambridge University Hospitals Trust and the numerous local authorities.



2. Summary of Feedback

2.1 Overview

2.1.1 Overall, 88 feedback submissions were received from individuals and stakeholders. Of these responses, 65 were survey responses and 23 were freeform responses – the latter comprised solely of responses from stakeholders / organisations. It should also be noted that some stakeholders / organisations chose to respond using the survey provided. Some stakeholders submitted a copy of their response as both a freeform response and through the survey. Where this occurred, these responses have been counted as freeform responses. For the purposes of this report, the two response types are analysed in separate sections below due to the differences in their format.

2.1.2 All percentage figures in this document have been rounded to the nearest whole number and may therefore not always total to 100%

2.2 Summary of Respondents

Given Address of Respondents

2.2.1 Respondents were largely concentrated in and around the city of Cambridge, with a small number of individuals located in/close to regional settlements such as Huntingdon, Peterborough, and Ely. Notably, stakeholder respondents were distributed over a wider area, with only two located in Cambridge – this is likely to be a result of developers and other organisations holding an interest in the region through a land-holding capacity (or similar), with their registered offices located further afield. Three stakeholder responses did not provide an address and were not publicly available.

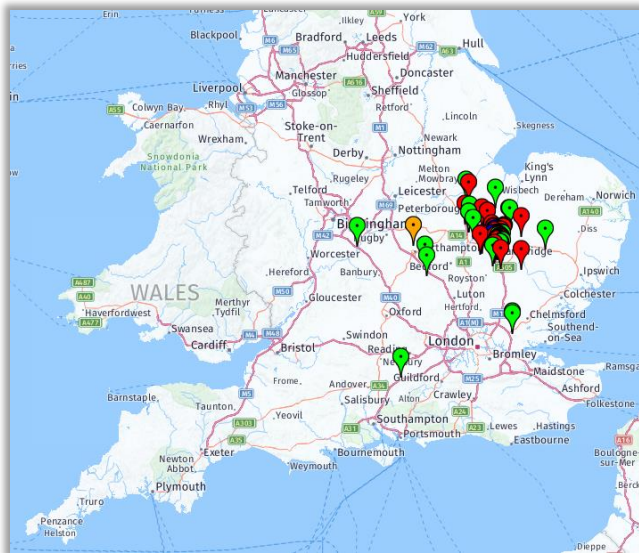




Fig 1. Respondents by given address (National view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)

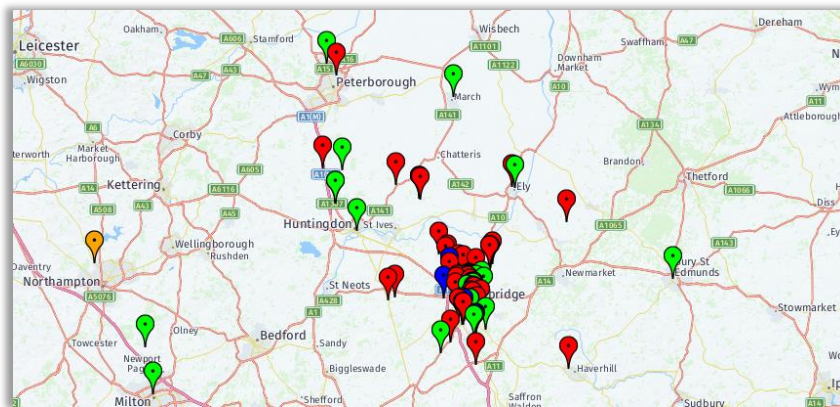


Fig 2. Respondents by given address (Regional view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)

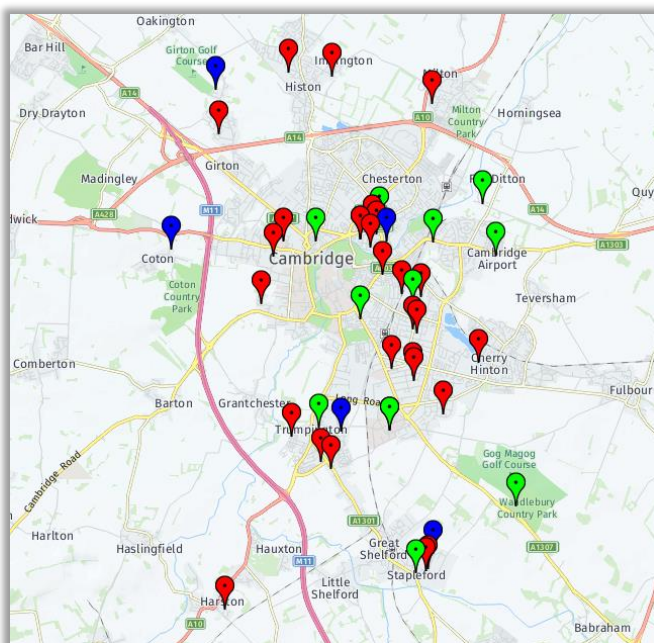


Fig 3. Respondents by given address (City Centre view)

(green = stakeholder; red = resident; blue = resident & business; orange = visitor to the region)



Nature of Respondents

- 2.2.2 Approximately half of responses were received from members of the public – 46 in total. 34 of the remaining responses were received from a variety of stakeholders, including businesses, voluntary/community organisations, and public sector bodies. 7 responses were received from individuals classified as both residents and having a business interest, whilst one response was provided by a visitor to the region.

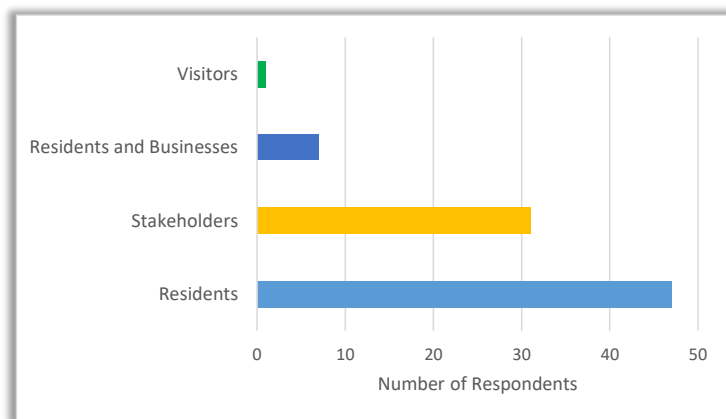


Fig 4. Respondents by nature

2.3 Overview of Survey Responses

- 2.3.1 Respondents stated that they understood the overarching need for CAM relatively well, with an average understanding of 76%.
- 2.3.2 When asked for their views on the proposed objectives of the CAM Sub-Strategy, the majority of respondents (67%) stated they agreed or strongly agreed with the suggested objectives, with a further 21% stating they had no view. Freeform comments on this subject revealed support for both the Sub-Strategy aims, and CAM as a whole. Others felt that CAM objectives would not be questioned as they were “ideals” shared by a wide proportion of the population, whilst others cast doubt on the deliverability of CAM.
- 2.3.3 53% of responses indicated that they agreed or strongly agreed that there is a strong alignment between the objectives of the LTP and the CAM Sub-Strategy, with a further 29% stating they neither agreed nor disagreed. This sentiment was echoed by the freeform responses to this question, although some felt that the LTP and Sub-Strategy did not align. A number of comments were also received on subjects not directly related to the question, including a desire to see the Cambridge-to-Cambourne (C2C) route delivered by the Greater Cambridge Partnership (GCP) to prevent further delays.
- 2.3.4 There was a reasonable level of support for the proposed economic sub-objectives of the Sub-



Strategy, with 62% supporting or strongly supporting these. The most frequent comment to this question was that CAM needs to service new settlements to support housing and business growth, whilst the need for reliable journey times was also referenced in some responses.

- 2.3.5 The societal sub-objectives were well received by respondents, with 62% expressing support or strong support for these as drafted. Affordability of fares was considered crucial to achieving these goals, others suggested the creation of a journey planner app for the region, whilst some commented that specific objectives needed refinement.
- 2.3.6 Overall, the sub-objectives relating to the environment received a positive response from respondents. 68% agreed or strongly agreed with the stated aims in this regard. This subject received a number of more specific individual comments, including approving the use of segregated routes, claims that objectives required more specific commitments, and a disapproval at the proposed future level of growth in housing across the region.
- 2.3.7 70% of respondents provided comments on the introductory text for CAM and the associated network map. The most frequent comments included support for CAM, a perception that Cambourne and Bourne are listed in the wrong order on the map, which some individuals felt required further details, including locations of proposed housing expansions, first and last mile links and the inclusion of additional stops on the Regional Routes.
- 2.3.8 Objective CAM 2 received a mixed reaction, with 53% agreeing or strongly agreeing with the suggestion that CAM will accelerate the delivery of housing in the region, with a further 19% disagreeing or strongly disagreeing, whilst 27% had no view. Comments received included support for the objective (a number of which were provided by developers), whilst individuals felt that CAM and other infrastructure should be delivered prior to the construction of new housing.
- 2.3.9 Objective CAM 3 relating to CAM promoting equity was received relatively well, with 56% stating they agreed or strongly agreed with the objective, whilst just 16% disagreed or strongly disagreed. Frequent additional comments to this question included the notion that affordability of fares is key to tackling social deprivation, that good 'first and last mile' links are required, and that CAM should seamlessly integrate with existing and proposed public transport services.
- 2.3.10 Support was also received from respondents for the CAM Objective 4 relating to economic growth and development, with 59% stating they agreed or strongly agreed with the proposed aim, whilst a further 26% neither agreed nor disagreed. The need for good 'first and last mile' links was also a frequent comment on this question, whilst a number of individuals felt that the objective is too high-level and that further commitments should be made.
- 2.3.11 When asked for their views on the proposed programme for CAM, 43% agreed or strongly agreed with the timescales and activities set out. A further 25% neither agreed nor disagreed, whilst 31% disagreed or strongly disagreed. Frequent comments on this question included a request for the timescales to be accelerated, doubts that the timescales would be met, requests for details of more activities/dates within the programme, and queries over how CAM will be funded.
- 2.3.12 The final question on the survey, enquiring if respondents had any further comments or queries regarding CAM, produced a high number of differing responses. These included both support for and opposition to CAM, the view that CAM should utilise light-rail technology, that existing infrastructure

should be improved instead of developing CAM and concerns that the capital cost of constructing CAM is excessive.

2.4 Analysis of Survey Responses

- 2.4.1 This section provides an analysis of responses to the specific questions asked on the survey. It should be noted that not all respondents provided an answer to each specific question listed on the survey.
- 2.4.2 Questions 1 to 3 on the survey enquired as the identity, location, and nature of respondents. The data for the latter two questions presented in paragraphs 2.2.1 and 2.2.2 of this report respectively to allow for collation of this data with that provided by freeform response submissions.

Section 1: Objectives and Sub-Objectives

Q4. To what extent do you agree or disagree with the proposed objectives of the draft CAM Sub Strategy contained within the table on Pages 5-9?	
Average of all responses	
	76%

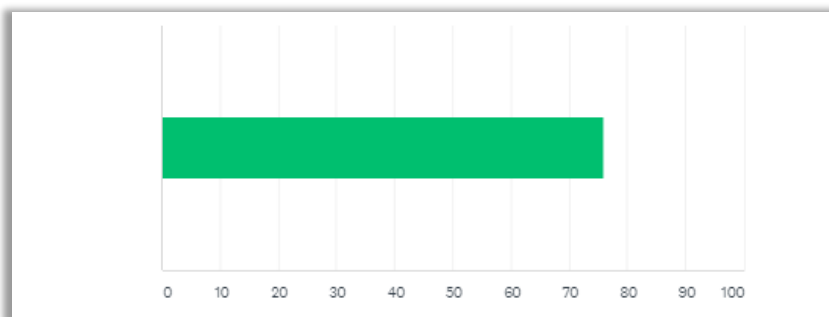


Fig 5. To what extent do you agree or disagree with the proposed objectives of the draft CAM Sub Strategy contained within the table on Pages 5-9?



Q5. To what extent do you agree or disagree with the proposed objectives of the draft CAM Sub Strategy contained within the table on Pages 5-9?

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
35%	32%	21%	2%	8%

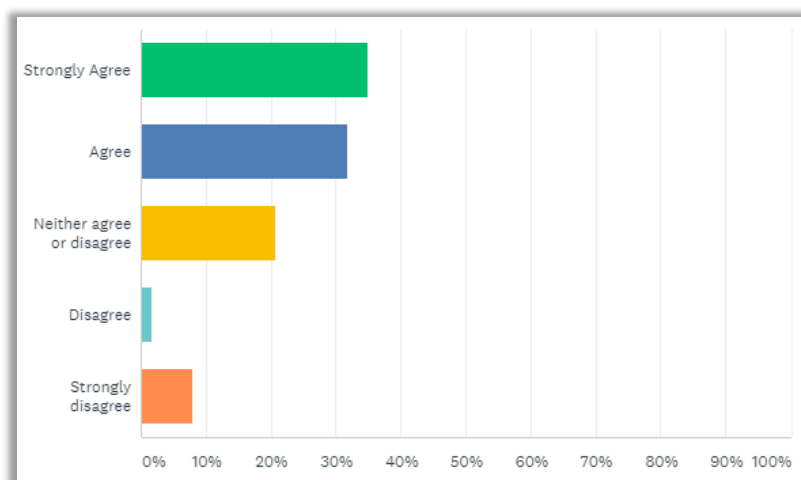


Fig 6. To what extent do you agree or disagree with the proposed objectives of the draft CAM Sub Strategy contained within the table on Pages 5-9?

Q5. Additional comments

Comment	Frequency
Support the aims of the Sub-Strategy	8
Support CAM	7
Objectives will be widely held and not questioned	3
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	3
Strongly agree with the objective of supporting new housing and development for growing population	2
Objectives cannot be achieved simultaneously	1
Need further details of Portals	1



CAM should be complemented by improvements to the bus network	1
Support the introduction of a Congestion Charge	1
Oppose further homes in the Green Belt	1
Objectives are too high level / vague	1
CAM should be delivered in a phased manner consistent with housing delivery	1
Strategy does not demonstrate how CAM is good value for money	1
Strategy does not demonstrate why a tunnelled solution is required	1
Include a policy that identifies the need for CAM to support growth of offices / research / laboratories	1
Sub-Strategy should not assume a growth in housing	1
Disapprove of proposed level of housing growth	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
Policies CAM 3 and CAM 4 should be given greater priority	1
Queried potential conflicts of interest between CPCA (CAM 1 and 2) and GCP (CAM 3)	1
CAM business cases should be evaluated against welfare / need factors	1
CAM does not address travel issues within Cambridge	1
CAM should utilise smaller vehicles	1
Strongly support the objective of promoting social inclusion through the provision of a sustainable transport network, that is affordable and accessible for all.	1
A balance needs to be struck between minimising adverse impacts on conservation, heritage, and natural community assets	1
Local Plans will allocate appropriate locations for housing delivery, CAM should not seek to influence this	1
Funding for City Tunnel Section should be secured prior to construction commencing on surface routes	1
Light Rail would be more cost effective than trackless tram technology	1



Q6. To what extent do you agree or disagree that there is a strong alignment between the objectives of the Local Transport Plan and those of CAM?

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
23%	31%	29%	10%	8%

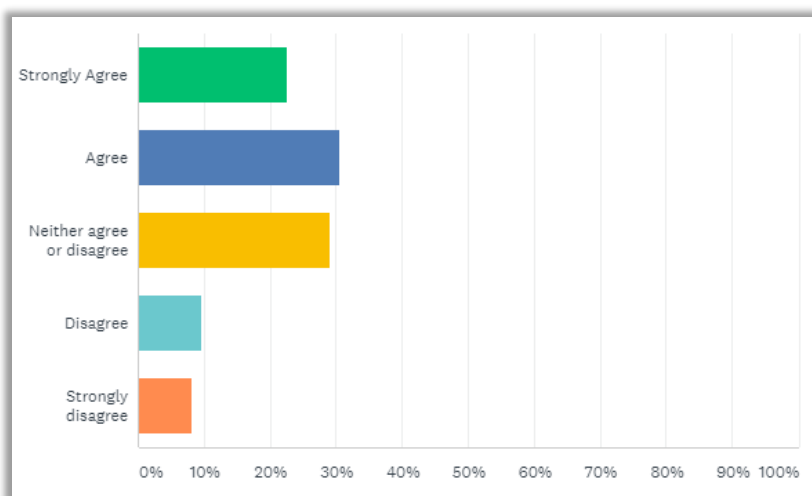


Fig 7. To what extent do you agree or disagree that there is a strong alignment between the objectives of the Local Transport Plan and those of CAM?

Q6. Additional comments

Comment	Frequency
Support the aims of the Sub-Strategy	5
Aims of LTP and Sub-Strategy align with one another	4
GCP should deliver C2C, which should not be delayed	2
Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	2
Restructured bus franchising would meet objectives better than CAM	1
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
Sub-strategy does not address practical impacts of the project	1



Objectives need to be more clearly defined / include more specific commitments	1
Supports the LTP and would welcome the opportunity to explore how CAM can become part of the LTP	1
A14 enhancement should be prioritised over CAM	1
This is a leading question	1
Sub-Strategy does not align with the Local Transport Plan	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
Sub-Strategy conflicts with LTP as the CAM network does not serve the entire region, and therefore will not address future transport challenges across the entire region	1
CAM should connect communities with each other, without passing through Cambridge	1
CAM does not address travel issues within Cambridge	1
Close alignment between the LTP and Sub-Strategy will see both documents share both the strengths and weaknesses of the LTP	1
City Tunnel Section will have negative environmental and heritage impacts on Cambridge	1
Oppose use of rubber tyred vehicles on environmental grounds	1
Concerned at use of unproven technology	1
City Tunnel Section will not enable capacity of the network to be increased in the long term if required	1
City Tunnel Section must be disabled accessible	1
CAM will incur long-term operating costs that will increase fares beyond affordable levels	1
CAM will encourage modal shift	1
Concerned about the deliverability of CAM	1



Q7. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the economy (CAM-E1 to CAM-E20)?

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
28%	34%	16%	7%	15%

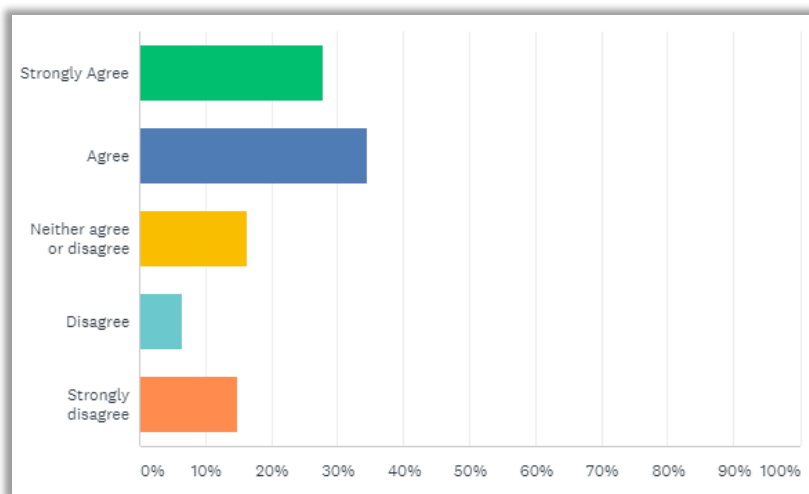


Fig 8. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the economy (CAM-E1 to CAM-E20)?

Q7. Additional comments

Comment	Frequency
CAM needs to service new settlements / support housing & business growth	4
Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to the economy	4
CAM needs to provide reliable journey times	2
Objectives need to be more clearly defined / include more specific commitments	2
Supportive of Policy CAM-E2	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
Concerned CAM will be funded by tax increases	1



Do not believe CAM is the right economic strategy due to impact of Covid-19	1
Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	1
Sub-Strategy should not assume a growth in housing	1
We are concerned about CAM-E18 and E-19	1
Sub-Strategy does not align with the Local Transport Plan	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
Development of East-West Rail reduces the need for CAM	1
Policy E1 requires further detail	1
Policy E2 should not be limited to new settlements being developed by development corporations	1
Clarity required on how CAM will place all residents within a 30-minute journey of employment	1
CAM vehicles are not suitable for demand-responsive working	1
Disapprove of proposed level of housing growth	1
Capacity of CAM should account for future growth	1
CAM needs to be delivered within the next decade	1
CAM needs to seamlessly integrate with existing/proposed public transport services	1
CAM E1 is too vague and requires further explanation	1
Objectives E9-E13 may further promote commuting to London	1
Sub-objective should be included that aims for a healthy balance between outward and inward commuting to/from Cambridge	1
CAM-E9 - Connection into heavy rail should be in two or three places, not at every station,	1
CAM-E10 - Transport Hubs must minimise walking distance, unlike the current positioning of the bus stops at the main railway station	1
Important that strategic scale development growth and transport projects are fully integrated on the A428 arterial route between Cambridge and St Neots.	1
Additional stations should be added to the network	1
CAM-E13 is contrary to the Local Plan	1
GCP have ignored requirement set out in CAM-E15 for segregated routes on C2C	1



CAM-EV1 should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	1
Consideration should be given to the impact of East-West Rail on CAM	1

Q8. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the society (CAM-S1 to CAM-S12)?

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
32%	30%	18%	10%	10%

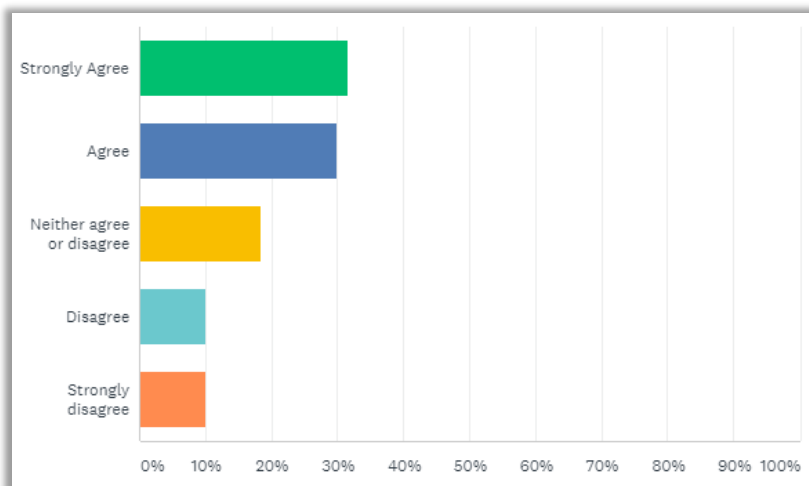


Fig 9. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the society (CAM-S1 to CAM-S12)?

Q8. Additional comments

Comment	Frequency
Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to society	8
Affordable fares are essential	4
A journey planner app should be developed for the region	2
CAM needs to seamlessly integrate with existing/proposed public transport services	2



CAM should cater for horse riders	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
CAM needs 'first and last mile' travel links	1
CAM needs to be sustainable	1
CAM network should run on surface streets in Cambridge if tunnelling proves too expensive	1
CAM objectives do not reflect the SOBC findings	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
CAM vehicles should accommodate bicycles	1
CAM will have a large impact	1
Consideration should be given to the impact of East-West Rail on CAM	1
Councils are not attempting to reduce air quality at present	1
Do not believe the wider public will feel safe on public transport following Covid-19	1
Further detail of 'first and last mile' travel options is required	1
Further detail/commitments should be made on reducing car usage	1
How many additional CAM stations are envisaged?	1
Is there a passenger number threshold for the provision of a station?	1
Objective S1 is overly demanding	1
Objective S4 should be limited to county-wide	1
Objective S9 is unclear	1
Objectives need to be more clearly defined / include more specific commitments	1
Strongly support sub-objectives S3 and S4	1
Sub-Strategy should not assume a growth in housing	1



Q9. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the environment (CAM-EV1 to CAM-EV2)?

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
33%	35%	12%	10%	10%

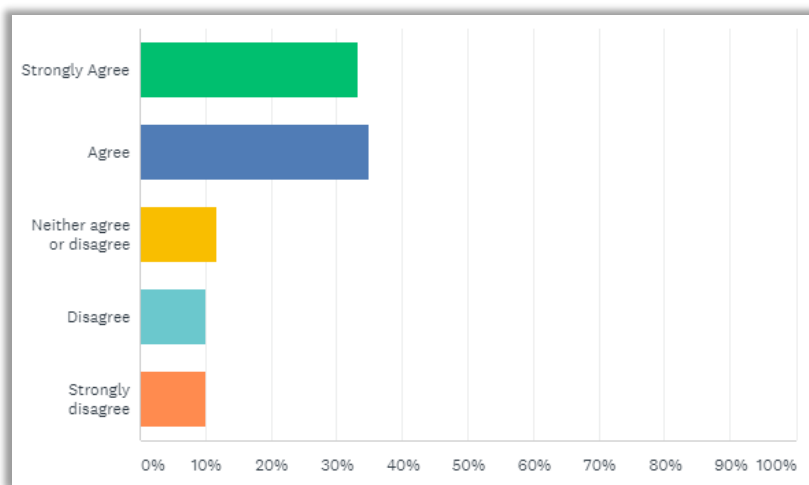


Fig 10. To what extent do you agree or disagree with the proposed sub objectives of the draft CAM Sub Strategy in relation to the environment (CAM-EV1 to CAM-EV2)?

Q9. Additional comments

Comment	Frequency
Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to the environment	7
Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	2
Approve of segregated routes	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
CAM will have a negative environmental impact	1
Cleaning up / decarbonising existing infrastructure should take priority over delivering CAM	1
Objectives need to be more clearly defined / include more specific commitments	1



Oppose use of concrete in construction on environmental grounds	1
Sub-Strategy should not assume a growth in housing	1
It should be clear that CAM-EV2 is a desire but not influence the choice of technology	1
Disapprove of proposed level of housing growth	1
Sub-Strategy should provide additional protection for green spaces	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
Sub-Strategy should include commitments to addressing existing environmental issues	1
Objective EV1 should be reworded positively to promote development in sustainable locations, instead of aiming to prevent unsustainable fringe development	1
Objectives are misaligned in respect of villages - CAM aims to connect them, yet is supposedly unsuitable for the purpose	1
Consideration should be given to environmental impact of tourist coaches	1
Sub-objective EV1 should be given greater weight than E4 if the two come into conflict	1
Light Rail should be favoured over trackless tram technology due to environmental impacts of rubber tyres	1
CAM-EV1 should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	1



Section 2: About CAM

Q10. Do you have any comments on the introductory text to the CAM on Pages 10 and 11 (including the map of the network)?	
Comment	Frequency
Cambourne and Bourne are in the wrong order on the network map	4
Network map is not detailed enough	4
Support CAM network	4
Doubtful timescales will be met	2
Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	2
CAM needs 'first and last mile' travel links	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	2
Unsure on City Tunnel Section	1
City Tunnel Section will be too costly	1
CAM should be a light rail or tram system	1
CAM should not be a bus-based system	1
The CAM service should operate early mornings, late nights, and weekends	1
The CAM service should be frequent to encourage usage of the network	1
CAM should serve both the existing and new Waterbeach stations	1
How will the existing Guided Busway be impacted?	1
Number of stations should increase with population density	1
More station locations should be created in the city centre	1
Further detail/commitments should be made on reducing car usage	1
Concerned that the project will not deliver on its promises	1
Oppose replacement of Scotland Farm P&R with Madingley Road P&R	1
A CAM stop is needed at Hardwick	1



A CAM stop is needed at Burwell	1
A CAM stop is needed at Swaffham Bulbeck / Prior	1
A CAM stop is needed at Fordham	1
A CAM stop is needed at Isleham	1
A CAM stop is needed in Fenland	1
Will CAM deliver additional benefits beyond those of existing public transport services?	1
The Network Map should note that C2C/ Regional Routes are surface level transport solutions	1
Sub-Strategy does not demonstrate the impact on existing narrow roads / historic buildings	1
Requested further details on journey times	1
CAM will be beneficial to the environment in the long-term	1
How will CAM impact the environment during construction?	1
Would like to see a firmer commitment to a wider CAM network	1
CAM should include routes that do not travel via Cambridge	1
Job opportunities should be spread throughout the wider region instead of building CAM	1
The reference to autonomous vehicles is unnecessarily specific	1
The proposed timeline is 'front loaded' with City Tunnel to follow by 2029	1
Concerned that CPCA and GCP are not aligned with one another	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
CAM should extend further south	1
Queried level of demand for the Waterbeach Regional Route	1
Further investigation of the implications of autonomous technology is required	1
CAM needs to consider proposed employment land use outlined in Local Plans	1
Network map should illustrate existing PT services, settlement sizes, planned developments, pollution, current traffic flows and existing station capacity issues	1
CAM does not address travel issues within Cambridge	1



Requested further details on benefits and drawbacks of CTS	1
Support the inclusion of Haverhill within the CAM network	1
Will interim surface-level routes be provided during construction of the City Tunnel Section?	1
Assess the impact of Covid-19 upon future travel demand	1
Clarity is required on the Portal locations	1
Description should refer to education-related travel in addition to employment-related travel	1
Oppose segregated routes that would impact existing green spaces	1
Cambridge Airport should be accessed via the existing Newmarket Road/former Mildenhall railway alignment	1
Too many stops are duplicating the heavy rail network, more sensible approach would be to put the metro stop in the middle of new town	1
Frequency of journeys into the centre and back out again - Better idea would be to take Waterbeach branch across to Cottenham, then down through Histon or Girton	1
Metro stop should be more central, and positioned to serve those furthest from the railway station	1
The introductory text should acknowledge that the regional arterial route between Cambridge and St Neots offers enormous potential to integrate a new rail route with the CAM network through a strategic public transport interchange.	1
What alternatives to CAM have been considered?	1
Supportive of station locations on C2C route	1
Funding for City Tunnel Section should be secured prior to construction commencing on surface routes	1
Light Rail would be more cost effective than trackless tram technology	1
Consideration should be given to the impact of East-West Rail on CAM	1



Section 3: Policies & Timescales

Q11. To what extent do you agree or disagree with the proposed wording around CAM 2: Supporting the acceleration of housing delivery?				
Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
26%	27%	27%	6%	13%

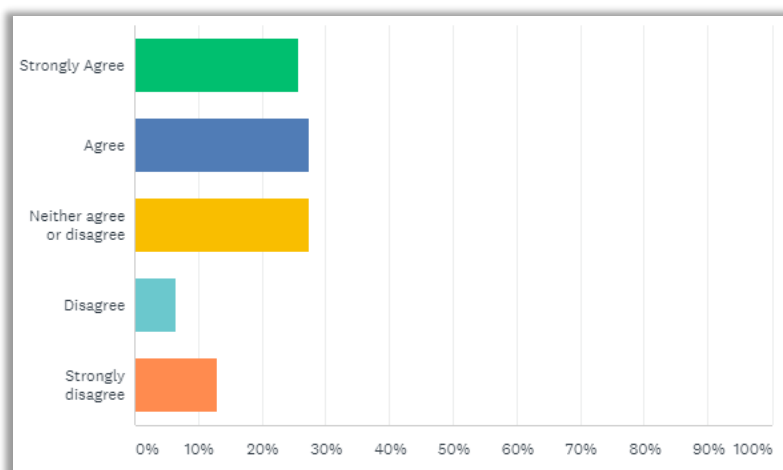


Fig 11. To what extent do you agree or disagree with the proposed wording around CAM 2:
Supporting the acceleration of housing delivery?

Q11. Additional comments	
Comment	Frequency
Supports the strategy to accelerate housing delivery	8
CAM/infrastructure should be delivered before new housing is built	4
CAM will benefit the wider region	2
CAM should cater for horse riders	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
Integration with wider region is vital	1

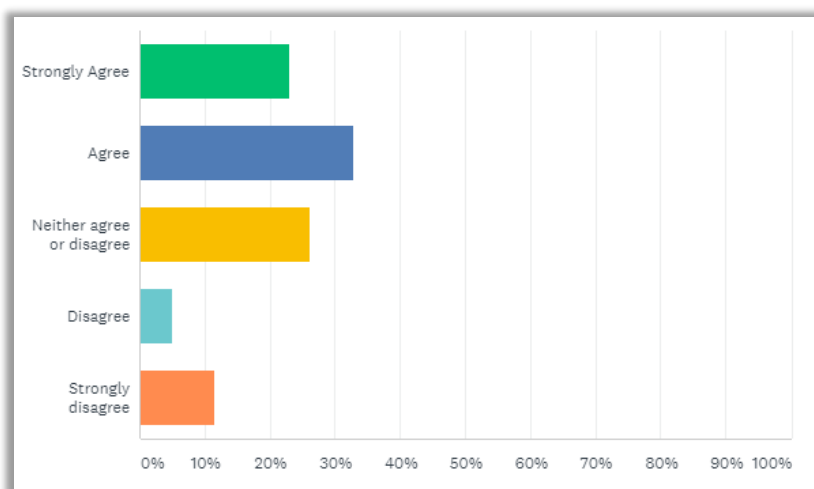


Assess impact of Brexit and Covid-19 on projected population growth	1
Disagree with Policy CAM 2 as it does not align with Local Plan timescales	1
Sub-Strategy should not assume a growth in housing	1
Disapprove of proposed level of housing growth	1
Evidence of housing delivery is required before CAM can proceed	1
CAM needs to balance needs of existing and future residents	1
Timeline should take into account the Uttlesford and South Cambridgeshire Local Plans	1
CAM does not align with the relevant Local Plan(s)	1
Crucial that CAM links new settlements with employment centres	1
Transport for new developments should be provided by CAM, not be taking already overcrowded facilities from existing residents	1
Sub-Strategy should reference how CAM can help deliver sustainable growth to existing settlements	1
Local Plans will allocate appropriate locations for housing delivery, CAM should not seek to influence this	1
Unconvinced that CAM will accelerate housing delivery due to other obstacles, including land banking	1



**Q12. To what extent do you agree or disagree with the proposed wording around CAM 3:
Promoting equity?**

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
23%	33%	26%	5%	11%



**Fig 12. To what extent do you agree or disagree with the proposed wording around CAM 3:
Promoting equity?**

Q12. Additional comments

Comment	Frequency
Support the equity sub-objectives	5
CAM needs to seamlessly integrate with existing/proposed public transport services	3
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	2
Affordability is essential to tackle social deprivation	2
CAM needs good bus links for 'first and last mile' travel	2
Minimise walking distances within stations	2
No view on equity sub-objectives	1

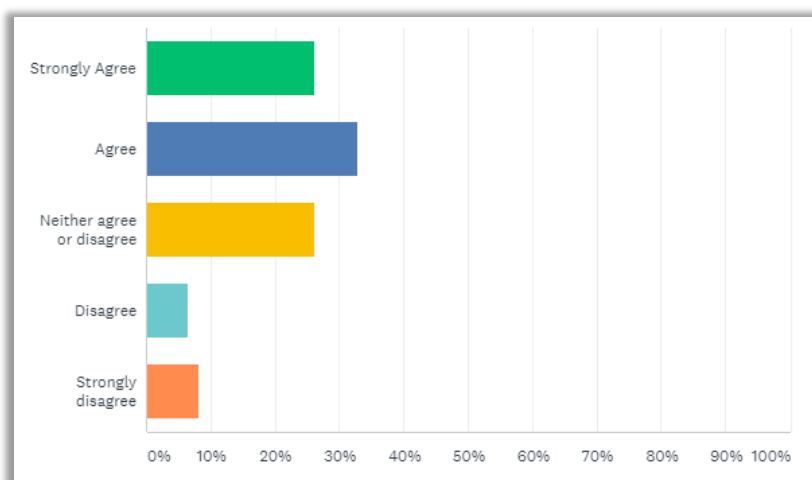


Focus should be on delivery instead of societal goals	1
Bus links should radiate from CAM stations	1
How do the timelines for CAM link with the development of sites identified in the various Local Plans?	1
Allow GCP to deliver C2C to prevent further delays	1
We would want to see a widening of the scope to this priority	1
CAM should cater for horse riders	1
Job opportunities should be spread throughout the wider region instead of building CAM	1
CAM-S11 should improve air quality particulates	1
Further detail on how equity will be achieved is required	1
Extensive service hours are essential to tackle social deprivation	1
CAM3 should include a reference to integration with Whittlesford Station masterplan	1
CAM objectives do not reflect the SOBC findings	1
CAM should include provision of cycling infrastructure	1
New forms of transport need to be considered for 'first and last mile' transport - e.g. e-scooters, autonomous vehicles	1



**Q13. To what extent do you agree or disagree with the proposed wording around CAM 4:
Promoting sustainable growth and development?**

Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
26%	33%	26%	7%	8%



**Fig 13. To what extent do you agree or disagree with the proposed wording around CAM 4:
Promoting sustainable growth and development?**

Q13. Additional comments

Comment	Frequency
CAM needs good links for 'first and last mile' travel (bus / bicycle etc.)	4
Supportive of the sustainable growth and development sub-objectives	4
Objectives are too high level / vague	3
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	2
Further commitments should be made	2
Sustainability is expected	1
Further detail/commitments should be made on reducing car usage	1



A commitment should be made to utilise renewable energy	1
CAM should cater for horse riders	1
CAM will not promote sustainability	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
A commitment to promote public services at reasonable costs should be made	1
Further detail of 'first and last mile' travel options is required	1
CAM objectives do not reflect the SOBC findings	1
CAM needs to balance needs of existing and future residents	1
Provide additional details for sub-objective EV1	1
Conditions not classed as physical disabilities should be mitigated through design, beyond step-free access	1

Q14. To what extent do you agree or disagree with the program, in terms of milestones outputs and dates?				
Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
21%	21%	25%	16%	15%

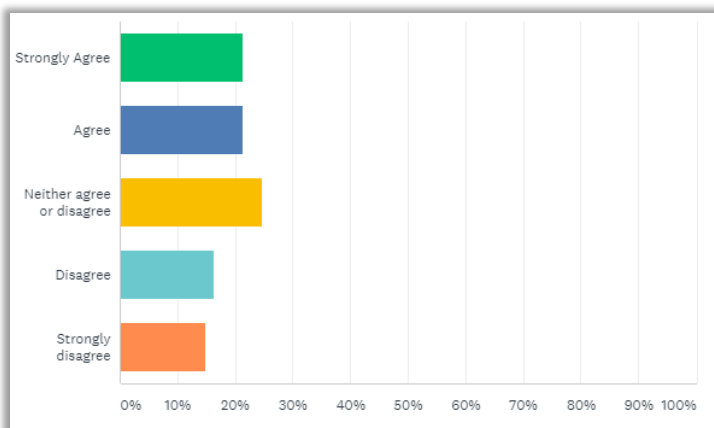


Fig 14. To what extent do you agree or disagree with the program, in terms of milestones outputs and dates?

Q14. Additional comments

Comment	Frequency
CAM timescales should be accelerated	5
Doubtful timescales will be met	4
How will CAM be funded?	3
Requested more detailed timescales	3
Oppose CAM	2
Timelines should be integrated with those of the Local Plan processes	2
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	1
Costs will increase with longer timescales	1
Improving existing infrastructure should take priority over delivering CAM	1
Where does the Sub-Strategy consultation fit into the timelines?	1
CAM network should run on surface streets in Cambridge if tunnelling proves too expensive	1
Further details to explore the future phases of CAM	1
Supportive of the programme proposed	1
CAM should cater for horse riders	1
CAM will expand the north/south divide in Cambridgeshire	1
Support the ambition / innovation behind CAM	1
CAM is a waste of public money	1
CAM should not proceed beyond OBC stage until the findings of the bus reform taskforce are available	1
CAM timescales should not slip	1
Programme should include assessment of potential surface level routes during construction of the City Tunnel Section	1
Programme should indicate phased opening date of all sections	1
Further details to explore on where stops will be, and where the lines will go	1

Two or three other possible routes into new development, along Mere Way, beyond the stop at the Science Park	1
The expressed targets are realistic and achievable	1
Timescales are unrealistic for the adoption of autonomous technology	1
Corridors/routes in areas where growth is already occurring should be prioritised for earlier delivery	1

Section 4: Other Comments

Q15. Is there anything else you feel we should consider (any additional comments)?	
Comment	Frequency
Support CAM	3
Oppose CAM	3
Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	3
CAM should be a light rail or tram system	3
CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	2
Critical of Sub-Strategy Consultation	2
Improving existing infrastructure should take priority over delivering CAM	2
Cost of CAM is too high	2
Approve of segregated routes	1
CAM should not be a bus-based system	1
Light rail/tram system will provide a greater capacity than a bus system	1
CAM network should begin operation in phases	1
Utilise existing roads to accelerate timescales	1
A quantified objective to reduce car usage within CAM network area should be included	1
CAM timescales should be accelerated	1
Fear of 'NIMBY' objectors	1



Do not believe CAM should proceed due to impacts of Covid-19	1
Has the impact of rising sea levels been assessed?	1
A CAM stop is needed at Burwell	1
A CAM stop is needed at Fordham	1
A CAM stop is needed at Isleham	1
CAM is needed in Fenland	1
Additional coach parking is needed in Cambridge	1
Why are stations proposed close together at Cambridge North, Science Park and Science Park North?	1
Will there be additional stations on the Regional Routes?	1
Why is a tunnel needed between Cambridge Station and the Biomedical Campus, given that the busway already exists?	1
Provide interim surface level routes in Cambridge during construction of the City Tunnel Section	1
CAM is a waste of public money	1
CAM will take too long to build	1
Requested publication of timetables in the near future	1
Job opportunities should be spread throughout the wider region instead of building CAM	1
CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	1
CAM needs to balance needs of existing and future residents	1
CAM should utilise smaller vehicles	1
Support Objective CAM 4	1
CAM needs 'first and last mile' travel links	1
CAM vehicles should accommodate bicycles	1
CAM should create cycleways alongside dedicated routes	1
Integrate CAM with the Cambridge Greenways programme	1
Engage with the National Cycle Network to improve existing routes (E.G. NCN 11 & NCN 51)	1



Caseby Estates would welcome the opportunity to engage with CPCA	1
CPCA and GCP need to collaborate with one another to reduce the risk to the project	1
CAM needs to seamlessly integrate with existing/proposed public transport services	1
Include expected passenger numbers and split between travel modes	1
Include detail on existing obstacles to sustainable transport in Cambridge	1
Provide detail on how results of 2021 census will impact CAM	1
Could CAM vehicles operate on hydrogen?	1
Need to explain how the impact of Covid-19 has been considered	1
Sub-Strategy should include a review of historic and expected commuter travel	1
What alternatives to CAM have been considered?	1
Vehicle technology requires approval for use on all sections of the CAM network before construction begins on surface routes	1
City Tunnel Section should open before surface routes	1
City Centre station should be located at the Grafton Centre	1
Enhancing environmental, historic, and built environments is the most important aim of AM	1
Sub-Strategy should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	1

2.5 Analysis of Freeform Responses

2.5.1 This section provides an analysis of freeform responses received from stakeholders and organisations (including via email and letter):

Analysis of Freeform Responses (Stakeholders)	
Stakeholder(s)	Key Comment(s)
Cambridge Past, Present and Future	<ul style="list-style-type: none"> Remain unconvinced that CAM is either necessary, economically viable, realistic, or deliverable Hold doubts over funding, given Government's focus on the Midlands & North, and the impact of Covid-19 Investigations should be made into non-tunnelled solutions for 'Plan B' scenario Oppose level of growth proposed by CPCA on grounds of unsustainability, adverse impacts on the environment, Green Belt, and quality of life Object to Objective CAM 2 on the grounds that no evidence exists to illustrate that CAM will deliver accelerated housing delivery. LTP has no basis for proposing location/nature of future development, which is dictated by Local Plans. Recommend removal of objective. Believe that CAM Sub-Objective CAM E15 is contrary to the Local Plan Objective to "deliver a transport network that protects and enhances our natural, historic and built environments" due to the impact of constructing dedicated, segregated CAM routes through greenfield land Recommended re-word of Sub-Objective CAM E15 to "Dedicated segregated route where appropriate" Object to the inclusion of "New Garden Village settlements" and "Supporting the development of new settlements being brought forward by any future development corporate created in the Oxford-Cambridge corridor" in Sub-Objective E2 Object to Sub-Objective E20 on the grounds that it is too prescriptive. Recommend reword to "CAM will be designed to maximise passenger trips" Support Sub-Objective EV1, but object to wording. Impacts should be "avoided" instead of "minimised" where possible, whilst scope of impacts should be expanded (e.g. to include landscape character). Recommend re-word of second part of Sub-Objective EV1 to "Aims for 20%



	<p><i>biodiversity net gain, achieves at least 10% biodiversity net gain and where possible offers additional visual and environmental enhancements" to ensure alignment with GCP's schemes</i></p> <ul style="list-style-type: none">• Objective CAM 4 is inadequate as it does not reference environment, biodiversity, or community• OBC consultation was inadequate• Timescales are unrealistic• Recommend inclusion of a policy on delivery method(s) for CAM• Feel unable to make a judgement on CAM when alternative options for improving transport have not been presented• Expressed concern that CAM mirrors existing/planned public transport routes (e.g. East-West Rail, Waterbeach rail line) and that CAM would compete with these services• Expressed reservations that an underground solution will limit passenger numbers and increase costs in comparison to a surface solution.• CPCA should provide clarity on whether CAM is being proposed to resolve congestion problems arising from current & planned-for levels of growth, or proposed government growth levels.
Cambridge Biomedical Campus (CBC) and Cambridge University Hospitals (CUH)	<ul style="list-style-type: none">• Supportive of CAM as a whole• CAM, together with other transport improvements such as East-West Rail, will provide campus staff to a wider range of potential housing locations• CAM will be instrumental in supporting the delivery of further expansion of the campus by providing additional travel options for staff and visitors• CAM is essential to reduce local congestion and single car occupancy rates• CBC wish to engage with CPCA regarding location of the station(s) in the vicinity of the campus, and with both CPCA and Network Rail to understand how CAM and the proposed Cambridge South station will integrate with one another• CPCA should engage at an early stage with landowners associated with and adjacent to Francis Crick Avenue• Supportive of strong focus on sustainability and interactions with other travel methods



	<ul style="list-style-type: none">• CAM will assist in accelerating the delivery of housing and new settlements
Cambridge City Council and South Cambridgeshire District Council (joint response)	<ul style="list-style-type: none">• Suggestion in objective CAM 2 that CAM is critical to delivering the current growth strategy is incorrect and not consistent with the adopted Local Plans, which are not specific as to how high-quality public transport should be provided.• CAM 2 should be amended to state “the appropriateness and locations of new settlements will be examined through the planning process”• Sub-Strategy does not accurately portray the role of the LTP and the sub-strategy in determining future special planning decisions. CAM cannot pre-determine future growth, as this responsibility lies with the relevant Councils as Local Planning Authorities• Programme should set out clear timescales for the delivery of both the entire CAM network and the phasing of components projects (e.g. C2C, CSET and so forth)• Further core principles need to be added in respect of heritage impacts, natural community assets and environmental net gain requirements• Ambition for zero-carbon CAM should be acknowledged• Sub-Strategy should demonstrate how CAM will integrate with local/regional strategies across a wide range of themes• CAM 3 objective should make reference to adopted and emerging Local Plans• Second bullet point of sub-objective CAM-E2 should be rephrased to “Future growth as identified in Local Plans”• Phrase “existing designations” should be removed from sub-objective CAM-E8• CAM-EV1 should include reference to protecting the character of the city of Cambridge, not just character of regional villages, and should support environmental net gain requirements/other environmental improvements where possible• Supportive of sub-objective CAM-EV2• Network map requires amending to show Bourn to the east of Cambourne• As Cambridge and South Cambridgeshire Local Plans will deliver 33,500 homes, it is assumed that the remainder of the 61,000 referenced in CAM 2 will be delivered in other districts



Cambridgeshire County Council	<ul style="list-style-type: none"> • Supportive of both CAM as a whole, and the proposed objectives, in particular the desire for CAM to be net zero by 2050 • Expressed a desire to work with CPCA with regards to the interface between CAM, the highway network, existing public transport, and cycle networks • Keen to see and understand in further detail how CAM will interact with other existing/proposed transport schemes, with a particular focus on local bus services and cycle routes, in addition to the A428 upgrades, East-West Rail and Cambridge South • Cycle parking and links to local 'first and last mile' transport solutions should be provided at all CAM stations to encourage multi-modal journeys • Supportive of the move towards autonomous vehicles • Desire to understand how CAM will support Local Plan growth and potential new garden villages • What impact will Covid-19 have upon the business case for CAM?
Coton Parish Council	<ul style="list-style-type: none"> • Strongly supportive of sub-objective CAM-E14 regarding integration with existing and proposed transport services • Sub-Strategy should commit to avoiding environmental impact if possible, in the first instance, instead of minimising it, as per the NPPF • Stakeholders involved in the C2C LLF have been disappointed at GCP's lack of regard for the environmental concerns shown by major organisations, including the National Trust, Natural England and CPPF • Support CAM-EV1 sub-objective and, by extension, oppose any route of C2C that will run close to existing houses in Coton
Crest Nicholson & Engie	<ul style="list-style-type: none"> • Supportive of CAM as a whole • Keen to explore potential links between CAM and development at Wyton Airfield • CAM could accelerate growth at both Wyton Airfield and across the region • Relationship between LTP and Sub-Strategy is coherent • Supportive in principle of the Sub-Strategy Objectives and Sub-Objectives • Supportive of Objective CAM 3
Dry Drayton Estates Ltd and P X Farms Ltd (joint response)	<ul style="list-style-type: none"> • Expressed high-level support for the aims of the Sub-Strategy • Agree that there is strong alignment between the Sub-Strategy and LTP, whilst also noting recent disagreements between GCP and CPCA



	<ul style="list-style-type: none">• Support the sub-objectives relating to the economy, society, and environment.• Stressed that any delays in the delivery of CAM will have a knock-on impact upon the rate of housing delivery• Requested a discussion with CPCA regarding a potential station at Bourne utilising land owned by the respondent(s)• Approve of objectives CAM 2 and CAM 3• Further details should be provided in respect of the delivery timescales• Re-iterate support for a CAM station at Scotland Farm• C2C route should be prioritised for delivery
East Cambridgeshire District Council	<ul style="list-style-type: none">• Expressed support for the project and a desire to work in conjunction with CPCA to deliver benefits for East Cambridgeshire• Agree that CAM will drive improvements to the local economy• Supportive of the economic, societal, and environmental sub-objectives• Requested that the possibility of a further extension to Ely/Stretham is explored by CPCA• Expressed a desire for (a) CAM station(s) to be located in East Cambridgeshire
Farmland Reserve UK Ltd	<ul style="list-style-type: none">• CAM is vital to unlocking future development• CAM will assist in addressing the existing levels of congestion in Huntingdon and St Ives• CAM will accelerate both economic and housing growth within the wider region• Seeking to promote development of their land in the vicinity of Huntingdon• Expressed support for objective CAM 3 regarding the social aims of CAM• CAM should interlink with existing/proposed transport modes to facilitate multi-modal journeys
Huntingdonshire District Council	<ul style="list-style-type: none">• 'Need for CAM' is not fully demonstrates and thus the Sub-Strategy requires additional detail on how CAM will be transformational and create modal shift• Impact of Covid-19 on CAM should be addressed



- Further details are required on how CAM will reach net zero in sub-objective S2
- Concerned that CAM is focused upon key housing sites and will not provide benefits for residents of more rural settlements (e.g. Ramsey), and therefore further transparency required on how CAM will improve connectivity
- Agree that the LTP and Sub-Strategy are closely aligned
- Strongly support sub-objectives E9 to E13 (inclusive)
- Would welcome sight of early indications on how CAM will impact existing/proposed transport hubs
- Re-expressed a preference for Option A for the City Tunnel Section alignment
- Sub-Strategy should note that the CPIER is not a policy document, despite forming the basis of such policies
- Supportive of integration with other transport projects, and requested further detail of integration between CAM and East-West Rail
- Support sub-objective S9 relating to pedestrian and cycle movements
- Needs of disabled users need to be better represented in the sub-objectives
- Sub-objective EV1 should be reworded more positively and commit to a biodiversity net gain, as currently the sub-objective sets a lower standard than the Huntingdonshire Local Plan
- Expressed a desire to explore potential extension of CAM to Ramsey
- Network map lacks detail
- CAM may assist in the acceleration of housing delivery, but will not dictate this
- CAM 2 should make reference to strategic sites, including St Neots East
- For the scheme to be equitable, there should be reference to affordability for all in CAM 3
- Timescales for CAM should be delayed from summer 2020 to allow integration with Bus Reform Task Force report that is due to be published in late 2020
- CAM 4 should reference safety aspects of walking and cycling throughout



	<p>the day and night, and commit to safe and secure cycle parking throughout the CAM network</p> <ul style="list-style-type: none">• Welcome the provision of additional detail when available, particularly regarding CAM's relationship with transport hubs• Stressed the need for integration between the Sub-Strategy and Huntingdonshire Transport Study
Marshall Group Properties (MGP)	<ul style="list-style-type: none">• Express support for the objectives, but query the need for the extensive number of sub-objectives that may reduce the clarity of the document• Suggested rewording of sub-objective E2 to <i>"Support new employment by enhancing sustainable access to key existing and planned employment zone and major areas of growth."</i>• Draft objective CAM-E2 should be revised to state that the CAM will support growth in line with adopted and emerging spatial strategies set out in local plans• Requested a rewording of sub-objective E3 to <i>"Link jobs with homes to underpin a wider transport network for Cambridge that is grounded in active travel and frequent, reliable, convenient public transport."</i>• CAM will support the spatial strategy for wider Cambridge, but will not dictate the location of development, which is to be decided through the Local Plan process.• Sub-objective E8 should reference longer term growth• Further clarity should be provided for sub-objective E11, with a potential rewording as <i>"To be developed to integrate with walk and cycle and other transport initiatives that provide first and last mile connectivity to CAM"</i>• Term <i>"proven technology"</i> should be used in sub-objective E16• In relation to sub-objective E20, MGP does not believe that a 24-hour service is necessary for CAM to be successful• Further detail as to what CPCA considers "environmental requirements" should be provided in sub-objective S2• Sub-objectives S11 and S12 are outcomes of CAM, not aims or strategies• Query the need to commit to allowing other vehicles to utilise the CAM network if they are compatible, as this may compromise the system• LTP and Sub-Strategy are strongly aligned



	<ul style="list-style-type: none"> • Delivery of the initial elements of the regional routes (i.e. projects currently being pursued by GCP) should be prioritised at this stage, with emphasis on the sustainability benefits for Cambridge to ensure modal shift is achieved • In favour of objectives CAM 2, 3 and 4 • Sub-Strategy should indicate if individual sections of the CAM network could be delivered in isolation from one another, and if so, the Sub-Strategy should allow this to happen to provide flexibility • Delivery timescales for the City Tunnel Section align with delivery of development at Cambridge Airport
Martin Grant Homes (in relation to land interests at Coton)	<ul style="list-style-type: none"> • Supportive of CAM as a whole • Objectives (including CAM 2) and sub-objectives (including E6 and S5) should be expanded to note the importance of CAM linking to/existing settlements • Supportive of a CAM station at Coton • Focus of LTP objectives are somewhat lost within the sub-objectives of the Sub-Strategy • CAM will accelerate the allocation and delivery of new development(s)
Martin Grant Homes and Harcourt Developments (joint response, in relation to land at Cambourne)	<ul style="list-style-type: none"> • Seeking to promote development on their site at Cambourne • CAM station at Cambourne should be integrated into plans for future expansion of the settlement, and not 'retrofitted' to the current settlement • P&R ride travel hub on the C2C route should be located at Camborne, not Scotland Farm
Smarter Cambridge Transport	<ul style="list-style-type: none"> • Sub-Strategy should include an analysis of project risks, including those associated with construction, commissioning, funding, design, rising maintenance costs, need to retrofit vehicles upon discovery of an issue • Although light rail is more expensive, adoption of 'trackless tram' technology carries higher risks than light rail due to the lack of previous experience in constructing such systems • CAM should integrate with coach services to allow tourists to provide demand for the network in off-peak hours • A new coach station, with a CAM interchange, should be located at the Girton Interchange, and would reduce congestion in the city of Cambridge
Trinity College, Cambridge (in relation to)	<ul style="list-style-type: none"> • Supportive of proposed CAM station at Cambridge Science Park North, and seeking to promote future development at this site



Cambridge Science Park)	<ul style="list-style-type: none">• Approving of the proposed objectives, noting that the most important aim of CAM will be to link settlements with employment centres• Agree that there is a strong alignment between the LTP and Sub-Strategy, which will assist in providing a genuine alternative to the private car• Supportive of the economic sub-objectives, and believe that the success of CAM will be judged on its ability to enable and accelerate further economic growth• Societal and environmental sub-objectives are supported, whilst it is noted that a key challenge facing CAM will be to assist the relevant LPAs in bringing forward both residential and employment growth without further detrimental impact on congestion and air quality• Cambridge Science Park North station should be located to the west of the Cambridge Science Park station on the network map• CAM network will provide benefits to those in education, including at Cambridge Regional College, giving them access to additional opportunities for work and providing a further economic boost• Network map should include all existing and planned Park and Ride sites, including those at West Cambridge and Waterbeach• Waterbeach route is essential to both objective CAM 2 and to link planned homes and employment• Heavy rail services between Waterbeach and Cambridge North would not be sufficiently frequent to drive economic growth and prosperity• Heavily supportive of objective CAM 4• Urged swift delivery of Waterbeach route, which should be delivered as one of the first phase(s) of the CAM network•
Trumpington Residents Association	<ul style="list-style-type: none">• Remain unconvinced of the need for or viability of CAM at current capital cost estimates• Oppose CPCA's proposed level of growth up to 2050, regarding it as unsustainable due to the impact upon the Green Belt• Further information is required before a judgement can be made on the potential need for CAM (e.g. predicted passenger flows, service patterns/frequencies, fare levels, integrated ticketing systems, environmental impacts)



- Impact of Covid-19 on CAM needs to be considered
- Queried high costs of City Tunnel Section against the lower costs of the GCP schemes
- CPCA should provide clarity on whether CAM is being proposed to resolve congestion problems arising from current & planned-for levels of growth, or proposed government growth levels.
- Owing to a lack of information, judgements on sustainability cannot be made at the present time
- CPCA should publish separate viability assessments for the City Tunnel Section, GCP schemes and Regional Routes to enable a judgement to be made on the need for CAM
- Disproportional balance of sub-objectives towards the economy over society and environment requires addressing
- Objective CAM 4 and sub-objective EV1 should commit to protecting Cambridge's Green Belt
- Support sub-objective E2, and suggest that further sub-objectives are added to measure further positive environmental impacts of CAM that will be made possible by achieving modal shift
- Suggest addition of a sub-objective that commits to the positive environmental impact of CAM infrastructure (e.g. stations)
- Sub-objective EV2 should be expanded to reference reduced emissions from other sources, such as rubber tyred vehicles
- Clarification is needed on the definition of the term 'agglomeration' in sub-objective E1
- Strongly supportive of objective CAM 3, whilst noting that sub-objective S3 regarding affordable fares is key to achieving objective CAM 3
- Feb-Apr 2020 consultation did not consult on the CAM OBC and reference to this in the Sub-Strategy should be amended accordingly
- FBC should be accelerated and brought forward from March 2021
- Queried compatibility between timescales for construction/design of GCP schemes to begin in late 2024 and planned opening of the Regional Routes in 2024
- Integration of CAM with other/existing public transport services, including



	<p>the bus network, is key to achieving modal shift</p> <ul style="list-style-type: none">• Support proposed integration with proposed/existing public transport services, but further detail is required on how this will be implemented• Sub-Strategy should reference potential integration with existing/proposed mainline rail services• Expressed desire to see walking and cycling infrastructure to be delivered as part of CAM, as is proposed for CSET
Urban&Civic	<ul style="list-style-type: none">• Urged close integration with East-West Rail, and provision of cycleways alongside dedicated CAM routes• Strongly support the objectives of the Sub-Strategy, and agree that these strongly align with the aims of the LTP• Economic sub-objectives should commit to providing cycle routes as part of/adjacent to the CAM network• An interim review of the CAM OBC will be required to ensure integration with the re-sited Waterbeach station• CAM timeline should allow flexibility for construction works in/around Waterbeach and Alconbury due to unconfirmed timelines for the relocation of the former's mainline railway station and construction of the latter settlement & employment space• Supportive of both societal and environmental sub-objectives, but would like to see a commitment to providing a biodiversity net gain amongst the latter• CAM may assist in accelerating the delivery of housing across the region• CAM must be affordable for all residents at the point of use• 'First and last mile' transport solutions should radiate from CAM station locations• Priority should be given to delivering extensions of the existing busway route(s) to Alconbury and Hauxton, and to the Waterbeach to Cambridge North route at an early stage in the CAM program.• Welcome further dialogue with CPCA regarding the integration of the network into developments at Alconbury Weald, St Neots and Waterbeach.

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
1	5	Support the aims of the Sub-Strategy	Noted	Comment noted	Positive
2	5	Support CAM	Noted	Comment noted	Positive
3	5	Objectives will be widely held and not questioned	Noted	Comment noted	Positive
4	5	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
5	5	Strongly agree with the objective of supporting new housing and development for growing population	Noted	Comment noted	Positive
6	5	Objectives cannot be achieved simultaneously	Noted	Ambition of the Authority - to achieve the objectives - integrated and holistic approach	Negative
7	5	Need further details of Portals	Business Case	Detail will emerge within the Business Case - further information on the portals	Neutral
8	5	CAM should be complemented by improvements to the bus network	Noted	CAM project team working closely with the Bus Strategy Manager (Bus Reform workstream) to ensure the projects are complementary	Neutral
9	5	Support the introduction of a Congestion Charge	Noted	To be considered through policy and strategy revision	Neutral
10	5	Oppose further homes in the Green Belt	Noted	This is the role of the local planning process	Negative
11	5	Objectives are too high level / vague	Noted	The objectives align to the LTP and the sub-objectives ensure they provide a direction of travel without overly specific. No suggested objective provided	Negative
12	5	CAM should be delivered in a phased manner consistent with housing delivery	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Neutral
13	5	Strategy does not demonstrate how CAM is good value for money	Business Case	Detail will emerge within the Business Case - the CAM's cost: benefit ratio will need to be demonstrated	Neutral
14	5	Strategy does not demonstrate why a tunnelled solution is required	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated in due course via consultation	Neutral
15	5	Include a policy that identifies the need for CAM to support growth of offices / research / laboratories	Amendment	CAM-E2 amended to reflect feedback	Neutral
16	5	Sub-Strategy should not assume a growth in housing	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans	Neutral
17	5	Disapprove of proposed level of housing growth	Noted	This is the role of the local planning process	Negative
18	5	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
19	5	Policies CAM 3 and CAM 4 should be given greater priority	Noted	Comment noted	Neutral
20	5	Queried potential conflicts of interest between CPCA (CAM 1 and 2) and GCP (CAM 3)	Noted	Objectives examined - possible to deliver objectives together	Negative
21	5	CAM business cases should be evaluated against welfare / need factors	Business Case	Detail will emerge within the Business Case - the CAM's cost : benefit ratio will need to be demonstrated (including societal factors)	Neutral
22	5	CAM does not address travel issues within Cambridge	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire and is part of an overarching integrated transport network	Negative
23	5	CAM should utilise smaller vehicles	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
24	5	Strongly support the objective of promoting social inclusion through the provision of a sustainable transport network, that is affordable and accessible for all.	Noted	Comment noted	Positive
25	5	A balance needs to be struck between minimising adverse impacts on conservation, heritage, and natural community assets	Noted	Comment noted	Neutral
26	5	Local Plans will allocate appropriate locations for housing delivery, CAM should not seek to influence this	Noted	CAM aims to support the housing growth and assist the facilitation of these	Negative
27	5	Funding for City Tunnel Section should be secured prior to construction commencing on surface routes	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Neutral
28	5	Light Rail would be more cost effective than trackless tram technology	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
29	6	Support the aims of the Sub-Strategy	Noted	Comment noted	Positive
30	6	Aims of LTP and Sub-Strategy align with one another	Noted	Comment noted	Positive
31	6	GCP should deliver C2C, which should not be delayed	Noted	Comment noted	Positive
32	6	Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
33	6	Restructured bus franchising would meet objectives better than CAM	Noted	The work of the Bus Reform Task Force is aligned with the objectives of CAM - proactive communications and engagement to ensure the best solution for the people and businesses of Cambridgeshire is provided	Negative
34	6	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
35	6	Sub-strategy does not address practical impacts of the project	Business Case	Detail will emerge within the Business Case programme and will be consulted on in due course	Neutral
36	6	Objectives need to be more clearly defined / include more specific commitments	Noted	The objectives align to the LTP and the sub-objectives ensure they provide a direction of travel without overly specific. No suggested objective provided	Negative
37	6	Supports the LTP and would welcome the opportunity to explore how CAM can become part of the LTP	Noted	Comment noted	Positive
38	6	A14 enhancement should be prioritised over CAM	Noted	CAM is part of a holistic, integrated transport network. The A14 trunk road network improvement works would be delivered by Highways England	Negative
39	6	This is a leading question	Noted	Comment noted	Negative
40	6	Sub-Strategy does not align with the Local Transport Plan	Noted	Have been examined and the objectives do align to the LTP and the sub-objectives ensure they provide a direction of travel without overly specific. No suggested amendment provided	Negative
41	6	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
42	6	Sub-Strategy conflicts with LTP as the CAM network does not serve the entire region, and therefore will not address future transport challenges across the entire region	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire and is part of an overarching integrated transport network. Going forward the business case will examine the routes and areas served	Negative
43	6	CAM should connect communities with each other, without passing through Cambridge	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
44	6	CAM does not address travel issues within Cambridge	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire and is part of an overarching integrated transport network	Negative

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
45	6	Close alignment between the LTP and Sub-Strategy will see both documents share both the strengths and weaknesses of the LTP	Noted	Comment noted	Positive
46	6	City Tunnel Section will have negative environmental and heritage impacts on Cambridge	Business Case	Detail will emerge within the Business Case on the mitigation measures and the scale of the potential impacts. These will be detailed in further consultation as the Business Case is developed	Negative
47	6	Oppose use of rubber tyred vehicles on environmental grounds	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Negative
48	6	Concerned at use of unproven technology	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Negative
49	6	City Tunnel Section will not enable capacity of the network to be increased in the long term if required	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated (including ability to expand the network)	Neutral
50	6	City Tunnel Section must be disabled accessible	Business Case	Detail will emerge within the Business Case; however any scheme developed will be DDA compliant	Neutral
51	6	CAM will incur long-term operating costs that will increase fares beyond affordable levels	Business Case	Detail will emerge within the Business Case - costing of the scheme, however the fares will be affordable to meet the need for equity	Neutral
52	6	CAM will encourage modal shift	Noted	Comment noted	Positive
53	6	Concerned about the deliverability of CAM	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Neutral
54	7	CAM needs to service new settlements / support housing & business growth	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated in due course via consultation	Neutral
55	7	Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to the economy	Noted	Comment noted	Positive
56	7	CAM needs to provide reliable journey times	Business Case	Detail will emerge within the Business Case - routes to be determined (including assessment of journey time reliability) and consulted on in due course	Neutral
57	7	Objectives need to be more clearly defined / include more specific commitments	Noted	Comment noted	Positive
58	7	Supportive of Policy CAM-E2	Noted	Comment noted	Positive
59	7	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
60	7	Concerned CAM will be funded by tax increases	Business Case	Detail will emerge within the Business Case around how the scheme will be funded	Negative
61	7	Do not believe CAM is the right economic strategy due to impact of Covid-19	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
62	7	Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
63	7	Sub-Strategy should not assume a growth in housing	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans	Negative
64	7	We are concerned about CAM-E18 and E-19	Noted	Comment noted	Negative
65	7	Sub-Strategy does not align with the Local Transport Plan	Noted	Have been examined and the objectives do align to the LTP and the sub-objectives ensure they provide a direction of travel without overly specific. No suggested amendment provided	Negative
66	7	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
67	7	Development of East-West Rail reduces the need for CAM	Business Case	Due consideration will be given to EWR through the development of the Business Case and further work on the integrated transport network	Neutral
68	7	Policy E1 requires further detail	Amendment	Further clarity provided through the rewording and expansion of sub objective E1	Negative
69	7	Policy E2 should not be limited to new settlements being developed by development corporations	Amendment	Amendment made to the document	Negative
70	7	Clarity required on how CAM will place all residents within a 30-minute journey of employment	Noted	Objective from the Local Transport Plan and CAM is one of the key measures (along with the Bus Reform workstream) that is ensuring the Authority meets this objective	Negative
71	7	CAM vehicles are not suitable for demand-responsive working	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
72	7	Disapprove of proposed level of housing growth	Noted	This is the role of the local planning process	Negative
73	7	Capacity of CAM should account for future growth	Business Case	Detail will emerge within the Business Case around how the scheme will expand going forward	Positive
74	7	CAM needs to be delivered within the next decade	Noted	Comment noted	Positive
75	7	CAM needs to seamlessly integrate with existing/proposed public transport services	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire and will be part of an integrated transport network	Positive
76	7	CAM E1 is too vague and requires further explanation	Amendment	Further clarity provided through the rewording and expansion of sub objective E1	Negative
77	7	Objectives E9-E13 may further promote commuting to London	Noted	Comment noted	Negative
78	7	Sub-objective should be included that aims for a healthy balance between outward and inward commuting to/from Cambridge	Amendment	Sub-strategy amended to reflect comment	Neutral
79	7	CAM-E9 - Connection into heavy rail should be in two or three places, not at every station,	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
80	7	CAM-E10 - Transport Hubs must minimise walking distance, unlike the current positioning of the bus stops at the main railway station	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
81	7	Important that strategic scale development growth and transport projects are fully integrated on the A428 arterial route between Cambridge and St Neots.	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire and will be part of an integrated transport network and planned housing developments	Neutral
82	7	Additional stations should be added to the network	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
83	7	CAM-E13 is contrary to the Local Plan	Noted	Objective has been examined and it aligns with the LTP and Local Plans	Negative
84	7	GCP have ignored requirement set out in CAM-E15 for segregated routes on C2C	Noted	Collaborative approach is essential in the delivery of the schemes, as outlined by Mayor Palmer previously (to ensure all adhere to the strategy's aims and objectives)	Neutral
85	7	CAM-EV1 should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	Amendment	The NPPF programme is progressing. EV! Sib-objective has been amended to take into account any environmental implications of the scheme	Neutral
86	7	Consideration should be given to the impact of East-West Rail on CAM	Business Case	Due consideration will be given to EWR through the development of the Business Case and further work on the integrated transport network	Neutral

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
87	8	Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to society	Noted	Comment noted	Positive
88	8	Affordable fares are essential	Business Case	Detail will emerge within the Business Case as to how the CAM will be affordable	Neutral
89	8	A journey planner app should be developed for the region	Business Case	Detail will emerge within the Business Case (including the use of technology to serve the customer)	Neutral
90	8	CAM needs to seamlessly integrate with existing/proposed public transport services	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Negative
91	8	CAM should cater for horse riders	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
92	8	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
93	8	CAM needs 'first and last mile' travel links	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
94	8	CAM needs to be sustainable	Noted	Key objective of the CAM scheme	Neutral
95	8	CAM network should run on surface streets in Cambridge if tunnelling proves too expensive	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
96	8	CAM objectives do not reflect the SOBC findings	Noted	The objectives for CAM will form the baseline for the scheme to be assessed against going forward	Negative
97	8	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
98	8	CAM vehicles should accommodate bicycles	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
99	8	CAM will have a large impact	Noted	Comment noted	Positive
100	8	Consideration should be given to the impact of East-West Rail on CAM	Business Case	Due consideration will be given to EWR through the development of the Business Case and further work on the integrated transport network	Neutral
101	8	Councils are not attempting to reduce air quality at present	Noted	Comment noted	Neutral
102	8	Do not believe the wider public will feel safe on public transport following Covid-19	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
103	8	Further detail of 'first and last mile' travel options is required	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
104	8	Further detail/commitments should be made on reducing car usage	Noted	The LTP's overarching objectives aim to reduce the reliance of the private car and CAM is one of many schemes (proposed within the region) that aims to address this	Neutral
105	8	How many additional CAM stations are envisaged?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
106	8	Is there a passenger number threshold for the provision of a station?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
107	8	Objective S1 is overly demanding	Noted	Objective has been considered and it forms the aim for CAM to strive to achieve	Negative
108	8	Objective S4 should be limited to county-wide	Noted	The objectives cover the region (not specifically Cambridge) and aligns to the Cambridgeshire and Peterborough Local Transport Plan	Negative
109	8	Objective S9 is unclear	Noted	Objective has been considered and other feedback received was positive around S9	Negative
110	8	Objectives need to be more clearly defined / include more specific commitments	Amendment	Objectives have been addressed - to provide more clarity to the reader	Negative
111	8	Strongly support sub-objectives S3 and S4	Noted	Comment noted	Positive
112	8	Sub-Strategy should not assume a growth in housing	Noted	Alignment between the CAM scheme and the Local Plans considered. Business Case timescales will consider and implement - support the housing growth within the Local Plans	Negative
113	9	Supportive of the proposed sub objectives for the draft CAM Sub Strategy in relation to the environment	Noted	Comment noted	Positive
114	9	Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
115	9	Approve of segregated routes	Noted	Comment noted	Positive
116	9	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
117	9	CAM will have a negative environmental impact	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course	Negative
118	9	Cleaning up / decarbonising existing infrastructure should take priority over delivering CAM	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Negative
119	9	Objectives need to be more clearly defined / include more specific commitments	Business Case	Objectives are strategic in nature. Specifics around performance indicators and scheme commitments will emerge from the Business Case and scheme development	Negative
120	9	Oppose use of concrete in construction on environmental grounds	Noted	The environmental impacts of CAM will be examined and minimised through the development of the scheme	Negative
121	9	Sub-Strategy should not assume a growth in housing	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans	Neutral
122	9	It should be clear that CAM-EV2 is a desire but not influence the choice of technology	Noted	Comment noted	Neutral
123	9	Disapprove of proposed level of housing growth	Noted	This is the role of the local planning process	Neutral
124	9	Sub-Strategy should provide additional protection for green spaces	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course. The green spaces within the region are designated and protected by the local planning process and as such the scheme will adhere to these	Negative
125	9	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
126	9	Sub-Strategy should include commitments to addressing existing environmental issues	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure and environment	Negative
127	9	Objective EV1 should be reworded positively to promote development in sustainable locations, instead of aiming to prevent unsustainable fringe development	Amendment	Amendment made to the document	Negative

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
128	9	Objectives are misaligned in respect of villages - CAM aims to connect them, yet is supposedly unsuitable for the purpose	Noted	The bus strategy (linked to the national bus strategy) will work with the CAM project to ensure that residents are connected seamlessly by an appropriate public transport offer	Negative
129	9	Consideration should be given to environmental impact of tourist coaches	Noted	The work of the Bus Reform Task Force and the development of a revised bus strategy for the area is assessing the impacts of tourist coaches on the region	Negative
130	9	Sub-objective EV1 should be given greater weight than E4 if the two come into conflict	Noted	Comment noted	Neutral
131	9	Light Rail should be favoured over trackless tram technology due to environmental impacts of rubber tyres	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
132	9	CAM-EV1 should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	Amendment	The NPPF programme is progressing. EV! Sib-objective has been amended to take into account any environmental implications of the scheme	Neutral
133	10	Cambourne and Bourne are in the wrong order on the network map	Amendment	Map to be amended	Neutral
134	10	Network map is not detailed enough	Amendment	Map to be amended (however will remain strategic in nature until further work has been undertaken through the Business Case workstream)	Neutral
135	10	Support CAM network	Noted	Comment noted	Positive
136	10	Doubtful timescales will be met	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated in due course via consultation	Neutral
137	10	Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
138	10	CAM needs 'first and last mile' travel links	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
139	10	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
140	10	Unsure on City Tunnel Section	Business Case	Detail will emerge within the Business Case - costing and routeing of the scheme to be considered and consulted on in due course	Negative
141	10	City Tunnel Section will be too costly	Business Case	Detail will emerge within the Business Case - costing and routeing of the scheme to be considered and consulted on in due course	Negative
142	10	CAM should be a light rail or tram system	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
143	10	CAM should not be a bus-based system	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Negative
144	10	The CAM service should operate early mornings, late nights, and weekends	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
145	10	The CAM service should be frequent to encourage usage of the network	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
146	10	CAM should serve both the existing and new Waterbeach stations	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
147	10	How will the existing Guided Busway be impacted?	Business Case	Detail will emerge within the Business Case, working with the Bus Strategy Manager to ensure a coherent, seamless and integrated public transport offer is provided for the people of the region	Neutral
148	10	Number of stations should increase with population density	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
149	10	More station locations should be created in the city centre	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
150	10	Further detail/commitments should be made on reducing car usage	Noted	The LTP's overarching objectives aim to reduce the reliance of the private car and CAM is one of many schemes (proposed within the region) that aims to address this	Neutral
151	10	Concerned that the project will not deliver on its promises	Business Case	Detail will emerge within the Business Case	Neutral
152	10	Oppose replacement of Scotland Farm P&R with Madingley Road P&R	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
153	10	A CAM stop is needed at Hardwick	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
154	10	A CAM stop is needed at Burwell	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
155	10	A CAM stop is needed at Swaffham Bulbeck / Prior	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
156	10	A CAM stop is needed at Fordham	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
157	10	A CAM stop is needed at Isleham	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
158	10	A CAM stop is needed in Fenland	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
159	10	Will CAM deliver additional benefits beyond those of existing public transport services?	Noted	The work of the Bus Reform Task Force is aligned with the objectives of CAM - proactive communications and engagement to ensure the best solution for the people and businesses of Cambridgeshire is provided	Neutral
160	10	The Network Map should note that C2C/ Regional Routes are surface level transport solutions	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
161	10	Sub-Strategy does not demonstrate the impact on existing narrow roads / historic buildings	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and how impacts may be mitigated (where necessary)	Neutral
162	10	Requested further details on journey times	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
163	10	CAM will be beneficial to the environment in the long-term	Noted	Comment noted	Positive
164	10	How will CAM impact the environment during construction?	Business Case	Detail will emerge within the Business Case	Neutral
165	10	Would like to see a firmer commitment to a wider CAM network	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
166	10	CAM should include routes that do not travel via Cambridge	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
167	10	Job opportunities should be spread throughout the wider region instead of building CAM	Noted	CAM will enable residents to access employment opportunities and thereby increase life chances. In addition, the Local Industrial Strategy aims to address job opportunities within the region	Negative
168	10	The reference to autonomous vehicles is unnecessarily specific	Noted	Comment noted	Negative
169	10	The proposed timeline is 'front loaded' with City Tunnel to follow by 2029	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
170	10	Concerned that CPCA and GCP are not aligned with one another	Noted	Collaborative approach is essential in the delivery of the schemes, as outlined by Mayor Palmer previously	Negative
171	10	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
172	10	CAM should extend further south	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
173	10	Queried level of demand for the Waterbeach Regional Route	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
174	10	Further investigation of the implications of autonomous technology is required	Business Case	Detail will emerge within the Business Case	Neutral
175	10	CAM needs to consider proposed employment land use outlined in Local Plans	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans	Neutral
176	10	Network map should illustrate existing PT services, settlement sizes, planned developments, pollution, current traffic flows and existing station capacity issues	Amendment	Map to be amended	Neutral
177	10	CAM does not address travel issues within Cambridge	Noted	The LTP's overarching objectives aim to reduce the reliance of the private car and CAM is one of many schemes (proposed within the region) that aims to address this (part of an integrated transport system/network)	Negative
178	10	Requested further details on benefits and drawbacks of CTS	Business Case	Detail will emerge within the Business Case and further consultations	Neutral
179	10	Support the inclusion of Haverhill within the CAM network	Noted	Comment noted	Positive
180	10	Will interim surface-level routes be provided during construction of the City Tunnel Section?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
181	10	Assess the impact of Covid-19 upon future travel demand	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
182	10	Clarity is required on the Portal locations	Business Case	Detail will emerge within the Business Case and further consultations	Neutral
183	10	Description should refer to education-related travel in addition to employment-related travel	Noted	Business Case will include improving access to education, as well as employment opportunities	Neutral
184	10	Oppose segregated routes that would impact existing green spaces	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course. The green spaces within the region are designated and protected by the local planning process and as such the scheme will adhere to these	Negative
185	10	Cambridge Airport should be accessed via the existing Newmarket Road/former Mildenhall railway alignment	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
186	10	Too many stops are duplicating the heavy rail network, more sensible approach would be to put the metro stop in the middle of new town	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Negative
187	10	Frequency of journeys into the centre and back out again - Better idea would be to take Waterbeach branch across to Cottenham, then down through Histon or Girton	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
188	10	Metro stop should be more central, and positioned to serve those furthest from the railway station	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
189	10	The introductory text should acknowledge that the regional arterial route between Cambridge and St Neots offers enormous potential to integrate a new rail route with the CAM network through a strategic public transport interchange.	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated in due course via consultation	Positive
190	10	What alternatives to CAM have been considered?	Business Case	Detail will emerge within the Business Case, whereby the alternative options are detailed	Neutral
191	10	Supportive of station locations on C2C route	Noted	Comment noted	Positive
192	10	Funding for City Tunnel Section should be secured prior to construction commencing on surface routes	Business Case	Detail will emerge within the Business Case	Neutral
193	10	Light Rail would be more cost effective than trackless tram technology	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
194	10	Consideration should be given to the impact of East-West Rail on CAM	Business Case	Due consideration will be given to EWR through the development of the Business Case and further work on the integrated transport network	Neutral
195	11	Supports the strategy to accelerate housing delivery	Noted	Comment noted	Positive
196	11	CAM/infrastructure should be delivered before new housing is built	Noted	Alignment between the CAM scheme and the Local Plans considered. Business Case timescales will consider and implement to maximise alignment	Neutral
197	11	CAM will benefit the wider region	Noted	Comment noted	Positive
198	11	CAM should cater for horse riders	Noted	Sub strategy now reflects the needs of active travel modes	Neutral
199	11	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
200	11	Integration with wider region is vital	Noted	CAM will enable residents to access employment opportunities and thereby increase life chances. In addition, the Local Industrial Strategy aims to address job opportunities within the region. In order to do this the scheme must form part of an integrated transport network	Neutral
201	11	Assess impact of Brexit and Covid-19 on projected population growth	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
202	11	Disagree with Policy CAM 2 as it does not align with Local Plan timescales	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
203	11	Sub-Strategy should not assume a growth in housing	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
204	11	Disapprove of proposed level of housing growth	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans - housing numbers emerge from the local planning process	Negative
205	11	Evidence of housing delivery is required before CAM can proceed	Noted	Alignment between the CAM scheme and the Local Plans considered. Business Case timescales will consider and implement to maximise alignment (continuous engagement with Local Planning Authorities)	Neutral
206	11	CAM needs to balance needs of existing and future residents	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Neutral

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
207	11	Timeline should take into account the Uttlesford and South Cambridgeshire Local Plans	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
208	11	CAM does not align with the relevant Local Plan(s)	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
209	11	Crucial that CAM links new settlements with employment centres	Noted	Alignment between the CAM scheme and the Local Plans considered. Business Case timescales will consider and implement	Neutral
210	11	Transport for new developments should be provided by CAM, not be taking already overcrowded facilities from existing residents	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire as part of a wider transport strategy	Negative
211	11	Sub-Strategy should reference how CAM can help deliver sustainable growth to existing settlements	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
212	11	Local Plans will allocate appropriate locations for housing delivery, CAM should not seek to influence this	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
213	11	Unconvinced that CAM will accelerate housing delivery due to other obstacles, including land banking	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
214	12	Support the equity sub-objectives	Noted	Comment noted	Positive
215	12	CAM needs to seamlessly integrate with existing/proposed public transport services	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire as part of a wider transport strategy	Neutral
216	12	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
217	12	Affordability is essential to tackle social deprivation	Business Case	Detail will emerge within the Business Case as to how the CAM will be affordable	Neutral
218	12	CAM needs good bus links for 'first and last mile' travel	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
219	12	Minimise walking distances within stations	Noted	Aligns to the CAM sub strategy objective	Neutral
220	12	No view on equity sub-objectives	Noted	Comment noted	Neutral
221	12	Focus should be on delivery instead of societal goals	Noted	Comment noted	Neutral
222	12	Bus links should radiate from CAM stations	Noted	Part of the wider transport strategy - the work of CAM, the Bus Reform workstream and the LTP will enable a fully integrated transport network	Neutral
223	12	How do the timelines for CAM link with the development of sites identified in the various Local Plans?	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
224	12	Allow GCP to deliver C2C to prevent further delays	Noted	Collaborative approach is essential in the delivery of the schemes, as outlined by Mayor Palmer previously	Neutral
225	12	We would want to see a widening of the scope to this priority	Noted	Further information required	Neutral
226	12	CAM should cater for horse riders	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
227	12	Job opportunities should be spread throughout the wider region instead of building CAM	Noted	CAM will enable residents to access employment opportunities and thereby increase life chances. In addition, the Local Industrial Strategy aims to address job opportunities within the region	Negative
228	12	CAM-S11 should improve air quality particulates	Noted	Comment noted	Positive
229	12	Further detail on how equity will be achieved is required	Business Case	Business Case will examine how to provide societal benefits and ensure equity through the scheme's delivery	Neutral
230	12	Extensive service hours are essential to tackle social deprivation	Noted	Comment noted	Positive
231	12	CAM3 should include a reference to integration with Whittlesford Station masterplan	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated in due course via consultation	Neutral
232	12	CAM objectives do not reflect the SOBC findings	Noted	Further work on the Business Case will ensure alignment between its work and that of the CAM sub strategy	Negative
233	12	CAM should include provision of cycling infrastructure	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
234	12	New forms of transport need to be considered for 'first and last mile' transport - e.g. e-scooters, autonomous vehicles	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
235	13	CAM needs good links for 'first and last mile' travel (bus / bicycle etc.)	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
236	13	Supportive of the sustainable growth and development sub-objectives	Noted	Comment noted	Positive
237	13	Objectives are too high level / vague	Noted	Objective are strategic in nature and sets the framework for the CAM scheme	Negative
238	13	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
239	13	Further commitments should be made	Noted	As the Business Case continues its work, further commitments will be made around costs, routes and timescales	Neutral
240	13	Sustainability is expected	Noted	Comment noted	Positive
241	13	Further detail/commitments should be made on reducing car usage	Noted	The LTP's overarching objectives aim to reduce the reliance of the private car and CAM is one of many schemes (proposed within the region) that aims to address this	Neutral
242	13	A commitment should be made to utilise renewable energy	Business Case	Part of the Business Case will be around the sourcing of renewable energy during construction, implementation and operation	Neutral
243	13	CAM should cater for horse riders	Noted	Comment noted	Neutral
244	13	CAM will not promote sustainability	Noted	This will be addressed through the Business Case development	Neutral
245	13	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
246	13	A commitment to promote public services at reasonable costs should be made	Business Case	COSTING - BC	

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
247	13	Further detail of 'first and last mile' travel options is required	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
248	13	CAM objectives do not reflect the SOBC findings	Noted	Further work on the Business Case will ensure alignment between its work and that of the CAM sub strategy	Negative
249	13	CAM needs to balance needs of existing and future residents	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire as part of a wider transport strategy	Negative
250	13	Provide additional details for sub-objective EV1	Amendment	Amendment made to the document	Neutral
251	13	Conditions not classed as physical disabilities should be mitigated through design, beyond step-free access	Business Case	Detail will emerge within the Business Case and will address the accessibility of the system to ensure all can use CAM	Neutral
252	14	CAM timescales should be accelerated	Noted	Comment noted	Positive
253	14	Doubtful timescales will be met	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Negative
254	14	How will CAM be funded?	Business Case	Detail will emerge within the Business Case around how the scheme will be funded	Neutral
255	14	Requested more detailed timescales	Business Case	As the Business Case is further developed there will a number of consultation milestones where proactive public and stakeholder engagement will occur	Neutral
256	14	Oppose CAM	Noted	Comment noted	Negative
257	14	Timelines should be integrated with those of the Local Plan processes	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
258	14	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
259	14	Costs will increase with longer timescales	Noted	Business Case will examine the timescales and the Authority aims to deliver the scheme in a timely manner	Neutral
260	14	Improving existing infrastructure should take priority over delivering CAM	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure. The Highways Authorities continue to examine the current infrastructure in relation to maintenance etc	Negative
261	14	Where does the Sub-Strategy consultation fit into the timelines?	Business Case	As the Business Case is further developed there will a number of consultation milestones where proactive public and stakeholder engagement will occur	Neutral
262	14	CAM network should run on surface streets in Cambridge if tunnelling proves too expensive	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Negative
263	14	Further details to explore the future phases of CAM	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
264	14	Supportive of the programme proposed	Noted	Comment noted	Positive
265	14	CAM should cater for horse riders	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
266	14	CAM will expand the north/south divide in Cambridgeshire	Noted	The aim of the CAM along with the bus strategy and Bus Reform is to provide an integrated, sustainable transport network/system serving the whole region	Negative
267	14	Support the ambition / innovation behind CAM	Noted	Comment noted	Positive
268	14	CAM is a waste of public money	Noted	The Business Case will develop a cost : benefit ratio	Negative
269	14	CAM should not proceed beyond OBC stage until the findings of the bus reform taskforce are available	Noted	The work of the Bus Reform Task Force and the development of a revised bus strategy for the area	Negative
270	14	CAM timescales should not slip	Noted	Comment noted	Positive
271	14	Programme should include assessment of potential surface level routes during construction of the City Tunnel Section	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral
272	14	Programme should indicate phased opening date of all sections	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Neutral
273	14	Further details to explore on where stops will be, and where the lines will go	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
274	14	Two or three other possible routes into new development, along Mere Way, beyond the stop at the Science Park	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
275	14	The expressed targets are realistic and achievable	Noted	Comment noted	Positive
276	14	Timescales are unrealistic for the adoption of autonomous technology	Business Case	Detail will emerge within the Business Case - specification to be determined	Neutral
277	14	Corridors/routes in areas where growth is already occurring should be prioritised for earlier delivery	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
278	15	Support CAM	Noted	Comment noted	Positive
279	15	Oppose CAM	Noted	Comment noted	Negative
280	15	Policies should refer to all 'active travel' modes (including horse riding), not just walking and cycling	Amendment	Active travel is now included within the sub-strategy documentation	Neutral
281	15	CAM should be a light rail or tram system	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
282	15	CAM is a 'vanity project' / 'white elephant' / 'pie in the sky'	Noted	CAM is an essential transport scheme that will deliver benefits for the residents and businesses of Cambridgeshire	Negative
283	15	Critical of Sub-Strategy Consultation	Noted	Followed public consultation guidelines	Negative
284	15	Improving existing infrastructure should take priority over delivering CAM	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Negative
285	15	Cost of CAM is too high	Business Case	Detail will emerge within the Business Case	Negative
286	15	Approve of segregated routes	Noted	Comment noted	Positive
287	15	CAM should not be a bus-based system	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Negative
288	15	Light rail/tram system will provide a greater capacity than a bus system	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
289	15	CAM network should begin operation in phases	Business Case	Detail will emerge within the Business Case	Neutral
290	15	Utilise existing roads to accelerate timescales	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
291	15	A quantified objective to reduce car usage within CAM network area should be included	Noted	This is an outputs and not objective or outcome based and therefore has not been included	Neutral
292	15	CAM timescales should be accelerated	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Positive
293	15	Fear of 'NIMBY' objectors	Noted	Comment noted	Positive

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
294	15	Do not believe CAM should proceed due to impacts of Covid-19	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
295	15	Has the impact of rising sea levels been assessed?	Business Case	Detail will emerge within the Business Case	Negative
296	15	A CAM stop is needed at Burwell	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
297	15	A CAM stop is needed at Fordham	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
298	15	A CAM stop is needed at Isleham	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
299	15	CAM is needed in Fenland	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
300	15	Additional coach parking is needed in Cambridge	Noted	The work of the Bus Reform Task Force and the development of a revised bus strategy for the area is assessing the impacts of tourist coaches on the region	Neutral
301	15	Why are stations proposed close together at Cambridge North, Science Park and Science Park North?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
302	15	Will there be additional stations on the Regional Routes?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
303	15	Why is a tunnel needed between Cambridge Station and the Biomedical Campus, given that the busway already exists?	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
304	15	Provide interim surface level routes in Cambridge during construction of the City Tunnel Section	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
305	15	CAM is a waste of public money	Noted	The Business Case will develop a cost : benefit ratio and this will be made public in due course	Negative
306	15	CAM will take too long to build	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Negative
307	15	Requested publication of timetables in the near future	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral
308	15	Job opportunities should be spread throughout the wider region instead of building CAM	Noted	CAM will enable residents to access employment opportunities and thereby increase life chances. In addition, the Local Industrial Strategy aims to address job opportunities within the region	Negative
309	15	CAM should serve communities in North Cambridgeshire (e.g. Peterborough, Fenland)	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
310	15	CAM needs to balance needs of existing and future residents	Business Case	Detail will emerge within the Business Case - the needs of existing and future demand will be considered	Neutral
311	15	CAM should utilise smaller vehicles	Business Case	Detail will emerge within the Business Case	Neutral
312	15	Support Objective CAM 4	Noted	Comment noted	Positive
313	15	CAM needs 'first and last mile' travel links	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
314	15	CAM vehicles should accommodate bicycles	Business Case	Detail will emerge within the Business Case to ensure that sustainable (including active) modes are fully integrated with CAM	Neutral
315	15	CAM should create cycleways alongside dedicated routes	Noted	Work on accessing the interchange points will emerge as part of the Business Case workstream, whilst improvements to active travel will continue to be examined by the Authority	Neutral
316	15	Integrate CAM with the Cambridge Greenways programme	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and how best to integrate with alternative modes	Neutral
317	15	Engage with the National Cycle Network to improve existing routes (E.G. NCN 11 & NCN 51)	Noted	As CAM develops there will be proactive engagement with alternative modes and routes	Positive
318	15	Caseby Estates would welcome the opportunity to engage with CPCA	Noted	Comment noted	Positive
319	15	CPCA and GCP need to collaborate with one another to reduce the risk to the project	Noted	Collaborative approach is essential in the delivery of the schemes, as outlined by Mayor Palmer previously	Neutral
320	15	CAM needs to seamlessly integrate with existing/proposed public transport services	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Negative
321	15	Include expected passenger numbers and split between travel modes	Business Case	This assessment will be undertaken as part of the Business Case work	Neutral
322	15	Include detail on existing obstacles to sustainable transport in Cambridge	Noted	The Authority continues to examine new transport schemes to address needs of residents and businesses - improvements to existing infrastructure	Neutral
323	15	Provide detail on how results of 2021 census will impact CAM	Business Case	Detail will emerge within the Business Case	Neutral
324	15	Could CAM vehicles operate on hydrogen?	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
325	15	Need to explain how the impact of Covid-19 has been considered	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
326	15	Sub-Strategy should include a review of historic and expected commuter travel	Business Case	Detail will emerge within the Business Case	Neutral
327	15	What alternatives to CAM have been considered?	Business Case	Detail will emerge within the Business Case, whereby the alternative options are detailed	Neutral
328	15	Vehicle technology requires approval for use on all sections of the CAM network before construction begins on surface routes	Business Case	Detail will emerge within the Business Case	Neutral
329	15	City Tunnel Section should open before surface routes	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
330	15	City Centre station should be located at the Grafton Centre	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
331	15	Enhancing environmental, historic, and built environments is the most important aim of AM	Noted	Comment noted	Positive
332	15	Sub-Strategy should commit to NPPF hierarchy of avoiding environmental impacts before minimising them	Noted	Comment noted	Neutral
333	Overall	Remain unconvinced that CAM is either necessary, economically viable, realistic, or deliverable	Business Case	Detail will emerge within the Business Case - routes, frequency, costings and timescales to be determined and communicated	Negative
334	Overall	Hold doubts over funding, given Government's focus on the Midlands & North, and the impact of Covid-19	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
335	Overall	Investigations should be made into non-tunnelled solutions for 'Plan B' scenario	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
336	Overall	Oppose level of growth proposed by CPCA on grounds of unsustainability, adverse impacts on the environment, Green Belt, and quality of life	Noted	Comment noted	Negative

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
337	Overall	Object to Objective CAM 2 on the grounds that no evidence exists to illustrate that CAM will deliver accelerated housing delivery. LTP has no basis for proposing location/nature of future development, which is dictated by Local Plans. Recommend removal of objective.	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Negative
338	Overall	Believe that CAM Sub-Objective CAM E15 is contrary to the Local Plan Objective to “deliver a transport network that protects and enhances our natural, historic and built environments” due to the impact of constructing dedicated, segregated CAM routes through greenfield land	Business Case	Detail will emerge within the Business Case on the mitigation measures and the scale of the potential impacts. These will be detailed in further consultation as the Business Case is developed	Negative
339	Overall	Recommended re-word of Sub-Objective CAM E15 to “Dedicated segregated route where appropriate”	Amendment	Amendment made to the document	Neutral
340	Overall	Object to the inclusion of “New Garden Village settlements” and “Supporting the development of new settlements being brought forward by any future development corporate created in the Oxford-Cambridge corridor” in Sub-Objective E2	Noted	Comment noted; however reference is provided to the Local Plan and other development work being undertaken at the present time. The Business Case will examine the potential demand when assessing the viability of the project	Negative
341	Overall	Object to Sub-Objective E20 on the grounds that it is too prescriptive. Recommend reword to “CAM will be designed to maximise passenger trips”	Noted	In order to meet the objectives for the CAM and the LTP it is essential to maximise trips in both directions (viability)	Negative
342	Overall	Support Sub-Objective EV1, but object to wording. Impacts should be “avoided” instead of “minimised” where possible, whilst scope of impacts should be expanded (e.g. to include landscape character).	Amendment	Amendment made to the document	Neutral
343	Overall	Recommend re-word of second part of Sub-Objective EV1 to “Aims for 20% biodiversity net gain, achieves at least 10% biodiversity net gain and where possible offers additional visual and environmental enhancements” to ensure alignment with GCP’s schemes	Noted	The CAM sub-strategy aligns with the Authority's Local Transport Plan and other key, strategi documentation. Collaboration with the GCP is essential in the delivery of the CAM in a successful manner	Neutral
344	Overall	Objective CAM 4 is inadequate as it does not reference environment, biodiversity, or community	Amendment	Amendment made to the document	Neutral
345	Overall	OBC consultation was inadequate	Business Case	Consultation on the overarching scheme's OBC will happen going forward - programmed	Negative
346	Overall	Timescales are unrealistic	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral
347	Overall	Recommend inclusion of a policy on delivery method(s) for CAM	Business Case	Business Case will develop the delivery method and this will be communicated through appropriate consultation going forward	Neutral
348	Overall	Feel unable to make a judgement on CAM when alternative options for improving transport have not been presented	Business Case	Detail will emerge within the Business Case, whereby the alternative options are detailed	Neutral
349	Overall	Expressed concern that CAM mirrors existing/planned public transport routes (e.g. East-West Rail, Waterbeach rail line) and that CAM would compete with these services	Business Case	Due consideration will be given to EWR through the development of the Business Case and further work on the integrated transport network	Neutral
350	Overall	Expressed reservations that an underground solution will limit passenger numbers and increase costs in comparison to a surface solution.	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
351	Overall	CPCA should provide clarity on whether CAM is being proposed to resolve congestion problems arising from current & planned-for levels of growth, or proposed government growth levels.	Business Case	Detail will emerge within the Business Case - the needs of existing and future demand will be considered	Neutral
352	Overall	Supportive of CAM as a whole	Noted	Comment noted	Positive
353	Overall	CAM, together with other transport improvements such as East-West Rail, will provide campus staff to a wider range of potential housing locations	Noted	Comment noted	Positive
354	Overall	CAM will be instrumental in supporting the delivery of further expansion of the campus by providing additional travel options for staff and visitors	Noted	Comment noted	Positive
355	Overall	CAM is essential to reduce local congestion and single car occupancy rates	Noted	Comment noted	Positive
356	Overall	CBC wish to engage with CPCA regarding location of the station(s) in the vicinity of the campus, and with both CPCA and Network Rail to understand how CAM and the proposed Cambridge South station will integrate with one another	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Positive
357	Overall	CPCA should engage at an early stage with landowners associated with and adjacent to Francis Crick Avenue	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Neutral
358	Overall	Supportive of strong focus on sustainability and interactions with other travel methods	Noted	Comment noted	Positive
359	Overall	CAM will assist in accelerating the delivery of housing and new settlements	Noted	Comment noted	Positive
360	Overall	Suggestion in objective CAM 2 that CAM is critical to delivering the current growth strategy is incorrect and not consistent with the adopted Local Plans, which are not specific as to how high-quality public transport should be provided.	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Negative
361	Overall	CAM 2 should be amended to state “the appropriateness and locations of new settlements will be examined through the planning process”	Amendment	Amendment made to the document to read similar to suggestion	Neutral
362	Overall	Sub-Strategy does not accurately portray the role of the LTP and the sub-strategy in determining future special planning decisions. CAM cannot pre-determine future growth, as this responsibility lies with the relevant Councils as Local Planning Authorities	Noted	Sub-strategy aligns to the Local Transport Plan, Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Negative
363	Overall	Programme should set out clear timescales for the delivery of both the entire CAM network and the phasing of components projects (e.g. C2C, CSET and so forth)	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral
364	Overall	Further core principles need to be added in respect of heritage impacts, natural community assets and environmental net gain requirements	Amendment	Amendment made to the document	Neutral
365	Overall	Ambition for zero-carbon CAM should be acknowledged	Noted	Included within the CAM sub strategy objectives	Neutral
366	Overall	Sub-Strategy should demonstrate how CAM will integrate with local/regional strategies across a wide range of themes	Noted	The link to the LTP and CPIER is outlined within the strategy. As such it is therefore aligned with other key strategic documentation	Neutral
367	Overall	CAM 3 objective should make reference to adopted and emerging Local Plans	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
368	Overall	Second bullet point of sub-objective CAM-E2 should be rephrased to “Future growth as identified in Local Plans”	Amendment	Amendment made to the document	Neutral

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
369	Overall	Phrase “existing designations” should be removed from sub-objective CAM-E8	Amendment	Amendment made to the document	Neutral
370	Overall	CAM-EV1 should include reference to protecting the character of the city of Cambridge, not just character of regional villages, and should support environmental net gain requirements/other environmental improvements where possible	Amendment	Amendment made to the document	Neutral
371	Overall	Supportive of sub-objective CAM-EV2	Noted	Comment noted	Positive
372	Overall	Network map requires amending to show Bourn to the east of Cambourne	Amendment	Map to be amended	Neutral
373	Overall	As Cambridge and South Cambridgeshire Local Plans will deliver 33,500 homes, it is assumed that the remainder of the 61,000 referenced in CAM 2 will be delivered in other districts	Noted	Comment noted	Neutral
374	Overall	Supportive of both CAM as a whole, and the proposed objectives, in particular the desire for CAM to be net zero by 2050	Noted	Comment noted	Positive
375	Overall	Expressed a desire to work with CPCA with regards to the interface between CAM, the highway network, existing public transport, and cycle networks	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Neutral
376	Overall	Keen to see and understand in further detail how CAM will interact with other existing/proposed transport schemes, with a particular focus on local bus services and cycle routes, in addition to the A428 upgrades, East-West Rail and Cambridge South	Business Case	Due consideration will be given to EWR and other transport schemes through the development of the Business Case and further work on the integrated transport network	Neutral
377	Overall	Cycle parking and links to local ‘first and last mile’ transport solutions should be provided at all CAM stations to encourage multi-modal journeys	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
378	Overall	Supportive of the move towards autonomous vehicles	Noted	Comment noted	Positive
379	Overall	Desire to understand how CAM will support Local Plan growth and potential new garden villages	Noted	Comment noted	Positive
380	Overall	What impact will Covid-19 have upon the business case for CAM?	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
381	Overall	Strongly supportive of sub-objective CAM-E14 regarding integration with existing and proposed transport services	Noted	Comment noted	Positive
382	Overall	Sub-Strategy should commit to avoiding environmental impact if possible, in the first instance, instead of minimising it, as per the NPPF	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course. The green spaces within the region are designated and protected by the local planning process and as such the scheme will adhere to these	Negative
383	Overall	Stakeholders involved in the C2C LLF have been disappointed at GCP’s lack of regard for the environmental concerns shown by major organisations, including the National Trust, Natural England and CPPF	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Neutral
384	Overall	Support CAM-EV1 sub-objective and, by extension, oppose any route of C2C that will run close to existing houses in Coton	Noted	Comment noted	Positive
385	Overall	Supportive of CAM as a whole	Noted	Comment noted	Positive
386	Overall	Keen to explore potential links between CAM and development at Wyton Airfield	Noted	CAM workstream will engage with interested stakeholders	Positive
387	Overall	CAM could accelerate growth at both Wyton Airfield and across the region	Noted	Comment noted	Positive
388	Overall	Relationship between LTP and Sub-Strategy is coherent	Noted	Comment noted	Positive
389	Overall	Supportive in principle of the Sub-Strategy Objectives and Sub-Objectives	Noted	Comment noted	Positive
390	Overall	Supportive of Objective CAM 3	Noted	Comment noted	Positive
391	Overall	Expressed high-level support for the aims of the Sub-Strategy	Noted	Comment noted	Positive
392	Overall	Agree that there is strong alignment between the Sub-Strategy and LTP, whilst also noting recent disagreements between GCP and CPCA	Noted	Comment noted	Positive
393	Overall	Support the sub-objectives relating to the economy, society, and environment.	Noted	Comment noted	Positive
394	Overall	Stressed that any delays in the delivery of CAM will have a knock-on impact upon the rate of housing delivery	Noted	Comment noted	Positive
395	Overall	Requested a discussion with CPCA regarding a potential station at Bourne utilising land owned by the respondent(s)	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Neutral
396	Overall	Approve of objectives CAM 2 and CAM 3	Noted	Comment noted	Positive
397	Overall	Further details should be provided in respect of the delivery timescales	Business Case	Detail will emerge within the Business Case around the likely timescales	Neutral
398	Overall	Re-iterate support for a CAM station at Scotland Farm	Noted	Comment noted	Positive
399	Overall	C2C route should be prioritised for delivery	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
400	Overall	Expressed support for the project and a desire to work in conjunction with CPCA to deliver benefits for East Cambridgeshire	Noted	Comment noted	Positive
401	Overall	Agree that CAM will drive improvements to the local economy	Noted	Comment noted	Positive
402	Overall	Supportive of the economic, societal, and environmental sub-objectives	Noted	Comment noted	Positive
403	Overall	Requested that the possibility of a further extension to Ely/Stretham is explored by CPCA	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
404	Overall	Expressed a desire for (a) CAM station(s) to be located in East Cambridgeshire	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
405	Overall	CAM is vital to unlocking future development	Noted	Comment noted	Positive
406	Overall	CAM will assist in addressing the existing levels of congestion in Huntingdon and St Ives	Noted	Comment noted	Positive
407	Overall	CAM will accelerate both economic and housing growth within the wider region	Noted	Comment noted	Positive
408	Overall	Seeking to promote development of their land in the vicinity of Huntingdon	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
409	Overall	Expressed support for objective CAM 3 regarding the social aims of CAM	Noted	Comment noted	Positive
410	Overall	CAM should interlink with existing/proposed transport modes to facilitate multi-modal journeys	Business Case	Detail will emerge within the Business Case - costing of the scheme to be considered and consulted on in due course	Negative
411	Overall	‘Need for CAM’ is not fully demonstrates and thus the Sub-Strategy requires additional detail on how CAM will be transformational and create modal shift	Business Case	The strategy outlines the high level objectives of such a scheme, whilst the Business Case will provide the detail on how the CAM will transform the area’s transport network	Negative

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
412	Overall	Impact of Covid-19 on CAM should be addressed	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
413	Overall	Further details are required on how CAM will reach net zero in sub-objective S2	Business Case	The Business Case will outline how the CAM will deliver against the objective	Neutral
414	Overall	Concerned that CAM is focused upon key housing sites and will not provide benefits for residents of more rural settlements (e.g. Ramsey), and therefore further transparency required on how CAM will improve connectivity	Business Case	Detail will emerge within the Business Case - the needs of existing and future demand will be considered	Neutral
415	Overall	Agree that the LTP and Sub-Strategy are closely aligned	Noted	Comment noted	Positive
416	Overall	Strongly support sub-objectives E9 to E13 (inclusive)	Noted	Comment noted	Positive
417	Overall	Would welcome sight of early indications on how CAM will impact existing/proposed transport hubs	Noted	Proactive engagement will occur throughout the development of the Business Case and scheme development	Neutral
418	Overall	Re-expressed a preference for Option A for the City Tunnel Section alignment	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
419	Overall	Sub-Strategy should note that the CPIER is not a policy document, despite forming the basis of such policies	Amendment	Sub strategy amended to reflect the status of the CPIER	Neutral
420	Overall	Supportive of integration with other transport projects, and requested further detail of integration between CAM and East-West Rail	Noted	Comment noted	Positive
421	Overall	Support sub-objective S9 relating to pedestrian and cycle movements	Noted	Comment noted	Positive
422	Overall	Needs of disabled users need to be better represented in the sub-objectives	Business Case	Detail will emerge within the Business Case; however any scheme developed will be DDA compliant	Neutral
423	Overall	Sub-objective EV1 should be reworded more positively and commit to a biodiversity net gain, as currently the sub-objective sets a lower standard than the Huntingdonshire Local Plan	Amendment	Sub objective EV1 amended to reflect biodiversity net gains	Neutral
424	Overall	Expressed a desire to explore potential extension of CAM to Ramsey	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
425	Overall	Network map lacks detail	Amendment	Map to be amended (however will remain strategic in nature until further work has been undertaken through the Business Case workstream)	Neutral
426	Overall	CAM may assist in the acceleration of housing delivery, but will not dictate this	Noted	Alignment between the CAM scheme and the Local Plans considered. Business Case timescales will consider and implement - support the housing growth within the Local Plans	Neutral
427	Overall	CAM 2 should make reference to strategic sites, including St Neots East	Noted	Strategic document - alignment with the Local Plan allocations is outlined - changes to allocations will result in a need to revisit the CAM sub-strategy. The Business Case will pick up the site allocations within its workstream	Neutral
428	Overall	For the scheme to be equitable, there should be reference to affordability for all in CAM 3	Business Case	Detail will emerge within the Business Case as to how the CAM will be affordable	Neutral
429	Overall	Timescales for CAM should be delayed from summer 2020 to allow integration with Bus Reform Task Force report that is due to be published in late 2020	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated - continue to work with the Bus Strategy Manager (within the Authority) and the Bus Reform workstream	Neutral
430	Overall	CAM 4 should reference safety aspects of walking and cycling throughout the day and night, and commit to safe and secure cycle parking throughout the CAM network	Noted	Comment noted	Neutral
431	Overall	Welcome the provision of additional detail when available, particularly regarding CAM's relationship with transport hubs	Noted	Comment noted	Positive
432	Overall	Stressed the need for integration between the Sub-Strategy and Huntingdonshire Transport Study	Noted	Comment noted	Neutral
433	Overall	Express support for the objectives, but query the need for the extensive number of sub-objectives that may reduce the clarity of the document	Noted	Comment noted	Positive
434	Overall	Suggested rewording of sub-objective E2 to "Support new employment by enhancing sustainable access to key existing and planned employment zone and major areas of growth."	Amendment	Amendment made to document	Neutral
435	Overall	Draft objective CAM-E2 should be revised to state that the CAM will support growth in line with adopted and emerging spatial strategies set out in local plans	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Plans. As CAM continues to develop proactive engagement will be undertaken with relevant stakeholders to ensure delivery is aligned and undertaken in a timely manner	Neutral
436	Overall	Requested a rewording of sub-objective E3 to "Link jobs with homes to underpin a wider transport network for Cambridge that is grounded in active travel and frequent, reliable, convenient public transport."	Amendment	Amendment made to document	Neutral
437	Overall	CAM will support the spatial strategy for wider Cambridge, but will not dictate the location of development, which is to be decided through the Local Plan process.	Noted	Sub-strategy aligns to the Local Housing Strategy and Local Planning process	Neutral
438	Overall	Sub-objective E8 should reference longer term growth	Amendment	Amendment made to document	Neutral
439	Overall	Further clarity should be provided for sub-objective E11, with a potential rewording as "To be developed to integrate with walk and cycle and other transport initiatives that provide first and last mile connectivity to CAM"	Amendment	Amendment made to the document	Neutral
440	Overall	Term "proven technology" should be used in sub-objective E16	Amendment	Amendment made to the document	Neutral
441	Overall	In relation to sub-objective E20, MGP does not believe that a 24-hour service is necessary for CAM to be successful	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated/consulted on	Negative
442	Overall	Further detail as to what CPCA considers "environmental requirements" should be provided in sub-objective S2	Business Case	The specifics of the environmental requirements will be detailed in the Business Case workstream	Neutral
443	Overall	Sub-objectives S11 and S12 are outcomes of CAM, not aims or strategies	Amendment	Amendment made to S11 within the documentation	Negative
444	Overall	Query the need to commit to allowing other vehicles to utilise the CAM network if they are compatible, as this may compromise the system	Business Case	Detail will emerge within the Business Case - routes and vehicle specifications to be determined and communicated/consulted on	Neutral
445	Overall	LTP and Sub-Strategy are strongly aligned	Noted	Comment noted	Positive
446	Overall	Delivery of the initial elements of the regional routes (i.e. projects currently being pursued by GCP) should be prioritised at this stage, with emphasis on the sustainability benefits for Cambridge to ensure modal shift is achieved	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated/consulted on	Positive
447	Overall	In favour of objectives CAM 2, 3 and 4	Noted	Comment noted	Positive
448	Overall	Sub-Strategy should indicate if individual sections of the CAM network could be delivered in isolation from one another, and if so, the Sub-Strategy should allow this to happen to provide flexibility	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated/consulted on	Neutral

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
449	Overall	Delivery timescales for the City Tunnel Section align with delivery of development at Cambridge Airport	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated/consulted on	Positive
450	Overall	Supportive of CAM as a whole	Noted	Comment noted	Positive
451	Overall	Objectives (including CAM 2) and sub-objectives (including E6 and S5) should be expanded to note the importance of CAM linking to/with existing settlements	Amendment	Amendment made to document (inclusive of existing settlements)	Neutral
452	Overall	Supportive of a CAM station at Coton	Noted	Comment noted	Positive
453	Overall	Focus of LTP objectives are somewhat lost within the sub-objectives of the Sub-Strategy	Noted	The alignment of the LTP with the objectives of the sub-strategy is illustrated within the table to allow a golden thread/line of sight between the overarching LTP objectives and those of CAM	Negative
454	Overall	CAM will accelerate the allocation and delivery of new development(s)	Noted	Comment noted	Positive
455	Overall	Seeking to promote development on their site at Cambourne	Noted	Comment noted	Neutral
456	Overall	CAM station at Cambourne should be integrated into plans for future expansion of the settlement, and not 'retrofitted' to the current settlement	Business Case	The Business Case work and planning applications for Cambourne need to plan and ensure the delivery of an appropriate solution	Neutral
457	Overall	P&R ride travel hub on the C2C route should be located at Camborne, not Scotland Farm	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and communicated/consulted on in due course	Neutral
458	Overall	Sub-Strategy should include an analysis of project risks, including those associated with construction, commissioning, funding, design, rising maintenance costs, need to retrofit vehicles upon discovery of an issue	Noted	This is the role of the Business Case to take forward the overarching strategy and outline the risks, costs etc.	Neutral
459	Overall	Although light rail is more expensive, adoption of 'trackless tram' technology carries higher risks than light rail due to the lack of previous experience in constructing such systems	Business Case	Detail will emerge within the Business Case - vehicle specifications and consulted on in due course	Neutral
460	Overall	CAM should integrate with coach services to allow tourists to provide demand for the network in off-peak hours	Noted	The work of the Bus Reform Task Force and the development of a revised bus strategy for the area is assessing the impacts of tourist coaches on the region	Negative
461	Overall	A new coach station, with a CAM interchange, should be located at the Girton Interchange, and would reduce congestion in the city of Cambridge	Noted	The work of the Bus Reform Task Force and the development of a revised bus strategy for the area is assessing the impacts of tourist coaches on the region	Neutral
462	Overall	Supportive of proposed CAM station at Cambridge Science Park North, and seeking to promote future development at this site	Noted	Comment noted	Positive
463	Overall	Approving of the proposed objectives, noting that the most important aim of CAM will be to link settlements with employment centres	Noted	Comment noted	Positive
464	Overall	Agree that there is a strong alignment between the LTP and Sub-Strategy, which will assist in providing a genuine alternative to the private car	Noted	Comment noted	Positive
465	Overall	Supportive of the economic sub-objectives, and believe that the success of CAM will be judged on its ability to enable and accelerate further economic growth	Noted	Comment noted	Positive
466	Overall	Societal and environmental sub-objectives are supported, whilst it is noted that a key challenge facing CAM will be to assist the relevant LPAs in bringing forward both residential and employment growth without further detrimental impact on congestion and air quality	Noted	Comment noted	Positive
467	Overall	Cambridge Science Park North station should be located to the west of the Cambridge Science Park station on the network map	Amendment	Map to be amended	Neutral
468	Overall	CAM network will provide benefits to those in education, including at Cambridge Regional College, giving them access to additional opportunities for work and providing a further economic boost	Noted	Comment noted	Positive
469	Overall	Network map should include all existing and planned Park and Ride sites, including those at West Cambridge and Waterbeach	Amendment	Map to be amended	Neutral
470	Overall	Waterbeach route is essential to both objective CAM 2 and to link planned homes and employment	Business Case	Detail will emerge within the Business Case - routes and timescales to be determined and communicated	Positive
471	Overall	Heavy rail services between Waterbeach and Cambridge North would not be sufficiently frequent to drive economic growth and prosperity	Noted	Comment noted	Neutral
472	Overall	Heavily supportive of objective CAM 4	Noted	Comment noted	Positive
473	Overall	Urged swift delivery of Waterbeach route, which should be delivered as one of the first phase(s) of the CAM network	Business Case	Detail will emerge within the Business Case - routes and timescales to be determined and communicated	Positive
474	Overall	Remain unconvinced of the need for or viability of CAM at current capital cost estimates	Business Case	Detail will emerge within the Business Case - costing of the scheme to be considered and consulted on in due course	Negative
475	Overall	Oppose CPCA's proposed level of growth up to 2050, regarding it as unsustainable due to the impact upon the Green Belt	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course. The green spaces within the region are designated and protected by the local planning process and as such the scheme will adhere to these	Negative
476	Overall	Further information is required before a judgement can be made on the potential need for CAM (e.g. predicted passenger flows, service patterns/frequencies, fare levels, integrated ticketing systems, environmental impacts)	Business Case	Detail will emerge within the Business Case - routes, frequency, costings and timescales to be determined and communicated	Neutral
477	Overall	Impact of Covid-19 on CAM needs to be considered	Business Case	Detail will emerge within the Business Case and take into account the impacts of COVID-19 and the "new normal"	Negative
478	Overall	Queried high costs of City Tunnel Section against the lower costs of the GCP schemes	Business Case	Detail will emerge within the Business Case - costing and routeing of the scheme to be considered and consulted on in due course	Negative
479	Overall	CPCA should provide clarity on whether CAM is being proposed to resolve congestion problems arising from current & planned-for levels of growth, or proposed government growth levels.	Business Case	Detail will emerge within the Business Case - the needs of existing and future demand will be considered	Neutral
480	Overall	Owing to a lack of information, judgements on sustainability cannot be made at the present time	Noted	As the Business Case is further developed there will a number of consultation milestones where proactive public and stakeholder engagement will occur and judgements can be made	Negative
481	Overall	CPCA should publish separate viability assessments for the City Tunnel Section, GCP schemes and Regional Routes to enable a judgement to be made on the need for CAM	Business Case	Detail will emerge within the Business Case - costing and routeing of the scheme to be considered and consulted on in due course	Neutral
482	Overall	Disproportional balance of sub-objectives towards the economy over society and environment requires addressing	Noted	No balance or priority have been provided against the sub-objectives (no weighting) at this stage	Negative
483	Overall	Objective CAM 4 and sub-objective EV1 should commit to protecting Cambridge's Green Belt	Noted	Negative environmental impacts will be mitigated against through the work on the Business Case and scheme development - to be consulted on in due course. The green spaces within the region are designated and protected by the local planning process and as such the scheme will adhere to these	Negative

Comments on the CAM Sub Strategy

Ref	Section/ Question	Comment	Action	TB Commentary	Positive/ Negative
484	Overall	Support sub-objective E2, and suggest that further sub-objectives are added to measure further positive environmental impacts of CAM that will be made possible by achieving modal shift	Noted	Comment noted	Positive
485	Overall	Suggest addition of a sub-objective that commits to the positive environmental impact of CAM infrastructure (e.g. stations)	Noted	Comment noted	Positive
486	Overall	Sub-objective EV2 should be expanded to reference reduced emissions from other sources, such as rubber tyred vehicles	Noted	Comment noted	Positive
487	Overall	Clarification is needed on the definition of the term 'agglomeration' in sub-objective E1	Amendment	Further clarity provided through the rewording and expansion of sub objective E1	Neutral
488	Overall	Strongly supportive of objective CAM 3, whilst noting that sub-objective S3 regarding affordable fares is key to achieving objective CAM 3	Noted	Comment noted	Positive
489	Overall	Feb-Apr 2020 consultation did not consult on the CAM OBC and reference to this in the Sub-Strategy should be amended accordingly	Noted	CAM public consultation will occur as the scheme continues to develop at the appropriate points in the programme	Negative
490	Overall	FBC should be accelerated and brought forward from March 2021	Business Case	Detail will emerge within the Business Case - programme - consultation will proceed at appropriate timescales	Neutral
491	Overall	Queried compatibility between timescales for construction/design of GCP schemes to begin in late 2024 and planned opening of the Regional Routes in 2024	Business Case	Detail will emerge within the Business Case - routes, frequency and timescales to be determined and communicated	Neutral
492	Overall	Integration of CAM with other/existing public transport services, including the bus network, is key to achieving modal shift	Noted	Included within the CAM sub strategy objectives	Positive
493	Overall	Support proposed integration with proposed/existing public transport services, but further detail is required on how this will be implemented	Noted	Comment noted	Positive
494	Overall	Sub-Strategy should reference potential integration with existing/proposed mainline rail services	Noted	Objective E9 states Directly serve and link into transport hubs (where appropriate) including existing and planned rail stations (to facilitate the necessary outward and inward commuting to/from Cambridge)	Neutral
495	Overall	Expressed desire to see walking and cycling infrastructure to be delivered as part of CAM, as is proposed for CSET	Business Case	Detail will emerge within the Business Case to ensure that sustainable (including active) modes are fully integrated with CAM	Neutral
496	Overall	Urged close integration with East-West Rail, and provision of cycleways alongside dedicated CAM routes	Business Case	Due consideration will be given to EWR, buses and active travel modes through the development of the Business Case and further work on the integrated transport network	Neutral
497	Overall	Strongly support the objectives of the Sub-Strategy, and agree that these strongly align with the aims of the LTP	Noted	Comment noted	Positive
498	Overall	Economic sub-objectives should commit to providing cycle routes as part of/adjacent to the CAM network	Business Case	Detail will emerge within the Business Case to ensure that sustainable (including active) modes are fully integrated with CAM	Neutral
499	Overall	An interim review of the CAM OBC will be required to ensure integration with the re-sited Waterbeach station	Noted	As the Business Case continues - key stage gates will be required	Neutral
500	Overall	CAM timeline should allow flexibility for construction works in/around Waterbeach and Alconbury due to unconfirmed timelines for the relocation of the former's mainline railway station and construction of the latter settlement & employment space	Noted	Comment noted	Positive
501	Overall	Supportive of both societal and environmental sub-objectives, but would like to see a commitment to providing a biodiversity net gain amongst the latter	Noted	Comment noted	Positive
502	Overall	CAM may assist in accelerating the delivery of housing across the region	Noted	Comment noted	Positive
503	Overall	CAM must be affordable for all residents at the point of use	Business Case	Detail will emerge within the Business Case as to how the CAM will be affordable	Neutral
504	Overall	'First and last mile' transport solutions should radiate from CAM station locations	Business Case	Detail will emerge within the Business Case and will address the first and last miles (safe, secure and convenient)	Neutral
505	Overall	Priority should be given to delivering extensions of the existing busway route(s) to Alconbury and Hauxton, and to the Waterbeach to Cambridge North route at an early stage in the CAM program.	Business Case	Detail will emerge within the Business Case - routes and frequency to be determined and consulted on in due course	Neutral
506	Overall	Welcome further dialogue with CPCA regarding the integration of the network into developments at Alconbury Weald, St Neots and Waterbeach.	Noted	Comment noted	Positive



TRANSPORT & INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.3
4 NOVEMBER 2020	PUBLIC REPORT

CAMBRIDGE SOUTH EAST TRANSPORT BETTER PUBLIC TRANSPORT AND ACTIVE TRAVEL CONSULTATION

1.0 PURPOSE

- 1.1. To outline the Combined Authority's approach in responding to the Greater Cambridge Partnership's (GCP) Cambridge South East Transport (CSET) Environmental Impact Assessment (EIA) consultation and hear from GCP's officers on the aims, objectives and purpose of the consultation.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor of Cambridgeshire and Peterborough
Lead Officer:	Paul Raynes, Director of Delivery and Strategy
Forward Plan Ref: N/A	Key Decision: No
<p>The Transport and Infrastructure Committee is recommended to:</p> <ul style="list-style-type: none">(a) Note the Greater Cambridge Partnership's Cambridge South East Transport (CSET) consultation;(b) Agree the process by which the Combined Authority will respond to the GCP's consultation, set out in paragraphs 2.10-2.11; and(c) Delegate responsibility to the Director of Delivery and Strategy to respond to the consultation on behalf of the Combined Authority in consultation with the Chair of the Transport & Infrastructure Committee.	<p>Voting arrangements</p> <ul style="list-style-type: none">(a) N/A(b) Simple Majority(c) Simple Majority

2.0 BACKGROUND

- 2.1. The Combined Authority welcomes a close working relationship with the GCP, especially on the development of key infrastructure projects such as the Cambridgeshire Autonomous Metro (CAM).

Importance of CAM

- 2.2. Economic growth across Cambridgeshire and Peterborough has over recent decades not been matched by the provision of the appropriate transport infrastructure. In order to sustain future growth in the region, new infrastructure is essential to support the delivery of new jobs and new homes.
- 2.3. CAM will connect key regional centres of employment, existing settlements, key railway stations, new homes and planned growth, to create a platform for sustainable and inclusive growth. CAM will transform people's day-to-day lives, by connecting communities and creating new jobs and widening access to opportunities across the region.

Greater Cambridge Partnership's *Cambridge South East Transport Environmental Impact Assessment* Consultation

- 2.4. The Cambridge South East Transport project is a component of the overall CAM scheme. GCP have commenced the CSET consultation into the EIA. This consultation runs for eight weeks between 19th October and 14th December. As part of the planning application process the GCP is now seeking views on the detailed design of the CSET proposals and how best they manage and mitigate the potential impacts on the landscapes and the environment.
- 2.5. The CSET Phase 2 project is a new public transport route, proposed by the GCP, to link the Cambridge Biomedical Campus via Great Shelford, Stapleford and Sawston to a new travel hub near the A11/A1307, with connections to Babraham, the Babraham Research Campus and Granta Park. The scheme is estimated to cost £132.3 million.
- 2.6. The scope of the EIA consultation is to:
- Present information on the current proposed scheme design, which GCP are seeking comment on;
 - Highlight where the GCP have made refinements to the design and explain why these changes have been made;
 - Identify the potential environmental impacts, both positive and negative;
 - Set out the proposed measures for mitigation of the adverse impacts; and
 - Provide an opportunity for stakeholders to comment and give their views on the proposals.
- 2.7. As the strategic transport authority, the Combined Authority will be responding to the consultation. The GCP have been invited to give a short presentation at this Transport & Infrastructure Committee to inform Members of the proposals including the individual scheme elements and the environmental information by

area to ensure that the detail is fully understood ahead of a formal consultation response being submitted. The Combined Authority will want to ensure that the CSET proposals are consistent with the Local Transport Plan and its subordinate strategy documents, and support the wider strategic growth objectives for Cambridgeshire and Peterborough set out in the Devolution Deal, evidenced by the Cambridgeshire and Peterborough Independent Economic Review, and reflected in the Growth Ambition Statement and Local Industrial Strategy.

- 2.8. A link to the GCP's consultation can be found here - [GCP Consultation Document](#).
- 2.9. Following the update from the GCP at this Transport & Infrastructure Committee, officers from the Combined Authority will continue to work with Members of the Committee to formulate an appropriate response.
- 2.10. With the deadline for consultation responses ahead of the next Transport & Infrastructure Committee meeting on 6 January 2021, delegation is sought from the Committee for the Director of Delivery and Strategy to prepare the Authority's response, in consultation with the Chair of the Committee. This will enable the Authority to provide a response in timely manner in line with the consultation timescales.
- 2.11. The final consultation response submitted by the Authority to the GCP will be presented at the Transport & Infrastructure Meeting on 6 January 2021.

3.0 FINANCIAL IMPLICATIONS

- 3.1. None at this stage directly in relation to the development and agreement; however, there will be a financial implication that will be accounted for when developing the CAM schemes.

4.0 LEGAL IMPLICATIONS

- 4.1. The recommendations accord with CPCA's powers under Part 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251).
- 4.2. The meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus)(Flexibility of Local Authority and Police and Crime Panel Meetings)(England and Wales) Regulations 2020.

5.0 APPENDICES

- 5.1. None

<u>Background Papers</u>	<u>Location</u>
None	



TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.4
04 NOVEMBER 2020	PUBLIC REPORT

CAMBRIDGESHIRE AUTONOMOUS METRO PROGRAMME UPDATE

1.0 PURPOSE

- 1.1. The purpose of this report is to provide an update to the Committee on the advancement of the Cambridgeshire Autonomous Metro (CAM) programme and the establishment of the Special Purpose Vehicle (SPV) that will deliver the programme.
- 1.2. The report also seeks to provide details as to alternative general areas for the C2C route.
- 1.3. Finally, the report seeks to set out a proposed change to the scope of the Transport and Infrastructure Committee, to support the Mayor in his role as representative of the Cambridgeshire and Peterborough Combined Authority, the Local Transport Authority for the area.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor James Palmer
Lead Officer:	Kim Sawyer, Chief Executive Simon Wright, Technical & Engineering Advisor
Forward Plan Ref: n/a	Key Decision: No
<p>The Transport and Infrastructure Committee is recommended to:</p> <ul style="list-style-type: none">a) Note the updates set out in this report.b) Support the Mayor in his representative role on the Greater Cambridge Partnership Executive Board by recommending that the Combined Authority expand the Terms of Reference of the Transport and Infrastructure Committee to enable it to consider and comment on key business items for the Greater Cambridge Partnership (GCP) related to CAM schemes by amending Chapter 8 of the CPCA Constitution (Transport and	<p>Voting arrangements</p> <p>A simple majority of all Members</p>

<p>Infrastructure Committee), Section 3, to include:</p> <p>3.2.13 Review matters related to the CAM scheme prepared by the Greater Cambridge Partnership and make representations to the GCP Executive Board related to CAM matters.</p>	
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2.0 BACKGROUND

- 2.1. The Cam Concept Design Procurement was launched on the 5th October with interested organisations needing to submit their completed SSQs by 4th November. So far there has been a phenomenal level of interest from a very diverse range of organisations. In response to the expected high level of returns, the CPCA is currently identifying a number of evaluators to support the process and ensure the procurement timetable is adhered to.
- 2.2. The Cam Business Case requirements is being procured under a 5-lot structure to facilitate project requirements over the next 4 years.
- **Lot 1** – Programme and Project Management – this will be a direct award, from an OJEU compliant framework, in November 2020 to facilitate the time critical procurement of Lots 2 & 3.
 - **Lot 2** – Engineering, transport planning, EIA
 - **Lot 3** - funding & finance, business case writing, Strategic Advice – these will be procured on the open market through a Restricted OJEU Procedure to ensure an award by mid-March 2021.
 - **Lot 4** – Land Referencing – this will be a direct award from an OJEU compliant framework.
 - **Lot 5** – Legal support & Advice – this is currently out to tender, as a further competition, from an OJEU compliant Framework

SPV Establishment

- 2.3. The CAM SPV, One CAM Ltd, has been incorporated. A first board meeting, convened of the interim directors, has been arranged. This meeting will enable various key administrative steps (confirmation of bank account etc), to be completed. Key items of business will be the recommendation to the CPCA Board meeting in November of the appointment of Chief Executive and the non-executive directors following interview processes being conducted by the CPCA.
- 2.4. Company documents, including a shareholder and subscription agreement, together with a Service Level Agreement (which will provide for support

services for the One CAM Ltd) are in an advanced state of preparation and are expected to be entered into in the early part of November.

SPV Chief Executive Officer Recruitment

- 2.5. Recruitment is also advancing for key leadership roles in the SPV. Shortlisted candidates for the SPV Chief Executive Officer will be interviewed on 2 November, with the preferred candidate expected to be presented to the CPCA Board on 25 November. Additionally, recruitment for the SPV Director of Strategy is also underway with a shortlist of candidates expected in November and interviews to be scheduled in December to identify a successful candidate before the end of the calendar year. Recruitment is also progressing for the SPV Non-Executive Directors with candidate interviews scheduled for 5 and 6 November with a recommendation for appointment of the successful candidates to the CPCA Board meeting in November.

CPCA and GCP Joint Working

- 2.6 Following on from the attendance by the Mayor at the Greater Cambridge Partnership Executive Board, the CPCA and the GCP continue to progress their joint working arrangements. Improved arrangements will present a unified approach to delivery of the CAM, enabling the CPCA to promote the CAM work being delivered by the GCP, enabling the Mayor to actively engage in CAM work across the entire network and support GCP decision making as part of the GCP Board. To progress the CAM programme in an integrated fashion, officers at the CPCA and GCP have also been working closely to ensure all components of the programme achieve the objectives of the scheme. Joint working has focused on how to integrate the programme in the development of one or more business cases that show alignment across the programme and properly capture the benefits of the overall scheme, with some engagement on potential alternative routes for the Cambridge to Cambourne (C2C) project.
- 2.7 Over the last month, GCP and CPCA officers have discussed how best to bring forward the CAM to central Government through the potential creation of a programme-wide business case, whilst removing or minimising any delay in the progress of component projects already in development. Several options are under consideration that will allow for a more joined up approach and presentation of the CAM as a programme without causing unnecessary delays, but options are still under evaluation and in discussion with key government departments. Following further work to evaluate these options and engagement with central Government, an update will be provided to this Committee for agreement on a recommended path forward that is reflective of a more integrated approach required to deliver the CAM.

C2C Route – Alternative Proposals

- 2.8 The Mayor has previously stated that “collaboratively working between the Combined Authority and GCP will ensure that the collective transport infrastructure investments in the region will work to become more than the sum of their parts. Joint working and alignment is important so that we ensure the

future delivery of transport schemes which will improve connectivity across Cambridgeshire and Peterborough as a whole.”

- 2.9 The Combined Authority has previously reviewed the GCP C2C proposals against the LTP CAM Sub-strategy. A previous report to this Committee on 8 July 2020 found that the proposed C2C route by GCP was not compliant with the emerging Sub-Strategy and asked the GCP to formally comment on the proposals. A response from the Chief Executive of the GCP is attached at Appendix 1.
- 2.10 As a result of concerns raised by local residents with the Mayor as chair of the Local Transport Authority and following the independent report on compliance with the CAM sub-strategy referred to above, a number of high-level alternative route proposals have been considered by the CPCA. GCP officers were asked to take part in technical workshops with the CPCA to consider alternative route alignments. From those workshops CPCA officers have developed a preferred indicative route corridor and have recently shared this preferred route corridor with GCP colleagues. In response GCP officers have raised some initial concerns and asked for further investigations on the additional cost of a northern alignment, an assessment of the impact on the environment and the potential construction complexity and risk associated with the preferred corridor. A plan showing a broad corridor for the potential alternative route is attached at appendix 2. It should be recognised that this is a proposal for an alternative route which will require considerable further exploratory work and consultation with the public before the route can be approved. It is provided to give some transparency on the discussions between the CPCA and the GCP.
- 2.11 More detail on the preferred northern corridor will be brought back to the CPCA Transport & Infrastructure Committee and GCP Executive Board regarding the further investigatory work and timescales as this emerges from the continued officer working arrangements. In addition to the above preferred route corridor the CPCA will continue to explore other potential options to the north of the A428 in seeking to overcome the initial concerns raised by the GCP officers.
- 2.12 To ensure the project has effective internal oversight, an officer executive steering group has been established to ensure continued coordination between the CPCA and GCP on their component projects of the CAM programme.

Transport and Infrastructure Committee: Terms of Reference

- 2.13 In order to support the Mayor in his role as representative of the Local Transport Authority on the GCP Executive Board, it is proposed that the role of the CPCA Transport and Infrastructure Committee be expanded, through a change to its Terms of Reference, to review and comment upon matters to be considered by the GCP. Meetings of the Transport and Infrastructure Committee could be timetabled to allow for consideration in a timely fashion to enable the Mayor to actively engage with the GCP on matters related to the CAM network.

2.14 Further, and to support those discussions at the Transport and Infrastructure Committee, officers of the GCP would be invited to present and discuss relevant items of business. The GCP officers have already been invited to present on the Cambridge South East CAM route consultation as a separate item on this agenda for the Transport & Infrastructure Committee.

2.15 The following changes to the terms of reference of the Transport and Infrastructure Committee would enable it to consider GCP business cases:

a) Amendment to Chapter 8 of the CPCA Constitution (Transport and Infrastructure Committee), Section 3, to include:

3.2.13 Review matters related to the CAM scheme prepared by the Greater Cambridge Partnership and make representations to the GCP Executive Board related to CAM matters.

SIGNIFICANT IMPLICATIONS

3.0 FINANCIAL IMPLICATIONS

3.1. There are no financial implications to be notified in this report: a separate Budget and Performance paper will be presented to this Committee which will include an update on this project.

4.0 LEGAL IMPLICATIONS

- 4.1. Changes to the terms of reference of the Transport and Infrastructure Committee is a matter for the Combined Authority Board, which is responsible for the constitution.
- 4.2. Other legal implications of significance are noted in the body of this report.

5.0 OTHER SIGNIFICANT IMPLICATIONS

5.1. None.

6.0 APPENDICES

- 6.1. Appendix 1 – Response from the Chief Executive of the GCP.
- 6.2. Appendix 2 - Indicative Plan – Northern C2C Route Alignment

<u>Background Papers</u>	<u>Location</u>
None	

CPCA/Jacobs' Review of Cambourne to Cambridge

Introduction

This paper provides a response from the Greater Cambridge Partnership (GCP) to the paper produced by Jacobs on behalf of the Cambridgeshire and Peterborough Combined Authority (CPCA) in order to assess the compliance of the Cambourne to Cambridge scheme (C2C) with the Cambridgeshire Autonomous Metro (CAM).

GCP considers that all of the Jacobs' recommendations are already addressed or will be addressed appropriately at later stages of scheme development. There are no issues that justify a conclusion that the scheme is not compliant.

The basis of the assessment is to consider C2C against the objectives of draft "Cambridgeshire and Peterborough Local Transport Plan: Cambridgeshire Autonomous Metro (CAM) Sub-Strategy" namely, to promote economic growth and opportunity, support the acceleration of housing delivery, promote equity and promote sustainable growth and development.

These objectives align to the LTP objectives. The Sub-Strategy is a 'daughter document' to the LTP – it cannot alter the LTP – so in considering conformity it is important to consider both documents. It should be noted therefore, that the C2C scheme is clearly consistent with the Cambridgeshire & Peterborough Local Transport Plan which states:

"Delivery of the CAM in collaboration with the Greater Cambridge Partnership will provide a reliable, high frequency metro service between the employment hubs and high-tech clusters of Greater Cambridge, with the city centre and surrounding market towns and new settlements. Work is already underway on the first phase of the CAM through the Greater Cambridge Partnership's programme to provide high quality, segregated public transport routes along key corridors, including links to Cambourne, Granta Park, Cambridge East and Waterbeach.

CAM will provide a step-change in public transport connectivity across the region, with services being segregated from other motor traffic within Cambridge. It will enable residents and visitors to travel quickly and easily across Greater Cambridge, providing better access to employment and education, broadening labour markets, and thereby supporting our dynamic economy. The scheme, including segregated links to Cambourne, Granta Park and Waterbeach, will also significantly improve the accessibility of new settlements (such as Bourn Airfield and Waterbeach New Town), supporting the delivery of much-needed homes, and major employment clusters Each CAM route – outside of the tunnelled city centre section – will include segregated parallel infrastructure for pedestrians, cyclists and horse riders, opening up new commuting opportunities on foot or by bike, similar to that already achieved by the Cambridgeshire Guided Busway"

The purpose of the LTP Sub-Strategy for CAM was to provide further detail on CAM requirements. The fact that the LTP outlines the requirement for C2C and that GCP is the body taking it forward should be a material consideration, but not one mentioned in the Jacobs' report or the CPCA's covering report.

It also needs to be recognised that an LTP is a strategic document, and it is unlikely that any scheme would systematically achieve every objective fully – compliance is more a matter of

principles and Jacobs seem to have identified no fundamental principles that are not met by the C2C scheme.

A detailed response has been prepared and is attached, whilst this paper responds to the main recommendations of the Jacobs' paper. In particular, it should be noted that:

- The CPCA has previously reviewed the Cambourne to Cambridge route and the A428 corridor. This process was informed by a high level review of route options undertaken by ARUP which concluded in November 2018¹ that:
 - *"The process undertaken to date to determine the route is robust and the optimal solution for the corridor is confirmed;*
 - *The route is reclassified as a CAM route to serve the wider network, and not an independent guided busway corridor;*
 - *Options for mitigating the impact of the scheme at West Fields and Coton will be incorporated into scheme design for the SOBC".*
- The most frequently raised concern from Jacobs is about integration with East West Rail, yet these do not appear to be shared by East West Rail who raise no such concerns and state² of their preferred route option that *"It also connects the growing population of Cambourne with environmentally sustainable transport and could integrate with proposed improvements to the local transport network in south Cambridgeshire such as the busway extension and Cambridgeshire Autonomous Metro".* GCP has previously committed to ensuring Interchange with EWR at Cambourne subject to EWR route confirmation and design development – until such confirmation C2C will run through Cambourne on existing routes rather than new segregated infrastructure whilst EWR finalises its choice of station location over the coming 24 months.
- The only Red flagged issues in the Jacobs assessment, which are deemed to indicate that C2C fails to meet a CAM objectives, relate to the commitment to electric/zero emissions vehicles. As well as being incorrect this is also irrelevant as the C2C scheme is an infrastructure development project – and that infrastructure can convey electric and clean diesel vehicles.
- As such, the Jacobs report clearly demonstrates that C2C is compliant with the Sub-Strategy.

Response to the Jacobs assessment

A detailed response to Jacobs' assessment is appended.

The response to the recommendations of the Jacobs assessment is as follows:

- C2C be designed to connect to East West Rail Station at Cambourne and a segregated route around Cambourne be examined.

1

https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=Hi4JkrJb8%2bAC%2bKJmBGUWINQVhEDCyzIQFmLnM3Bv7rDlis3M5P1E2w%3d%3d&rUzwRPf%2bZ3zd4E7lkn8Lvw%3d%3d=pwRE6AGJFLDNIh225F5QMaQWctPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSffXsDGW9IXnlg%3d%3d=hFflUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFflUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=ctNJff55vVA%3d&FgPIIEJYlotS%2bYGoBi5oIA%3d%3d=NHdURQburHA%3d&d9Qji0ag1Pd993jsyOJgFvmyB7X0CSQK=ctNJff55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJff55vVA%3d&WGewmoAfeNQ16B2MHuCPMRKZMwaG1PaO=ctNJff55vVA%3d

² Connecting Communities: The Preferred Route Option between Bedford and Cambridge Executive Summary, 2020

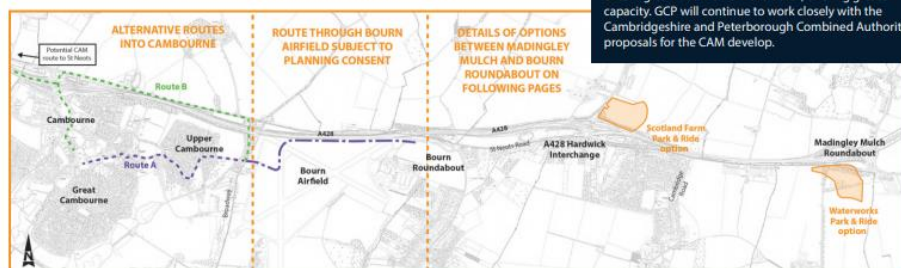
GCP agreed with ARUP in 2018 that CAM would ultimately require a segregated route around Cambourne. A consultation on options for a Phase 2 route running from Madingley Mulch roundabout and on to Cambourne was undertaken in February/March 2019. Phase 2 consultation materials³, which CPCA Officers contributed to, presented what a future, CAM-compliant, Phase 2 route continuing to Neots would look like (Route B) – see Figure 1.

Figure 1 - Phase 2 public consultation brochure page 3

PHASE 2 – MADINGLEY MULCH ROUNDABOUT TO BOURN AIRFIELD AND CAMBOURNE

The area presented for consultation runs west of Madingley Mulch roundabout to Cambourne. We are asking for your views on three options for the link between Madingley Mulch roundabout and Bourn roundabout, presented on pages 4, 5 and 6. Option 1 is entirely off-road, only interacting with other traffic at junctions. Option 2 is entirely on-road, with public transport mixing with general traffic and basic junction improvements. Option 3 is entirely on-road, but with dedicated public transport lanes.

The section from Bourn roundabout to Broadway forms part of a major planning application for approximately 3,500 homes at Bourn Airfield and is the same across all options. All options show two alternatives for entry to Cambourne: travelling with general traffic through the village (Route A), or going up Broadway and along St Neots Road (Route B) and entering Cambourne from the north.



Cambridgeshire Autonomous Metro (CAM)

Plans for the wider, regional Cambridgeshire Autonomous Metro (CAM) are at an early stage and action is needed now to tackle worsening congestion and accommodate growing communities west of Cambridge. A future CAM network proposes electric, rubber-tired vehicles that can run on existing roads and, for best performance, use dedicated, off-road routes to bypass congestion.

A Metro network running on-road or off-road needs enough space to provide the best service. Options 1 and 3 offer more road capacity due to greater separation from general traffic. Option 2 offers less capacity, as the route is shared with general traffic.

To facilitate the future CAM network, these proposals demonstrate alternatives for entry to Cambourne: sharing road space with general traffic through the village; or entering Cambourne from the north, offering greater capacity. GCP will continue to work closely with the Cambridgeshire and Peterborough Combined Authority as proposals for the CAM develop.

C2C is, however, developed as a free-standing scheme and no detailed off-line alignment around Cambourne has been proposed as yet because:

- 1 There is no agreed location for the East West Rail Station at Cambourne
- 2 There is no clarity as to the likely onward CAM alignment to St Neots

As and when the above issues are resolved GCP can agree an alignment around Cambourne. In the meantime the proposed alignment does not impede eventual delivery of CAM.

The recurrent reference to the need to connect to EWR in the Jacobs report is incorrect as it implies that there is a proposed station location that C2C could connect to. Specifically, Jacobs states “the route does not currently connect into the planned East West Rail Station south west of Cambourne” whereas East West Rail simply show an area where such a station might lie – potentially this could even be to the west of the A1198 in which case connectivity would presumably be provided via the extension of C2C to St Neots.

The current C2C proposals follow an on-line alignment into Cambourne but the scheme would be readily adapted to link to EWR and onto the CAM alignment to St Neots once there is clarity as to the requirements of EWR and CAM.

- A commitment to use of electric / zero emission vehicles, with appropriate infrastructure included within the scheme.

³ https://www.greatercambridge.org.uk/asset-library/imported-assets/Phase%2020leaflet_Finalv2_Optimized.pdf

This point is fundamentally incorrect because C2C is an infrastructure project and not an operational project. Vehicles would be operated by private operators subject to any operating requirements. GCP is committed to the use of electric / zero emission vehicles.

The current proposals for C2C do not specify specific charging infrastructure because this level of detail of design of the Travelhub and other potential charging locations was planned for the next stage of work, and because operational requirements will need to reflect the level of development of battery and charging technology closer to scheme opening. Battery range continues to improve and so the likely requirement for charging cannot at this stage be stated for certain.

This issue is a particular concern because of the need to adopt CAM vehicles. Operators may prove reluctant to invest in a bespoke vehicle fleet when a further technology refresh might be imminent to ensure CAM compliance. Similarly, the design of charging facilities will also need to reflect the needs of CAM. Without confirmation of CAM vehicle type, the GCP cannot provide further detail of vehicles or required charging facilities. There is, however, no aspect of the proposed C2C scheme which in any way impedes the deployment of electric vehicles.

- Route and vehicle stops future proofed to cater for CAM City Tunnels vehicles within the constraints imposed through the TWAO process.

Route and vehicle stops are future proofed to cater for CAM City Tunnels vehicles within the constraints imposed through the TWAO process. As there is at this stage no clarity as to the detailed requirements for CAM it is recognised that further modification may be required as part of a CAM “overlay” but it is unclear what CPCA expect at this stage given the lack of certainty as to their eventual requirements.

- Alternative or amended routes around Coton continue to be reviewed, along with potential routes north of the A1303.

The concerns expressed by Coton residents are well understood. GCP is committed to further refinement of the route around Coton in dialogue with CPPF, National Trust and landowners. However, the various alternatives have all been considered, assessed, and discounted over the last 6 years. Full evidence of assessment of alternatives in line with DfT Transport Analysis Guidance has been detailed throughout Option Appraisal Reports 1, 2 and 3.

The conclusions drawn by ARUP on behalf of the CPCA in November 2018 are notable, namely:

The process undertaken to date to determine the route is robust and the optimal solution for the corridor is confirmed.

- Whilst maintaining an acceptable alignment the route through Westfields is amended to minimise environmental impacts and mitigations are developed.

GCP has already modified the route to minimise environmental impact. This is at the expense of some operational performance. Any further modification would significantly impact performance.

This is a specific example of where the Jacobs report does not appear to reflect the reality of the work undertaken.

- It is also recommended that a review be provided on the current Bus Strategy service patterns to understand whether it provides an adequate Metro service.

The Bus Strategy has been developed to be a robust indication of service levels to address potential demand within the strategic context of C2C and as a supplement to the OBC. As such this recommendation is irrelevant to the choice of a preferred route for C2C as it deals with the subsequent service levels which are not constrained by the proposed alignment.

As the CAM LTP Sub-Strategy provides no specific service level requirements C2C cannot confirm whether the Bus Strategy complies with the proposed Metro service. However, as indicated in the Strategy and in the Jacobs review of Policy CAM-E20 there is recognition that there is, in reality, ample scope within the infrastructure to increase service frequency to meet increased demand.

Conclusion

GCP officers' views are that all of these recommendations were already addressed or will be addressed at later, appropriate, stages of scheme development. There are no fundamental issues that justify a conclusion that the C2C scheme is not compliant with the LTP or CAM.

Appendix A – Comparison Table of C2C against CAM objectives - with GCP response

CAM Objective	CAM sub-objective	Degree C2C meets objective (Jacobs' assessment)	Jacobs' Sub-Objective RAG rating *	Amendments proposed by Jacobs	GCP Response
<p>CAM 1: Promote economic growth and opportunity</p> <p>CAM 2: Support the acceleration of housing delivery</p>	CAM-E1: Promote agglomeration	Provides stops /transport hubs at key development sites and new developments in Cambourne. Does not currently connect to East West Rail (EWR) station proposal in West Cambourne. Connection to central Cambridge and Biomedical Centre via existing road network and journeys to the Railway Station and other destinations requires changes at Grange Road onto other bus services, until CAM City Tunnels Section is constructed.		Link to EWR to be developed and review of demand to provide additional services to central Cambridge and Biomedical Centre and direct services to the destinations across Cambridge including the Railway Station.	Currently there is no EWR station proposal.GCP have been in ongoing dialogue with EWR and reviewed options for short term delivery of the C2C scheme. C2C will follow an on-line alignment to avoid abortive investment. Technical discussions continue with EWR and a segregated solution to the station will be developed once there is an EWR proposal. Routes to City Centre and CBC are also on-line to avoid investing in infrastructure rendered redundant by CAM tunnels.
	CAM-E2: Support new employment by enhancing access to and attractiveness of key designated employment areas by specifically enabling, serving and supporting: <ul style="list-style-type: none"> New settlements and enterprise zones already included in existing adopted Local Plans New Garden Village settlements Existing settlements with anticipated employment growth Supporting the development of <ul style="list-style-type: none"> New settlements being brought forward by any future development corporations created in the Oxford-Cambridge corridor. 	Direct link to employment at Cambridge West Campus and Cambourne. Connection to employment in central Cambridge and Biomedical Centre via existing road network and to Northern Cambridge via interchange with other services. Links provided to A428 corridor which is the road highlighted for the Oxford-Cambridge Expressway in this area. Currently no connection to EWR station or proposed development of new settlements in West Cambourne.		Segregated link to EWR and West Cambourne to be developed. Suggested a north or south segregated route around Cambourne with transport hubs serving developments, EWR station and the town via local bus services, and improved cycling and walking routes is reviewed.	As above, C2C will be adapted to follow a segregated route around Cambourne but only when the location of the EWR station and the alignment of the onward CAM route have been confirmed. Technical discussions with EWR continue.
	CAM-E3: Increase labour market catchment	Increased catchment for West Cambridge Campus from Cambourne and planned developments Scotland Farm P&R, Bourn Airport and Upper Cambourne. May provide increased wider catchment for UoC Campus from Oxford-Cambridge Expressway but currently would not provide increased catchment from EWR. It is expected that workers within central Cambridge using EWR would change at Cambridge South then use Guided Busway services.		Link to EWR and West Cambourne to be developed and connections across Cambridge reviewed / improved.	As above, link to EWR can only be defined once the station location is known. Technical discussions with EWR continue. Scheme offers strong access to West Cambridge. Access across Cambridge would be provided by CAM tunnels.
	CAM-E4: Serve and support new areas for sustainable housing development	Serves new housing developments at Scotland Farm P&R, Bourn Airport and in Upper Cambourne, but not currently West Cambridge.			
	CAM-E5: Provide overall transport capacity to enable and accommodate future growth	Scheme designed for 263% increase in capacity and to link into CAM City Tunnels network.			
	CAM-E6: Improve transport connectivity	Improved connectivity between Cambourne, proposed developments and West Cambridge UoC Campus and West Cambridge, and city centre and Biomedical Campus via existing road network. Currently no direct link to EWR and reliant on existing road network in Cambridge.		Link to EWR to be developed and connections across Cambridge reviewed / improved.	As above, link to EWR will be developed but can only be defined once the station location is known. Technical discussions with EWR continue. Scheme offers strong access to West Cambridge. Access across Cambridge would be provided by CAM tunnels.

	CAM-E7: Improve journey time reliability	Improved and more reliable journey times along A1303 although concern on Journey Times within Cambourne and Cambridge Road Network.		Review route through / around Cambourne to EWR and connections across Cambridge	As above, link to EWR can only be defined once the station location is known. Technical discussions with EWR continue. Scheme offers strong access to West Cambridge. Access across Cambridge would be provided by CAM tunnels.
	CAM-E8: Direct high-quality public transport access to key housing sites (existing designations)	Direct high-quality transport provided for new housing developments at Scotland Farm P&R, Bourn Airport and Cambourne including Upper Cambourne developments.			
	CAM-E9: Directly serve and link into transport hubs including existing and planned rail stations	Serves Scotland Farm Park and Ride and existing stops on bus networks. But due to National government's commitment to an EWR route C2C should aim to serve proposed station development at West of Cambourne		Link to EWR to be developed	As above, link to EWR will be developed but can only be defined once the station location is known. Technical discussions with EWR continue.
	CAM-E10: At transport hubs, support easy and rapid mode changes and transfers	It is assumed the detail of specific hubs is under development but C2C appears to be integrated into Scotland Farm P&R and easy transfer at West Cambridge Campus and existing bus stops.			
	CAM-E11: At transport hubs facilitate first and last mile connectivity to the local area	There are links to existing buses but generally C2C seems to be provide direct connectivity rather than using hubs. It is assumed hubs and stops will be high quality and include ticketing and provide passenger information.			
	CAM-E12: Support the development of demand responsive modes	Service provides up to 10 buses an hour (6 to the city centre and 4 to the Biomedical Campus) with capacity to increase services to meet demand.		Review this service to understand whether it provides an adequate Metro service.	The OBC provides infrastructure capable of carrying a more intensive service if demand is there. The proposed bus strategy is a conservative estimate to enable development of business case. Full Metro type provision will be developed as part of the CAM proposal
	CAM-E13: Integration with other modes, including bus.	Integration with P&R and bus services on route but not EWR and no direct services to Cambridge Railway Station		Link to EWR be developed with segregated route around Cambourne using transport hubs for developments, town via local bus services, and improved cycling and walking routes. Connections across Cambridge including to the Railway station to be reviewed / improved	EWR issue addressed above. Fully segregated pedestrian and cycling solutions form part of the C2C proposals. Services following the U route would serve Cambridge station and connectivity would be further improved through CAM tunnels.
	CAM-E14: Integrated with main arterial corridors, including the projected East West Rail route and the upgraded A428, and key LTP infrastructure projects	Not currently integrated with EWR but runs along and aims to integrate with A428		Link to EWR to be developed.	As above, link to EWR will be developed but can only be defined once the station location is known. Technical discussions with EWR continue.
	CAM-E15: Dedicated segregated routes as default assumption.	Provided except through Cambourne, on Charles Babbage Way through UoC and reliant on road network through Cambridge and to Biomedical Campus.		Review route through / around Cambourne to EWR.	As above, link to EWR will be developed but can only be defined once the station location is known. Technical discussions with EWR continue.
	CAM-E16: CAM will use technology, infrastructure and concepts of operations that deliver safe, reliable, regular, resilient and inclusive transport	It is understood C2C will use modern reliable, safe and inclusive vehicles and route			
	CAM-E17: CAM must be deliverable within the current decade	Scheme involves standard highway construction and can operate with existing technology so is deliverable in this timeframe.			

	CAM-E18: CAM must be future proofed and flexible in terms of capacity and technology.	Designed for future capacity but may require minor modifications to route and platform extensions at stops, and may require CAM City Tunnel section to install charging facilities for electric vehicles to run on the longer routes.		Route and vehicle stops to be future proofed to cater for CAM central tunnels vehicles.	Until recently there has been regular between CPCA and GCP team on design details. Unclear why there is any concern as surface level sections are unconstrained and design details have been incorporated. No design details of CAM vehicle currently available. GCP designs will be updated when they become available.
	CAM-E19: CAM will utilise sustainable, highly flexible, zero emission vehicles	No commitment to zero emission vehicles can be found and there is no evidence of charging facilities for electric vehicles being provided. The C2C Paper presented at the GCP joint assemble 4th June 2020 says the scheme will need to deliver <i>'environmentally friendly low emission vehicles such as electric/hybrids or similar.'</i> From this and other information it is expected that C2C vehicles could be Euro 6 diesel, which are low but not zero emission.		Commit to use zero emission vehicles.	OBC is for physical infrastructure which can serve electric or diesel vehicles. The project is committed to the use of clean, green vehicles. Without a CAM vehicle specification, the GCP cannot provide further detail but there is no aspect of the proposed C2C scheme which in any way impedes the deployment of electric vehicles.
	CAM-E20: CAM will be designed to maximise passenger trips in both directions and across the whole day.	Use of segregated route for majority of route will enable trips to be maximised. It is questioned whether 6 bus services to the city centre and 4 to the Biomedical Campus is sufficient for potential demand, although it is recognised there is flexibility within the busway design to increase this.		Review this service to understand whether it provides an adequate Metro service.	As above, this is a Bus Strategy developed to enable the production of the OBC. The scheme is capable of carrying a greater frequency if demand is there. Full Metro type provision will be delivered when the CAM network is completed.
CAM 3: Promote Equity	CAM-S1: Provision of safe and secure CAM network – safe by design, safe in construction and safe in operation – to meet all standards and global best practice	Understood to be safely designed to all applicable design and security standards			
CAM Objective	CAM sub-objective	Degree C2C meets objective (Jacobs' assessment)	Jacobs' Sub-Objective RAG rating *	Amendments proposed by Jacobs	GCP Response
	CAM-S2: CAM will meet all planning and environmental requirements	Scheme designed to do meet these and requirements for TWAO application			
	CAM-S3: Affordable and fair fare structure.	Fair Structure to be confirmed but understood this aims to be affordable	N/A		
	CAM-S4: Compatible with county wide future integrated ticketing	Not highlighted within the documents	N/A		
	CAM-S5: Promotes seamless connectivity between regional settlements, major city fringe employment sites and key satellite growth areas across Cambridgeshire and Peterborough	C2C link to new developments and new park and ride and link to Cambridge West Campus and local employment in Cambourne, and through existing networks the City centre and Biomedical Campus.			
	CAM-S6: Facilitates seamless cross country and city journeys to outlying regional settlements, urban fringe employment sites and key satellite growth areas	Linked to fringe employment sites but not to east west rail for Oxford- Cambridge corridor.		Link to EWR to be developed.	As above, link to EWR will be developed but can only be defined once the station location is known.
	CAM-S7: Improve opportunities for all residents and communities	Improved opportunities through links to Cambridge West Campus and local employment in Cambourne, City centre and Biomedical Campus.			
	CAM-S8: Promotes high quality public realm at stations	Provides high quality urban realm at stops.			

	CAM-S9: Reduces adverse impacts of public transport provision on city, urban and village centre mobility for pedestrians and cyclists	Reduces impacts on congested A1303 and provides cycle / walking routes/network			
	CAM-S10: Support and be complimentary to walking and cycling.	Secure cycle parking provided at stops and provides cycle / walking routes/network.			
	CAM-S11: Improve air quality	Slight improvement through moving people onto public transport and reducing congestion but no commitment to zero emission vehicles.		Commit to use of zero emission vehicles	As above GCP is committed to use of zero emission vehicles but OBC is for physical infrastructure which can serve electric or diesel vehicles. Without a CAM vehicle specification, the GCP cannot provide further detail but there is no aspect of the proposed C2C scheme which in any way impedes the deployment of electric vehicles.
	CAM-S12: Promote low carbon economy	Supported through use of low emission public transport vehicles and encouragement for cycling and walking but use of diesel vehicles would not support this objective.		Commit to use of zero emission vehicles.	As above GCP is committed to use of zero emission vehicles but OBC is for physical infrastructure which can serve electric or diesel vehicles. Without a CAM vehicle specification, the GCP cannot provide further detail but there is no aspect of the proposed C2C scheme which in any way impedes the deployment of electric vehicles.
CAM 4: Promote sustainable growth and development	CAM-EV1: Support environmental sustainability Minimises adverse impacts on conservation areas, heritage and natural community assets, including protecting the character of villages and avoiding encouraging unsustainable village fringe development. Meets net gain requirements and where possible offers additional visual and environmental enhancements.	Environmental impacts on West Fields and Coton highlighted.		Review of Alternative or amended routes around Coton and Westfields to minimise impacts and develop mitigations.	Alignment is consistent with that endorsed in 2018 by ARUP on behalf of CPCA. This was agreed by the CPCA Board. Alternatives north of A428/A1303 and on-line have been considered, assessed, and discounted over the last 6 years. Full evidence of assessment of alternatives in line with DfT Transport Analysis Guidance has been detailed throughout Option Appraisal Reports 1, 2 and 3. The challenges are as follows: <ul style="list-style-type: none"> • On-line routes could not be segregated and would not be CAM sub-strategy compliant. • Routes via the A428/M11 on the basis that Girton Interchange will become all-movements are speculative and would be unsegregated and not CAM compliant. • A route to the north of Madingley Hall would divert completely off the line of the scheme and create an entirely new corridor of disturbance. • The LLF has proposed a route that follows the north side of the A428. Land-take along the A428 would be likely to create concerns in Madingley. The section through Girton Interchange and Eddington would either be unsegregated and non-compliant or segregated and high-cost. Either would be significantly longer than the proposed route, undermining the business case. • Potential routes between the A428 and the A1303 have also been previously reviewed, but these routes directly impact on the most sensitive environmental and heritage constraints in the corridor: namely the Madingley Wood SSSI and the American Cemetery.

	CAM-EV2: CAM infrastructure will utilise zero emission vehicles; other public transport zero emissions vehicles should be able to use sections of the CAM infrastructure if they are CAM compatible	No committed to zero emission vehicles has been found and there is no evidence of charging facilities being provided.		Commit to use of zero emission vehicles.	As above, there is a commitment to zero emission vehicles. Without a CAM vehicle specification, the GCP cannot provide further detail but there is no aspect of the proposed C2C scheme which in any way impedes the deployment of electric vehicles. There is no specific provision of charging facilities at this stage as it is not clear what vehicles CAM may specify. Facilities will be specified as design develops.
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Table 1: Summary of C2C Comparison against CAM Objectives and Sub-Objectives

RAG Key

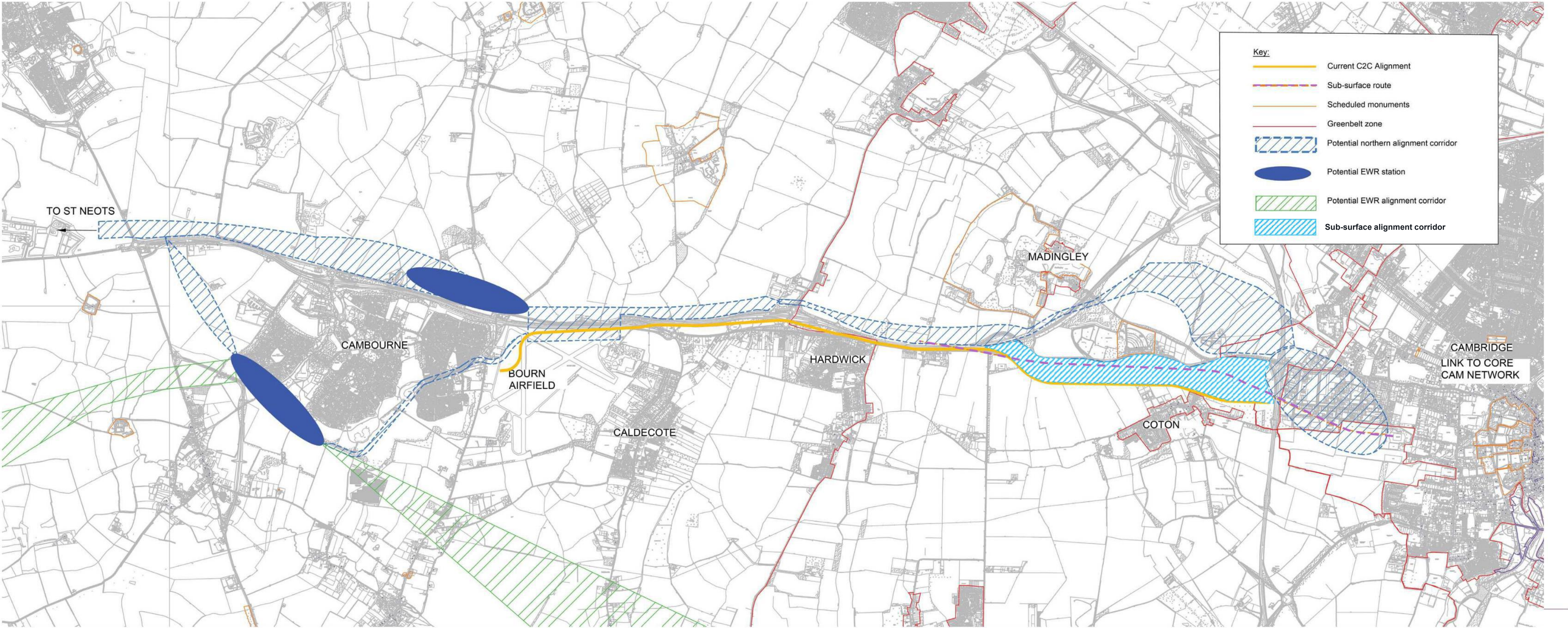
Meets CAM Objective

Could be strengthened to better meet CAM sub-objectives

Does not fully meet CAM Sub-Objective

Fails to meet CAM Sub-Objective

Indicative northern route corridor options



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

JAMES PALMER
CAMBRIDGESHIRE &
PETERBOROUGH MAYOR





TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.5
4 NOVEMBER 2020	PUBLIC REPORT

FENLAND STATIONS REGENERATION PROGRESS REPORT

1.0 PURPOSE

- 1.1. This paper updates the Transport and Infrastructure Committee on the Outline Business Case progress for the Fenland Stations regeneration project. The paper also provides information on the changes to the delivery programme for each station improvement.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Director of Delivery & Strategy
Forward Plan Ref: N/A	Key Decision: No
The Transport and Infrastructure Committee is recommended to: (a) Note the progress of this project.	Voting arrangements Simple majority

2.0 BACKGROUND

- 2.1. The Fenland Stations regeneration project was first approved for inclusion in the Transport Programme at the March 2018 Combined Authority Board meeting and is one of the twelve key projects in the Combined Authority Business Plan.
- 2.2. In April 2012, Fenland District Council gave a commitment to deliver railway station improvements in phases up until 2031. The timescales were associated with the developing proposals for each station and securing funding for scheme delivery.
- 2.3. In 2017, the Combined Authority agreed a substantial package of funding in addition to the Section 106 funding already secured for part of the schemes within each station masterplan.
- 2.4. The upgrades that are included in the Fenland Stations Regeneration project are:
- Improved footpath and lighting at Whittlesea Station

- Additional bicycle parking facilities at Manea, March and Whittlesea Station
- A second ticket machine at Whittlesea Station
- Redesign of Platform 1 buildings at March Station
- Additional car parking facilities at March Station
- Car parking facilities at Manea Station – Phase 1
- New waiting shelters for Manea and Whittlesea Stations
- Car parking facilities at Whittlesea Station – Phase 1
- Platform lengthening at Manea and Whittlesea Station including a footbridge – Phase 2

3.0 PROGRESS UPDATE

- 3.1. The above schemes in the project are running concurrently. The feasibility design and associated technical work for the larger elements of improvements has in part been completed for most items or is well underway.
- 3.2. The small package of projects which have already been completed include the waiting shelters at both Manea and Whittlesea Station, improvements to the footpath and lighting at Whittlesea Station and additional cycle parking at each of the stations. **Figure 1** shows some of the completed improvements.



Figure 1: Station Improvements – Waiting Shelter and Cycle Parking

- 3.3. The larger schemes, which include the station car parking at March, Manea and Whittlesea and Platform 1 building at March Station, have gone through the preliminary design stage. Associated costs and programmes have been provided for these.
- 3.4. The March Station improvement is being delivered by Fenland District Council and Greater Anglia. Procurement for a design and build contract has commenced. It is expected that construction will commence in January 2021.
- 3.5. The Manea Station car park is being delivered by Fenland District Council and will not be delivered by Greater Anglia as the land in question will be within the ownership of Fenland District Council. Planning permission was granted in September with associated pre-commencement conditions which will be dealt

with through the detailed design stage. Fenland District Council will commence procurement following detailed design completion at the end of October and once approval for funding has been granted, it is expected that construction on site will commence in February 2021.

- 3.6. The feasibility design and cost completed by Greater Anglia at Whittlesea Station on land adjacent to the existing car park exceeded the available budget and did not meet the value for money criteria as set out by the Combined Authority Assurance Framework. An alternative two-phased approach has been developed to progress this project. Phase one will provide improvements to the existing car park using land within the current Greater Anglia lease area for Whittlesea Station. Phase two will extend the car park further using additional land and will come forward as part of the wider aspirations of the station which includes the extended platforms and the footbridge.

4.0 FINANCIAL IMPLICATIONS AND NEXT STEPS

- 4.1. The Outline Business Case for March and Manea Station will be submitted to the November 2020 Combined Authority Board for approval of funding for the construction phase. The Business Case including budget estimates are currently undergoing an independent review, as required by the Combined Authority assurance processes, which will be received prior to the Combined Authority Board. The business case for Whittlesea Station will be submitted to the Combined Authority Board in January 2021 for approval of funding for construction of Phase 1.
- 4.2. Following funding approval, the construction timescales are set out in **Table 1**.

Table 1: Construction timescales

Activities	Start	End
Manea Station Car Park	February 2021	May 2021
March Station – Car Park and Platform 1 Building	January 2021	December 2021

- 4.3. Phase 2 will focus on further improvements at Manea and Whittlesea. This will involve the preparation of designs and costs related to platform lengthening at Manea and Whittlesea and a new pedestrian footbridge at Whittlesea. Discussions are continuing with Network Rail on this and this phase will commence once train services on the line improves.

5.0 LEGAL IMPLICATIONS

- 5.1. The recommendations accord with CPCA's powers under Part 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251).
- 5.2. The meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus)(Flexibility of Local

Authority and Police and Crime Panel Meetings)(England and Wales) Regulations 2020.

6.0 OTHER SIGNIFICANT IMPLICATIONS

6.1. No other significant implications have been identified at this stage.

<u>Source Documents</u>	<u>Location</u>
1: March 2018 Combined Authority Board Paper	1: CA Board Report March 2018



TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.6
4 NOVEMBER 2020	PUBLIC REPORT

MARCH AREA TRANSPORT STRATEGY PROGRESS REPORT

1.0 PURPOSE

- 1.1. This report summarises work undertaken on the Quick Wins programme as part of the March Area Transport Strategy (MATS) project to date, gives an update on the Quick Wins construction timescales, and requests release of funding.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Director of Delivery & Strategy
Forward Plan Ref: N/A	Key Decision: No
<p>The Transport and Infrastructure Committee is recommended to:</p> <ul style="list-style-type: none">(a) Note this progress report;(b) Note the updated Quick Wins programme;(c) Agree the commencement of construction of the remaining Quick Win schemes, subject to the Board agreeing (d) below;(d) Recommend to the CPCA Board that it approve the drawdown of £900,000 for construction of the remaining Quick Win Schemes.	<p>Voting arrangements</p> <p>Items (a) to (c) Simple Majority</p> <p>Item (d) A vote in favour, by at least two-thirds of all Members (or their Substitute Members) appointed by the Constituent Councils to include the Members appointed by Cambridgeshire County Council and Peterborough City Council, or their Substitute Members</p>

2.0 BACKGROUND

- 2.1. The March Area Transport Strategy was first approved for inclusion in the Transport Programme at the March 2018 Combined Authority Board meeting. Cambridgeshire County Council took forward the study.
- 2.2. The vision of Fenland District Council is set out within their Local Plan (2014), which aims 'to maximise the potential of the area and deliver jobs, skills, improved housing and new infrastructure', making Fenland 'a better place to live, work and visit'.
- 2.3. The Local Plan includes the delivery of 4,200 new homes in March as well as the development of 30 hectares of employment land to provide new jobs.
- 2.4. The 2011 March Area Transport Study (MATS) provided the transport evidence base for the Local Plan and assessed the impact of traffic growth resulting from the Local Plan, and proposed measures to improve the towns transport network under current and future traffic demand. The MATS project builds upon this work and assesses potential improvement options to deliver this growth.
- 2.5. The programme of Quick Wins was previously presented in March and July/August 2020 Committee and Board meetings. Some of those schemes have now been completed. Others are progressing to construction, funded through an underspend from the previous stage of the MATS study.

3.0 QUICK WINS PROGRAMME – CONSTRUCTION

- 3.1. Since the March Transport and Infrastructure Committee, development of the programme of Quick Wins, including target costs and designs, have progressed and are close to completion. The schemes are now in a position for commencing construction and a programme of construction delivery are presented in Table 1.
- 3.2. In addition, Cambridgeshire County Council are currently reviewing outputs from the cycling and walking strategy report. This provides another list of schemes. Subject to funding, these may be included in a further delivery phase which will be brought before the Committee when it ready.

4.0 NEXT STEPS

- 4.1. We recommend to the Committee that the Combined Authority now agree for Cambridgeshire County Council to proceed to construction.
- 4.2. A summary of the Quick Wins and construction timescales are provided in **Table 1** below.

Table 1: Quick Win Construction Delivery

Quick Wins	Construction Start	Construction End
QW1A - Improve safety for pedestrians. Provide a zebra crossing	January 2021	March 2021
QW2 - Introduce gateway feature at edge of town, introduce 40mph speed limit buffer and revise deflections on Cavalry Dr roundabout	July 2021	August 2021
QW15 - Improve safety for school children. Provide a zebra crossing	November 2020	December 2020
QW16 - Improve signage for HGV drivers to reduce poor route choice	December 2020	February 2021
QW21 - Complete footway on southern side of Norwood Ave	February 2021	March 2021
QW22 - Introduce traffic calming on three sections of Norwood Rd	August 2021	August 2021
QW23 - Complete footway on eastern side of Hundred Rd including build out feature	March 2021	April 2021

5.0 FINANCIAL IMPLICATIONS

- 5.1. Within the August 2020 Medium-Term Financial Plan there is a total of £5.4m allocated to this project of which £1.7m has been approved to spend for the development of the Outline Business Case, preliminary design and delivery of two Quick Wins, Quick Win 15 and 16.
- 5.2. The Committee is invited to recommend to the CPCA Board approval of the drawdown of £900,000 from the budget within the Medium-Term Financial Plan for construction of the remaining Quick Win schemes shown in Table 1. Whilst the additional £900,000 is likely to be spent in 2021/22, approval is required now in order to make contractual commitments with the delivery partner.

6.0 LEGAL IMPLICATIONS

- 6.1. The recommendations accord with CPCA's powers under Part 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251).
- 6.2. The meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus)(Flexibility of Local Authority and Police and Crime Panel Meetings)(England and Wales) Regulations 2020.

7.0 SIGNIFICANT IMPLICATIONS

- 7.1. No significant implications have been identified at this stage.

8.0 APPENDIX

8.1. Appendix 1 – Quick Win Schemes: Programme of Delivery

<u>Background Documents</u>	<u>Location</u>
1: March 2018 Combined Authority Board Paper 2: July 2020 Combined Authority Transport and Infrastructure Committee Paper 3. August 2020: Combined Authority Board paper	1: CA Board Report March 2018 2: CA T&I Committee Paper 3. CA Board report August 2020

Appendix 1 – Quick Win Schemes

Quick Win Scheme	Description	Construction Start
QW1A – Station Rd	Improve safety for pedestrians. Provide a zebra crossing	January 2021
QW2 – Upwell Rd/Cavalry Drive	Introduce gateway feature at edge of town, introduce 40mph speed limit buffer and revise deflections on Cavalry Dr roundabout	July 2021
QW11-13 March-wide Walking/Cycling Strategy	March-wide walking and cycling facility audit and produce improvement delivery plan	Strategy document complete. A set of possible deliverables have been identified and a phased approach to construction to be developed
QW15 – St Peter's Rd	Improve safety for school children. Provide a zebra crossing	November 2020
QW16 – March-wide HGV Signage	Improve signage for HGV drivers to reduce poor route choice	December 2020
QW19 – A141 / Burrowmoor Rd and A141/Knights End Rd junctions	Introduce street lighting at two junctions	Work completed Project has been halted due to there being no accident history at the 2 junctions and a high possibility of effecting bats habitat.
QW20 – Traffic signals on B1101	Re-validate signal timings on B1101 between St Peters Rd and Station Rd	Completed May 2019
QW21 – Norwood Ave	Complete footway on southern side of Norwood Ave	February 2021
QW22 – Norwood Rd	Introduce traffic calming on three sections of Norwood Rd	August 2021
QW23 – Hundred Rd	Complete footway on eastern side of Hundred Rd including build out feature	March 2021



TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.7
4 NOVEMBER 2020	PUBLIC REPORT

A47 DUALLING

1.0 PURPOSE

- 1.1. To update the Committee on discussions with Highways England on the A47 Dualling project to date and outline proposed next steps.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Strategy and Delivery Director
Forward Plan Ref: N/A	Key Decision: N/A
The Transport and Infrastructure Committee is recommended to: (a) Note the content of this report and proposed next steps	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1. The Mayor, Combined Authority and partner organisations have long recognised the strategic importance of the A47 to the regional and national economy. The Mayor has committed to a number of ambitious and strategic transport improvements including the dualling of the A47.
- 2.2. This scheme provides:
- (a) vital connectivity to the north of the Combined Authority area and will complement other Combined Authority transport and infrastructure

- priorities such as Wisbech Rail and the development of a new Garden Town at Wisbech.
- (b) route enhancement that is anticipated to stimulate economic growth in the north of Cambridgeshire and Peterborough region, notably in housing, education, employment and the agri-tech economy.
 - (c) a safer strategic route offering improved journey times and journey time reliability as incidents can be better handled by reducing diversion route lengths.
- 2.3. The Combined Authority Board, in June 2017, commissioned the development of a Strategic Outline Business Case (SOBC) and Options Appraisal Report (OAR) for the dualling of the A47 between Thorney and Walton Highways.
- 2.4. The OAR which assessed the shortlisted 12 route options, recommended three identified route options to be considered for further development and future consultation.
- 2.5. Combined Authority Board approval was given in June 2018 to commence the procurement of the next stage of the project and engage with the Department for Transport (DfT).
- 2.6. In July 2018, the Mayor met the Chief Executive of Highways England who welcomed the proposals and approved engagement with his wider team, to seek to establish these proposals within the Highways England Roads Investment Strategy 2 (RIS 2) period for development and design, with a view to construction commencing in early RIS 3 (post-2025).
- 2.7. Engagement with Highways England and DfT established that for the scheme to be considered for inclusion in the RIS 2 period for development and design, the project would need to comply with the Highways England Project Control Framework (PCF) Stage 0. Moreover, the project would then be required to be independently reviewed via the Highways England Stage Gate Assessment Review (SGAR).
- 2.8. In collaboration with Highways England, the PCF 0 documents were produced and underwent the SGAR, successfully achieving a Green status in December 2019.
- 2.9. On 6 March 2020 an update on the A47 Dualling was presented to the Transport and Infrastructure Committee which highlighted the differing cost estimates, with Highways England estimating significantly higher costs. This is because Highways England is required to include standalone flood mitigation cost within its estimate. We believe, however, that the flood barrier or barrage north of Wisbech, currently being explored by Anglian Water as part of their water management plans, will change the flood risk designation of the area and obviate the need to include standalone flood mitigation costs within the estimates for the A47 project.

3.0 Progress to Date and Next Steps

- 3.1. In March, Highways England published the RIS 2 and in August its Delivery Plan 2020-2025. Disappointingly, these documents did not include the A47.
- 3.2. Officers have continued to engage with Highways England to progress the scheme. As a result, Highways England has agreed to take forward renewed work on the A47 with a view to reconsidering its inclusion in the RIS programme. Those discussions have focussed on cost, and on the approach to flooding mitigation.
- 3.3. Highways England have suggested that this renewed work is undertaken by them with the Combined Authority as a co-sponsor on the project board. This – unusual - integrated approach would ensure the Combined Authority continues to have a key role in progressing the project, while also bringing the scheme for the first time into Highway England's work programme.
- 3.4. Highways England are open to funding the review. Discussions about the detail of this continue.
- 3.5. The Mayor is seeking a Ministerial meeting with Baroness Vere to emphasise the need for improving the A47 between Peterborough and the Walton Highway.
- 3.6. The Combined Authority has made representation to the Treasury as part of our Spending Review submission. This included a case for funding the A47 dualling as a priority.

4.0 FINANCIAL IMPLICATIONS

- 4.1. None at this time, but confirmation is being sought from Highways England about funding the potential targeted updating of the PCF 0 products.

5.0 LEGAL IMPLICATIONS

- 5.1. The recommendations accord with CPCA's powers under Part 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251).
- 5.2. The meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus)(Flexibility of Local Authority and Police and Crime Panel Meetings)(England and Wales) Regulations 2020.

6.0 OTHER SIGNIFICANT IMPLICATIONS

- 6.1. None at this time

7.0 APPENDICES

- 7.1. Appendix 1 – A47 Strategic Outline Business Case
- 7.2. Appendix 2 – A47 Options Assessment Report

<u>Background Documents</u>	<u>Location</u>
Transport and Infrastructure Committee 6 March 2020	<u>Transport and Infrastructure Committee 6 March 2020</u>
CA Board June 2017	<u>CA Board June 2017</u>
CA Board June 2019	<u>CA Board June 2018</u>

Strategic Outline Business Case

A47 Dualling Study

July 2019

A47 Dualling Study

Strategic Outline Business Case

Cambridgeshire and Peterborough Combined Authority

July 2019

This document and its contents have been prepared and are intended solely for Cambridgeshire and Peterborough Combined Authority's information and use in relation to the A47 Dualling Study.

Document history

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Client sign off

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Executive Summary

This document presents a Strategic Outline Business Case for the dualling of the remaining sections of A47 between Peterborough and Kings Lynn.

Purpose of the Strategic Outline Business Case

The Strategic Outline Business Case is in line with Department for Transport three-phase approach (and as adopted by the Combined Authority Assurance Framework) to be followed when making major investment decisions:

- Phase 1 – Strategic Outline Business Case
- Phase 2 – Outline Business Case
- Phase 3 – Full Business Case

Each Business Case builds on the last, but the phased approach enables appropriate investment decisions to be made.

Business Cases are developed in line with the Treasury's Green Book five case model:

- The **case for change** – the 'strategic case'
- **Value for Money** – the 'economic case'
- **Commercially viable** – the 'commercial case'
- **Financially affordable** – the 'financial case'
- **Achievable** – the 'management case'

A Strategic Outline Business Case sets out the case of intervention which would further the aims and objectives of the relevant business plan of the sponsoring organisation. It then outlines potential options and considers whether such interventions could ultimately be deliverable and prove Value for Money.

A47 Dualling - Need for intervention and associated challenges

The need for intervention and the associated challenges can be summarised as follows:

- The A47 is of inconsistent standard, comprising a mix of dual, older and modern single carriageway standard.
- The A47 is a strategic route linking both the A1 and Peterborough with Kings Lynn, Norwich and beyond and also provides a key link for communities along the corridor and in particular Wisbech.
- The route offers slow, inconsistent and relatively slow journey times between the key centres of population.
- Wisbech has poor transport links to the region and the rest of the country, arguably contributing to its isolation and deprivation.
- The Combined Authority has set a bold vision to double the GVA of the local authority whilst accelerating the growth of local housing, which is hindered by infrastructure constraints.

Dualling the remaining sections of the A47 is key to:

- **Improving journey times along the A47:** To address current congestion and delay, reduce journey times and improve reliability on the A47 and on local routes impacted by the A47
- **Providing increased capacity:** To cater for future travel demand between Kings Lynn, Wisbech and Peterborough
- **Rebalancing the economic growth across Cambridgeshire and Peterborough.** To provide conditions that encourage inward investment in higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk
- **Contributing to the growth of Cambridgeshire and Peterborough.** To ensure employment and housing growth along the A47 corridor can be accommodated

Initial Option generation and assessment

The A47 has been split into four individual route sections for the purpose of assessing the potential dualling of the A47:

- Section 1 (A16 to Thorney Bypass)
- Section 2 (Thorney Bypass to Guyhirn)
- Section 3 (Guyhirn to Wisbech)
- Section 4 (Wisbech Bypass)

Twenty separate Options (Routes) for dualling the A47 were subsequently generated and initially considered using the Combined Authority's methodology for prioritising infrastructure investment shown below:

Case	Criteria
Strategic	<ul style="list-style-type: none"> • Reduce congestion • Unlock housing and jobs
Economic	<ul style="list-style-type: none"> • Scale of impact • Value for money
Financial	<ul style="list-style-type: none"> • Other funding sources / contributors
Management	<ul style="list-style-type: none"> • Delivery certainty • Project risks • Stakeholder support

The initial assessment has shown that twelve of the routes fit the Combined Authority's criteria, including:

- Three Options between the A16 and Thorney Bypass
- Two Options between Thorney Bypass and Guyhirn
- One Option between Thorney Bypass and Wisbech
- Three Options between Guyhirn and Wisbech
- One Option for online dualling of the Wisbech Bypass
- Two alternative Options between Thorney Bypass and Walton Highway running to the north of Wisbech; one as a single carriageway rather than dual

An initial economic assessment has shown that some of these routes could offer value for money, particularly when wider economic benefits are added. Indeed, the impact of increasing congestion nor phasing has not been considered as part of the Strategic Outline Business Case but both of which would be expected to increase the Value for Money. For example, delaying a phase until congestion occurs in the Base Scenario is expected to increase the overall BCR.

Dualling the remaining sections of the A47 would meet the Government's 5 case business case test of:

- Making the **Case for Change** - Addressing the Sponsor's (in this case the Combined Authority's) business case objectives, in this instance of unlocking houses and jobs as well as reducing traffic congestion along the A47 corridor.
- Would deliver **Value for Money** – the 'economic case'
- Would be **Commercially Viable** – the 'commercial case'
- Would be **Financially Affordable** – the 'financial case'
- Would be **Achievable** – the 'management case'

Recommendation

Dualling the remaining section of the A47 between Peterborough and Kings Lynn is key to

- Improving journey times along the A47
- Providing increased capacity
- Rebalancing the economic growth across Cambridgeshire and Peterborough.
- Contributing to the growth of Cambridgeshire and Peterborough

The A47 Strategic Outline Business Case has shown:

- Dualling of the A47 would offer Value for Money and pass the Government's 5-case business case test
- Identified twelve potential A47 Options for dualling the A47 that meet the Combined Authority assessment strategic criteria of unlocking houses and jobs along the A47 corridor

The next stage of the project will be to determine the Preferred Option from the mix of 12 potential Options that together would enable completion of dualling of the A47 between Peterborough and Kings Lynn. The twelve potential Options have been identified as:

Option	Section	Route	Route Description
1	Section 1 (A16 to Thorney Bypass)	Route 1.1	Dual carriageway immediately to the north of the existing A47
2		Route 1.2	Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
3		Route 1.4	As Route 1.1 as one way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic
4	Section 2 (Thorney Bypass to Guyhirn)	Route 2.2	Dualling of the A47 to the south of the existing A47
5		Route 2.3	Dualling of the A47 to the north of the existing A47
6		Route 2.4	Offline dualling Thorney to Wisbech north of Guyhirn village

Option	Section	Route	Route Description
7	Section 2 to 4 (Thorney Bypass to Walton Highway)	Route 2.5	Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
8		Route 2.6	Offline dualling Thorney to Walton Highway running to the north of Wisbech
9	Section 3 (Guyhirn to Wisbech)	Route 3.2	Dualling of the A47 south / east of the existing alignment
10		Route 3.3	Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout (B198)
11		Route 3.4	Hybrid of Routes 3.2 and 3.3
12	Section 4 (Wisbech Bypass)	Route 4.1	Online dualling of the A47

Selection of the Preferred Option would enable an Outline Business Case for the dualling of the A47 to be produced in line with the Department for Transport's guidance on major investment decisions.

It is therefore recommended:

- A detailed Option Assessment is undertaken on the twelve short listed Options, and the results published in an **Option Appraisal Report**
- Subsequent **Public Consultation** is undertaken using the outputs of the Option Assessment to enable a Preferred Option to be determined, and then
- An **Outline Business Case** be produced based on the Preferred Option.

1 Introduction

1.1 Scope

- 1.1.1 The overall aim of the A47 Dualling Study is to develop a Business Case for dualling of the entire length of the A47 between the A16 to the east of Peterborough and Walton Highway to the east of Wisbech (see Figure 1.1 below). This report is the first stage of the decision making process which is to prepare the Strategic Outline Business Case (SOBC) using the format as set out in “The Transport Business Cases” document published by the DfT January 2013.
- 1.1.2 The assessment of the transport business case is consistent with Treasury and Department for Transport guidance.

1.2 Scheme Objectives

- 1.2.1 The aims of the dualling improvements are:
- To address current congestion and delay, reduce journey times and improve reliability along the A47 and on local routes impacted by congestion on the A47.
 - To provide a strategic transport corridor linking both the A1 and Peterborough with Kings Lynn, Norwich and beyond that can encourage inward investment to grow the existing agricultural industry base and attract higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk.
 - To rebalance economic growth across Cambridgeshire and Peterborough to combat isolation and deprivation by ensuring the infrastructure is in place to support regeneration and support the Combined Authorities bold vision to double GVA.
 - Provide increased capacity for future travel demand between Kings Lynn, Wisbech and Peterborough.
- 1.2.2 The assessment of the transport business case will be consistent with Treasury and Department for Transport guidance.

1.3 Area Wide Context

- 1.3.1 Over recent years, the wider Cambridgeshire/ Peterborough area has been one of the fastest growing areas of the UK. Between 2001 and 2011, Peterborough’s population grew by approximately 17%, more than double the average for England. This growth and development is expected to continue over the next few decades with extensive economic growth and new housing provision forecast.
- 1.3.2 Cambridgeshire is the fastest growing county in the country with over 77,000 new houses planned to 2031. This in turn will drive further economic growth and demand to travel.

- 1.3.3 The driver for this growth is Cambridge which is now a world centre for high technology, biomedical research and knowledge based industries. This in turn is creating extreme housing pressures and lack of affordability in Cambridge, so that the majority of the new housing to supply the workers for the Cambridge economy will be outside of the City itself.

1.4 Fenland Context

- 1.4.1** Fenland is relatively isolated, with relatively poor transport links to the rest of the region and country. This isolation is considered to contribute to the areas around Fenland being amongst the 10% and 20% most deprived areas of England.

Railway network

1.4.2 The only railway stations within Fenland are March, Manea and Whittlesea:

- **March:** served by 2-hourly frequency train service primarily linking Peterborough and Ipswich via March and Ely and an hourly service linking Birmingham with Stansted via Peterborough and Cambridge
- **Manea:** served by a 2-hourly frequency train service primarily linking Peterborough and Ipswich via March and Ely, with passengers to Cambridge changing at Ely
- **Whittlesey:** served by a 2-hourly frequency train service primarily linking Peterborough and Ipswich via March and Ely, with passengers to Cambridge changing at Ely

1.4.3 There are no passenger trains serving Wisbech despite having a population of over 31,000 people.

Road network

1.4.4 The road network within Fenland is equally poor, with the key route being the A47 itself, a road of mixed standard linking Wisbech with Peterborough, Kings Lynn and beyond. The other major route within Fenland is the A141 which forms part of the primary route network linking the A47 with the rest of Cambridgeshire via March and Chatteris.

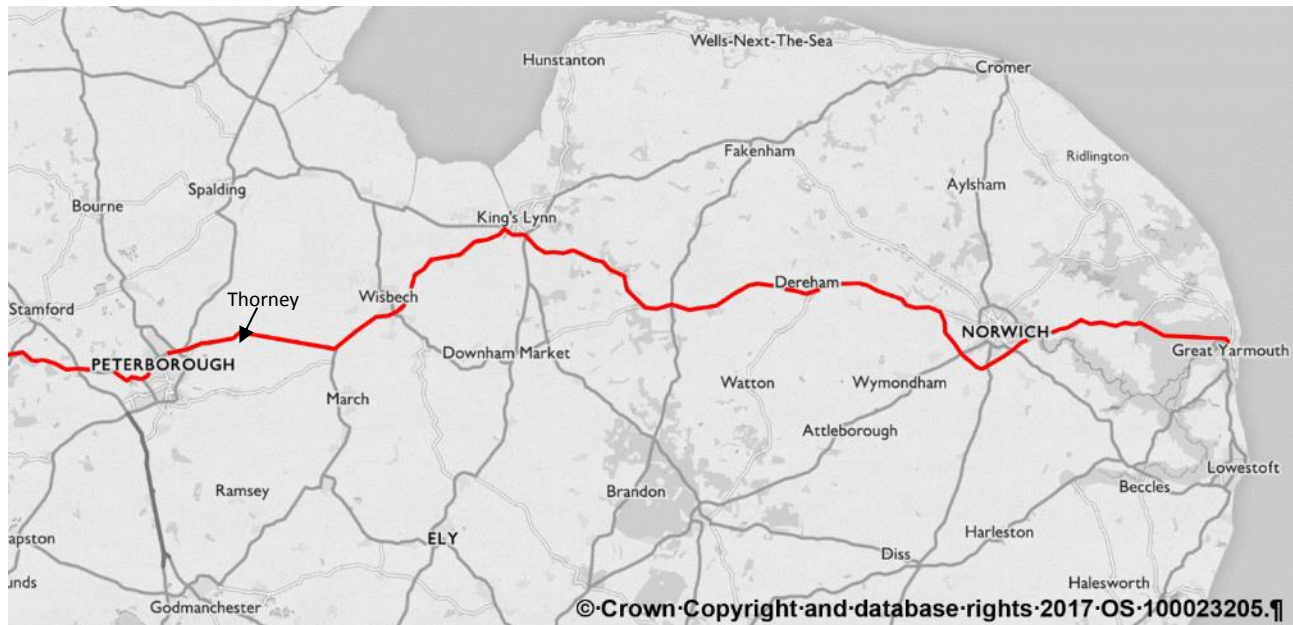
Wisbech Garden Town

1.4.5 Proposals for Wisbech Garden Town involve the construction of an additional 10,000 to 12,000 dwellings and supporting community and retail facilities, in addition to those proposed in the Fenland District Council Local Plan. It is hoped the high levels of deprivation in the area will be reversed through the provision of housing, access to jobs and training, generated by investment and economic growth.

1.5 A47 Highway Context

1.5.1 The strategic route sections of the A47 runs across the East Midlands and East of England forms part of the Strategic Route Network (SRN) between its junction with the A1 west of Peterborough, running eastwards through Kings Lynn, Norwich, and Great Yarmouth before terminating at Lowestoft. In England, the highway authority for the SRN is Highways England (HE), acting on behalf of the Secretary of State for Transport.

1.5.2 The A47 between A1 Peterborough and Walton Highways also connects smaller communities such as Thorney and Wisbech, as shown in Figure 1.1 below.

Figure 1.1: The A47 Route between Peterborough and Great Yarmouth

1.5.3 The A47 has been periodically diverted and upgraded to accommodate traffic growth and development along its route. The Wisbech Bypass was completed in 1984, running between the B198 Cromwell Road Junction to the south and the Lynn Road Junction to the north east, diverting the A47 route to the south and east of Wisbech town centre. The Walpole Highway/ Tilney High End Bypass opened in 1996, diverting the A47 and creating a 6-mile section of dual carriageway between Wisbech and Kings Lynn. Additionally, Thorney Bypass opened in 2005 creating a 3-mile section of dual carriageway around Thorney Village to relieve local congestion.

1.5.4 As a result of these and other interventions, the A47 between the A1 in the west and its junction with the A17 in the east is of variable standard, comprising a mixture of single and dual carriageway roads, with both at grade and grade-separated junctions at a number of locations along its route. The route can be broken down into a number of links as shown below:

- | | |
|--|-------------------|
| • A1 Wansford – Sutton: | Older style S2 AP |
| • Sutton – A16: | Dual Carriageway |
| • A16 to Former A1073: | Modern WS2 AP |
| • Former A1073 – Thorney Bypass: | Older style S2 AP |
| • Thorney Bypass: | Dual Carriageway |
| • Thorney Bypass to Guyhirn: | Older style S2 AP |
| • Guyhirn to Wisbech: | Older style S2 AP |
| • Wisbech Bypass: | Modern S2 AP |
| • Wisbech to Walton Highway: | Older style S2 AP |
| • Walton Highway to Tilney All Saints: | Dual Carriageway |
| • Tilney All Saints to A17 Kings Lynn: | Older style S2 AP |

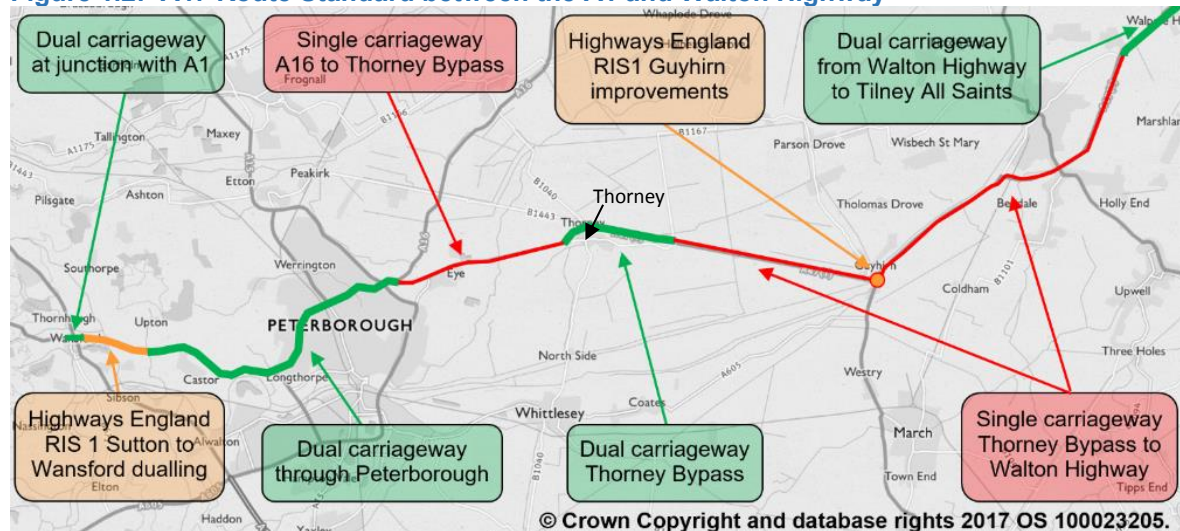
Key:

S2 AP – Normal 2 lane all-purpose carriageway (~7.3 metre width)

WS2 AP – Wide Single all-purpose carriageway (~10 metre width)

1.5.5 The variable standard of the A47 is shown in Figure 1.2 below.

Figure 1.2: A47 Route Standard between the A1 and Walton Highway



1.5.6 For the urban centres and areas around Peterborough, Wisbech and Kings Lynn, as well as villages along the A47 corridor, the A47 provides the most direct and practical route for travel between these locations. The majority of the local highway network surrounding these areas consists of local access routes between rural villages linking to the A47. This means longer distance journeys and journeys between Peterborough, Fenland and Kings Lynn are likely to require vehicles to travel via the A47. Whilst there is currently no direct train line linking these locations, there is a reasonably high quality X1 Bus services linking these communities via the A47.

1.6 Historical Studies of the A47 Route

1.6.1 A number of strategic transport and highway studies have been undertaken of the A47 within the defined study area and the wider A47 route over recent years. These include but not limited to the following:

- Norwich to Peterborough Multi-Modal Study (2003)
- A47 Alliance, A47 Peterborough and Cambridgeshire, Case for Improvement Evidence and Wider Economic Benefits (2014)
- A47 Alliance Route Strategy (2014)
- A47 Thorney to Walton Highway – Initial Option Assessment (2015)

<https://www.cambridgeshire.gov.uk/transport-funding-bids-and-studies/transport-studies/>

A47/ A12 Corridor Feasibility Study, Phase 1, 2 and 3 Reports (2015).

1.6.2 These studies and the conclusions and recommendations of each were considered when reviewing baseline conditions of the Peterborough to Kings Lynn section of the A47.

1.7 Report Structure

1.7.1 Based on the context outlined above, the remainder of this report will consist of the following sections, with the aim of providing a thorough picture of baseline traffic, and transport and development conditions across the study area:

- Chapter 1: Introduction
- Chapter 2: The Strategic Case
- Chapter 3: Initial Option Development
- Chapter 4: Outline Option Appraisal
- Chapter 3: The Economic Case
- Chapter 4: The Financial Case
- Chapter 5: The Commercial Case
- Chapter 6: The Management Case

2 The Strategic Case

2.1 Introduction

- 2.1.1 This chapter discusses the strategic case for dualling the A47 between Peterborough and Walton Highway, and demonstrates how the scheme will fit with local, regional and national policy and enable local growth aspirations.

2.2 Business Strategy

Department for Transport Investment Strategy

- 2.2.1 The four main objectives which the Department for Transport (DfT) and Highways England (HE) investment decisions focus on are:
- Create a transport network that works for users, wherever they live
 - Improve productivity and rebalance growth across the UK
 - Enhance our global competitiveness by making Britain a more attractive place to invest
 - Support the creation of new housing

The Combined Authority

- 2.2.2 The **Cambridgeshire and Peterborough Combined Authority** (CPCA) has set out a bold 2030 vision for the Cambridgeshire and Peterborough area:
- Doubling the size of the local economy
 - Accelerating house building rates to meet local and UK need
 - Delivering outstanding and much needed connectivity in terms of transport and digital links
 - Providing the UK's most technically skilled workforce
 - Transforming public service delivery to be much more seamless and responsive to local need
 - Growing international recognition for our knowledge based economy
 - Improving the quality of life by tackling areas of deprivation

- 2.2.3 This 2030 vision is complemented by the visions for Cambridgeshire County Council and Peterborough City Council.

Cambridgeshire County Council's Vision

- 2.2.4 The vision for **Cambridgeshire County Council** is 'making Cambridgeshire a great place to call home'. The key priorities that Cambridgeshire County Council will undertake to deliver this vision are:
- Supporting and protecting people when they need it most
 - Helping people to live independent and healthy lives in their communities
 - Developing our local economy for the benefit of all

Peterborough City Council's Vision

2.2.5 **Peterborough City Council's** overarching vision is to create a bigger and better Peterborough that grows the right way, and through truly sustainable development and growth, in order to:

- Improve the quality of life of all its people and communities, and ensure that all communities benefit from growth and the opportunities it brings, and
- Create a truly sustainable Peterborough, the urban centre of a thriving sub-regional community of villages and market towns, a healthy, safe and exciting place to live, work and visit, famous as the environment capital of the UK.

2.3 Fit with the Wider Policy Context

The National Planning Policy Framework (NPPF)

2.3.1 **The National Planning Policy Framework (NPPF)** sets out the Government's planning policies for England and they are expected to be taken into account in the preparation of development plans. The NPPF does not change the statutory status of the development plan as the starting point for decision making. Proposed development that accords with an up-to-date Local Plan should be approved unless other material considerations indicate otherwise. The currency of the development plan is an important factor.

2.3.2 All plans are expected to be based upon and to reflect the presumption in favour of sustainable development, with clear policies that will guide how the presumption should be applied locally. Sustainable development performs an economic, social and environmental role and involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life, including (but not limited to):

- Making it easier for jobs to be created in cities, towns and villages
- Moving from a net loss of bio-diversity to achieving net gains for nature
- Replacing poor design with better design
- Improving the conditions in which people live, work, travel and take leisure
- Widening the choice of high quality homes

National Transport Policy – Highways England

2.3.3 Highways England (HE) manages, maintains and improves England's motorways and major A roads. Although this only represents 2 percent of all roads in England, this strategic road network carries a third of all traffic by mileages and two thirds of all heavy goods traffic.

2.3.4 HE summaries the importance of England's major road network as:

- The core of the nation's transport system, forming the economic backbone of the country which connects all major towns and cities
- Relied on by communities and businesses across the country, 24 hours a day
- Enabling communities to access employment, services, education and training
- Providing businesses with the means to get products and services to customers access to labour markets and suppliers
- Encourages trade and new investment

- Essential for the growth, wellbeing and balance of the nation's economy.

2.3.5 HE's policies aim to ensure England's motorways and major road networks are:

- Reliable and free flowing – minimising routine delays and improving journey reliability
- Safer and serviceable – improving safety of travelling on and maintaining the network
- Accessible and integrated – providing safe access onto and across the network
- Supporting economic growth with a modern and reliable road network that reduces delays, creates jobs, helps business and opens up new areas for development resulting in long term and sustainable benefit to the environment

Highways England Roads Investment Strategy

2.3.6 In 2014 the Government published **Highways England Road's Investment Strategy (RIS)** setting out a £15.1 billion investment for 2015-2020 to improve journeys on England's motorways and major A roads. Schemes were identified to tackle congestion, support economic growth, provide better connections and journey times.

2.3.7 Each funded scheme has been identified to deliver the objectives set out in HE's Strategic Business Plan, as follows:

- Supporting economic growth by supporting employment and residential development opportunities
- A safe and serviceable network for all road users, designed to modern standards appropriate for a strategic road
- A more free-flowing network, increasing the resilience of the road in coping with incidents such as collisions, breakdowns, maintenance and extreme weather
- Improved environment by minimising the impact of the scheme on the natural and built environment
- An accessible and integrated network, providing for local community accessibility.
- Value for Money, ensuring that the scheme is affordable and delivers good value for money
- Smart motorways modernisation programme, helping to improve journey reliability, reduce congestion and cut stop-start traffic flows

2.3.8 The RIS included a package of 6 schemes to improve journeys on the 115 mile section of the A47 between Peterborough and Great Yarmouth. The schemes involve converting almost 8 miles of single carriageway to dual carriageway and making improvements to junctions across the route to relieve congestion, improve capacity and the reliability of journey times for drivers.

2.3.9 The A47 is a Trunk Road of national importance managed by HE on behalf of the DfT, and forms a key route between the A1 and the East Coast, linking the cities of Norwich and Peterborough, the towns of Wisbech, Kings Lynn, Dereham, Great Yarmouth and Lowestoft and a succession of villages in what is largely a rural area.

Regional Transport Policy

- 2.3.10 In 2015 the Conservative / Liberal Democrat coalition government announced a six point long term economic plan for East of England aiming to facilitate economic growth and prosperity across the region, and not just confined to the thriving economies of Cambridge and Peterborough.
- 2.3.11 One of key actions from the economic plan focused on a £4.2 billion investment in transport, including strategic road network improvements for the A47.
- 2.3.12 This investment is reflected within the economic and transport strategies of the regional and local Government Authorities and the Local Enterprise partnerships, as follows.

Greater Cambridgeshire, Greater Peterborough Local Enterprise Partnership (LEP)

- 2.3.13 The LEP played a key role in shaping development and funding decisions across the authority area. The vision and priorities of the LEP are set out in their **Strategic Economic Plan** (SEP) which contains several ambitions to removal barriers to economic growth including provision of ‘a transport network, fit for an economically high growth area that helps to facilitate sustainable growth and enhance prosperity.’
- 2.3.14 The Greater Cambridge Greater Peterborough (GCGP) LEP area is one of the UK’s fastest growing and most dynamic areas and makes a strong contribution to the UK, in the form of £30 billion gross value added (GVA) per annum. However, transport constraints represent a key challenge to supporting housing and employment growth and continued economic prosperity.
- 2.3.15 Many of the constraints on business and housing growth concern transport including:
- Road and rail ‘bottlenecks’ causing congestion and unreliable journey times
 - Limitations on the capacity of the rail network
 - Barriers to the delivery of housing for local workers
 - Limited public transport in rural areas
 - East-west connectivity across the LEP area, and beyond
 - Potential for mode shift towards sustainable travel modes which are not fully realised
 - Access issues in relation to Stansted and Luton Airports as well as Heathrow and Gatwick airports
- 2.3.16 With sections of the region’s transport network already operating at capacity, the SEP identified the importance of investment in selected pinch point improvements on the highway network, which are key to unlocking housing and economic growth.

Cambridgeshire and Peterborough Local Transport Plan

- 2.3.17 As part of the Cambridgeshire and Peterborough Devolution Deal, the Mayor and CPCA is responsible for managing the local transport funding in the area, including the Local Transport Plan. This plan can include details of how transport will support local housing and jobs, and how the Mayor and the CPCA will tackle problems like congestion and air pollution.

2.3.18 The CPCA has recently started producing a new Local Transport Plan. The CPCA Board agreed to adopt the previous Local Transport Plans of Cambridgeshire County Council and Peterborough City Council as a single Local Transport Plan. This is an interim measure until a comprehensive statutory process can be undertaken to review the CPCA's strategic transport planning role and to produce a long term, new Local Transport Plan for the Cambridgeshire and Peterborough area.

2.3.19 As the CPCA's new Local Plan is produced there will be changes to existing local plan policies which will need to be taken account of in subsequent phases of the A47 Study.

Cambridgeshire Local Transport Plan 2011-2031 (LTP)

2.3.20 The Cambridgeshire LTP suite of documents set the overarching policy context for transport in Cambridgeshire to 2031, providing detailed transport strategies, programmes and delivery plans. The LTP Policy and Strategy document was updated in 2014 and focuses on measures identified to ease traffic congestion, improve accessibility and support planned development, which maintains and enhances economic growth. The A47 dualling and junction improvement proposals support the County Council's priority to develop the local economy and will contribute to the following LTP policy objectives:

- Managing and delivering the growth and development of sustainable communities
- Promoting improved skill levels and economic prosperity across the county, by helping people into jobs and encouraging enterprise.

2.3.21 The LTP identifies the following challenges and policy approaches which support the delivery of A47 capacity improvement schemes.

Table 2-1 – Cambridgeshire LTP Challenges and Policies to support the A47

LTP Challenge	LTP policy approach supported by A47 proposals
Improving the reliability of journey times by managing demand for road space, where appropriate and maximising the capacity and efficiency of the existing network.	Enhancing capacity and reducing congestion along the A47 will facilitate the efficient and safe movement of traffic and reduce journey times. Accessibility on the strategic road network will be improved with key barriers and capacity constraints addressed. Bottlenecks on the A14, A428, A10 and A47 will be prioritised for improvements to facilitate growth and continued economic prosperity. The Local Investment Plan (LIP) identifies the need for capacity improvements in the form of dualling and junction enhancements along the A47.
Making sustainable modes of transport a viable and attractive alternative to the private car	Improve the environment and safety of pedestrians, cyclists and public transport users, through provision of accessibility improvements on approaches to the A47.
Future-proofing new transport infrastructure to cope with the effects of climate change	Build new infrastructure to the latest standards for withstanding the impacts of climate change. Especially in regard to local flood risk.
Addressing the main causes of road accidents in Cambridgeshire	Programme of measures aimed at reducing casualties at A47 accident hotspots.

LTP Challenge	LTP policy approach supported by A47 proposals
Protecting and enhancing the natural environment by minimising the environmental impact of transport	Environmental issues such as biodiversity, noise, historic environment and impacts on the landscape will be considered at every stage of the A47 improvement proposals, to protect, mitigate and where possible enhance the nature surroundings. Reducing congestion and improving traffic flow will reduce vehicle emissions and improve local air quality.
Influencing national and local decisions on land-use and transport planning that impact on routes through Cambridgeshire	Delivering necessary improvements on the regions Motorway and Trunk Road networks where they are necessary to meet local objectives and to support growth and access to jobs in Cambridgeshire.

Cambridgeshire County Council's (CCC) Long Term Transport Strategy (LTTS)

- 2.3.22 The LTTS forms part of Cambridgeshire County Council's LTP and identifies the major infrastructure requirements and investment needed to address existing problems and capacity constraints on Cambridgeshire's transport network. The LTTS also details the infrastructure requirements necessary to cater for the transport demand associated with planned growth up to 2031. The strategy seeks an improved integrated network to enable efficient and reliable travel between key destinations across the county. As well as improvements to rail, bus, walking and cycling, a key ambition is to improve accessibility on the strategic network and address constraints on the A14, A428, A10 and A47.
- 2.3.23 The Strategy identifies the critical need to invest in capacity and traffic flow improvements on the A47 to maintain the ongoing economic success of Cambridgeshire. The A47 is identified as a critical link for supporting the development of Wisbech, with major scheme investment required for capacity and junction improvements to the A47 / A1101 junction, the Guyhirn junction and along the other unimproved sections of the route between Thorney in Peterborough and Walton Highway in Norfolk.

Peterborough City Council's Long Term and Local Transport Strategies

- 2.3.24 Peterborough City Council's **Long Term Transport Strategy 2011-2026**, and shorter term **Local Transport Strategy 2016-2021** provide the policy content and measures to support Peterborough's vision to deliver sustainable growth, regeneration and economic development.
- 2.3.25 The A47 provides the strategic road network which connects East Anglia to employment opportunities in and around Peterborough and is recognised as the most important east-west route in the north of the city area.
- 2.3.26 The strategy states that a fully dualled A47 would significantly improve safety and journey reliability. The significant levels of housing development and employment growth designated require capacity and junction improvements along the A47 to bring these developments forward and support the delivery of Peterborough's sustainable growth. Reference is made to the dualling of the A47 from Wansford (A1 junction) to Sutton, as identified in HE's RIS up to 2021.

Summary of Regional and Local Transport Policy context for the A47 scheme

- 2.3.27 The Local Transport Plans for Cambridgeshire and Peterborough are consistent in their policy approach for supporting sustainable economic growth.
- 2.3.28 Strategies aim to deliver sustainable growth, through increasing the capacity and performance of the transport network. Policies focus on delivering measures identified to ease traffic congestion, improve accessibility and reduce car dependency, through provision of sustainable transport alternatives and land use planning to reduce the need to drive.
- 2.3.29 The strategic importance of the A47 for supporting the regional economy and for unlocking further growth is recognised. All strategies identify the need to improve the A47's capacity, accessibility and journey time reliability to support the delivery of planned and proposed growth along the A47 corridor. Without the A47 improvements, much of the potential economic growth, new homes sites and job creation cannot be unlocked.

2.4 Problems Identified

Importance of the A47

- 2.4.1 The A47 is a trunk road linking Peterborough to Kings Lynn and beyond as well as communities along the corridor. It provides a crucial East-West link between the East Coast ports and the East Anglian economy and the wider UK economy. Despite this importance it is a relatively slow route and suffers from a lack of capacity, compounded by slow moving HGVs and agricultural vehicles, and little opportunity for overtaking.

Constraining Economic Growth

- 2.4.2 The majority of the region's main transport corridors are experiencing high traffic growth and capacity is constrained, with regular peak time congestion on key routes and especially close to key employment or service centres found in Cambridge, Peterborough and the market towns. Travel demand is expected to grow by 23% across the Combined Authority area to 2031, with increases of 28% in Cambridge and 30% in Peterborough forecast.
- 2.4.3 The A47 is the most important east-west route in the north of the Combined Authority area, and carries up to 42,000 vehicles a day around Peterborough, and around 22,000 vehicles a day on the single carriageway stretch around Wisbech. The mix of functions and the varying quality of the route leads to delays and to unreliable journey times. Significant levels of growth along the route, especially the housing and employment developments at Wisbech, will be delayed without improvements to the A47.

Capacity Issues

2.4.4 Remaining single carriageway sections of the A47 are forecast to provide a significant constraint on traffic flow capacity in future years. A stress factor defining the ratio of flow to capacity for key link sections in future forecast years can be found in Table 2-2 below. Values highlighted yellow are either at or above 75% capacity. Values highlighted red are shown to be above capacity. As is shown, traffic flows through almost all single carriageway link sections are forecast to be at or approaching their theoretical capacity by 2031. This is under TEMPro central 'core' growth forecast conditions, and includes no allowance for the additional growth ambitions along the A47 corridor such as the additional 10,000 houses that would emerge with the development of Wisbech Garden Town.

Table 2-2: A47 Link Stress Factors

Section	Standard	2017	2021	2026	2031
A15 to A16	D2	0.55	0.61	0.68	0.72
A16 to A1139	S2	0.47	0.52	0.58	0.62
A1139 to Eye Green	S2	0.66	0.72	0.81	0.86
Eye Green to Thorney Bypass	S2	0.81	0.89	1.00	1.06
Thorney Bypass: The Causeway to B1040	D2	0.26	0.29	0.32	0.34
Thorney Bypass: B1040 to B1167	D2	0.24	0.26	0.29	0.31
Thorney Bypass to Gull Road	S2	0.75	0.82	0.92	0.98
Gull Road to A141 Guyhirn Roundabout	S2	0.86	0.93	1.04	1.10
A141 Guyhirn Roundabout to B198 Cromwell Road	S2	0.77	0.83	0.92	0.98
Wisbech Bypass: B198 Cromwell Road to A1101 Elm High Road	S2	0.61	0.66	0.74	0.78
Wisbech Bypass: A1101 Elm High Road to Broadend Road	S2	0.60	0.66	0.73	0.78
Wisbech Bypass: Broadend Road to Walton Highway	S2	0.58	0.63	0.70	0.75

Traffic flow speeds and overall link capacity on single carriageway sections are heavily constrained by a high proportion of Heavy Goods Vehicles (HGVs) utilising the A47. Traffic flow data for five link sections within the study area detailed in Table 2-3 highlight HGV proportions between 13% and 21% during the AM and IP periods. The rural setting of the A47 also results in a high number of slow moving agricultural vehicles traversing specific sections, with limited opportunities for safe overtaking on single carriageway. Table 2-3 also shows a significantly reduced average speed on single carriageway sections, as compared to the existing dual carriageway section at Thorney Bypass for a similar overall level of traffic flow. Upgrading single carriageway sections to dual carriageway would improve traffic flow speed and road safety, allowing traffic to overtake slow moving vehicles, reduce end to end journey times, and increase overall link capacity.

Table 2-3: A47 AM, PM and IP Speeds and HGV%

Link Description		Thorney Bypass: B1040 - B1167		B1167 - Guyhirn Junction		Guyhirn Junction - B198		Wisbech Bypass: B198 - A1101		Wisbech Bypass: Broadend Road - Walton Highway	
Direction		Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Carriageway		Dual		Single		Single		Single		Single	
AM (08:00 – 09:00)	Avg. Flow (Veh/hr)	631	806	668	774	970	840	531	644	619	712
	HGV %	19%	9%	16%	15%	16%	17%	20%	14%	16%	13%
	Avg. Speed (Mph)	68	68	41	47	45	46	47	47	52	53
IP (10:00 – 16:00)	Avg. Flow (Veh/hr)	594	618	598	619	737	796	616	628	567	590
	HGV %	21%	12%	19%	21%	21%	20%	18%	17%	16%	18%
	Avg. Speed (Mph)	67	66	48	50	46	47	45	47	51	53
PM (17:00 – 18:00)	Avg. Flow (Veh/hr)	958	782	974	811	1051	975	765	658	758	681
	HGV %	8%	6%	7%	10%	8%	9%	6%	9%	7%	8%
	Avg. Speed (Mph)	70	69	44	49	45	48	41	47	53	55

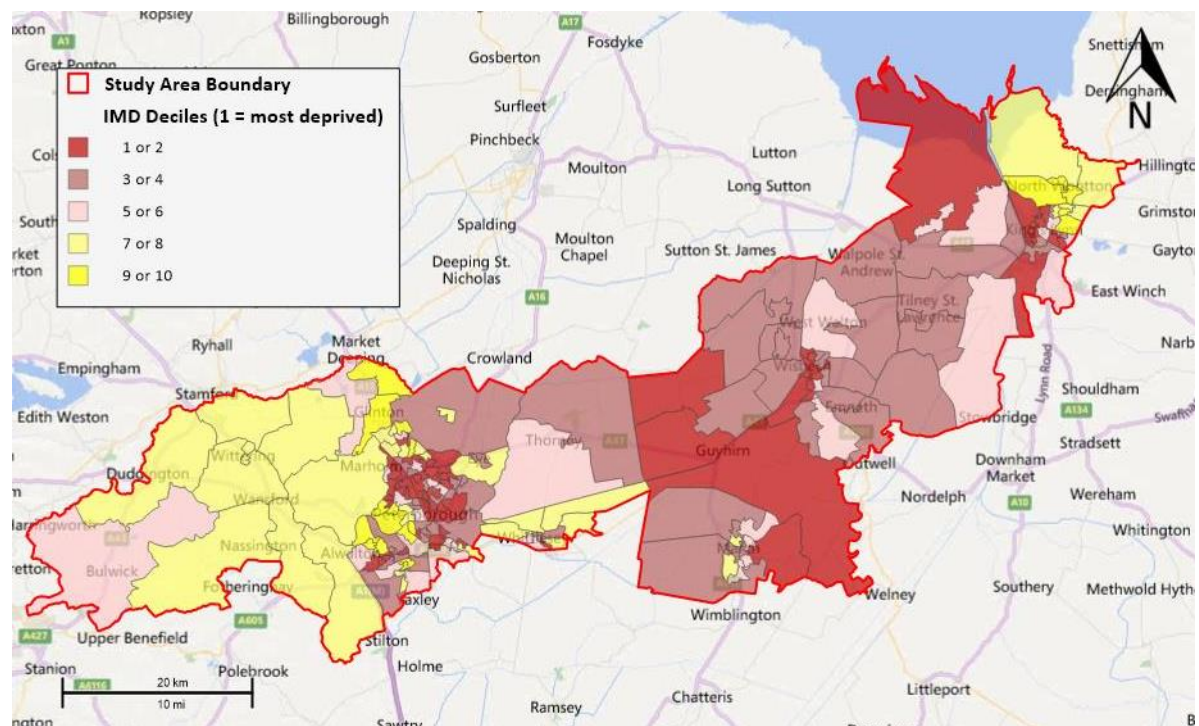
2.4.5 Further details of the baseline traffic and travel conditions and identified issues along the A47 corridor can be found in the Baseline Conditions Report submitted in conjunction with the SOBC document. This also identified a lack of alternative travel modes to the A47 available between key destinations along the corridor and beyond, with no railway station currently located in Wisbech and no direct rail link between Peterborough, Kings Lynn and north Norfolk.

- 2.4.6 The A47 and A12 corridor feasibility study completed in 2015¹ by AECOM on behalf of the Highways Agency also identified similar existing issues along current A47 study corridor, with potential future link capacity issues, high HGV proportions and road safety concerns along specific route sections.

Index of Multiple Deprivation Data

- 2.4.7 Levels of economic deprivation across the study area have been estimated using 2015 Index of Multiple Deprivation (IMD) data obtained from the Department for Communities and Local Government (DCLG). This data is available at LSOA² level across England. LSOAs are ranked from 1 (most deprived) to 32,844 (least deprived). IMD data is also split into deciles (1 to 10), representing the most deprived 10%, 20% or 30% (and so on) of areas across England.
- 2.4.8 Within the study area, relative levels of deprivation are estimated using IMD deciles as shown in Figure 3 below. As can be seen, many LSOAs towards the centre of Peterborough are amongst the 10% and 20% most deprived nationally as defined by deciles 1 and 2. Other areas considered amongst the most deprived nationally are shown across rural Fenland around Guyhirn and towards the east of the study area south and west of Kings Lynn.

Figure 2.1: Relative Study Area Distribution of IMD Deciles across each LSOA



Summary

- 2.4.9 The problems along the A47 can be summarised as:

¹ <https://www.gov.uk/government/publications/a47-and-a12-corridor-feasibility-study-technical-report>

² A Lower Layer Super Output Area (**LSOA**) is a geographic area. Lower Layer Super Output Areas are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales.

- **Communities reliant on the A47:** The A47 is an important trunk road linking Peterborough to Kings Lynn and beyond as well as the communities along its route
- **Poor transport links:** The A47 is a mix of dual and single carriageway standards, with slow overall journey times and reaching capacity in parts. Slow journey times are compounded by slow moving HGV and agricultural vehicles
- **Lack of diversion routes:** The A47 has is a lack of adequate diversion routes, which compounds traffic delay following closures due to incidents
- **Communities:** Some of the communities along the A47 between Peterborough and Kings Lynn are some of the most economically deprived areas within the county, compounded by the isolation caused by poor transport links

2.5 Driver for Change

Growth

- 2.5.1 The Greater Cambridgeshire area is forecast to experience significant job and population growth over the next twenty years. For large parts of the area this represents a continuation of past trends.
- 2.5.2 Cambridgeshire is the fastest growing county in the country with over 77,000 new houses planned to 2031. This in turn will drive further economic growth and demand to travel.
- 2.5.3 The driver for this growth is Cambridge, which is now a world centre for high technology, biomedical research and knowledge based industries. This in turn is creating extreme housing pressures in Cambridge and so the majority of the new housing to supply the workers for the Cambridge economy will be outside of the City itself, particularly to the north of Cambridgeshire.
- 2.5.4 The A47 scheme will be a vital contributor to the economic health of Wisbech and indeed the Cambridge economy and so its contribution to wider government objectives on economic growth should not be underestimated.

Wisbech Garden Town Proposals

- 2.5.5 The **Wisbech Garden Town** proposal has the potential to provide an additional 10,000-12,000 new homes into the area, in addition to the 3,000 already identified in the Fenland Local Plan. This investment would be supported by improved transport links, including accessibility and capacity improvements on the A47 around Wisbech. It is hoped the high levels of deprivation in the area will be reversed through the provision of housing, access to jobs and training, generated by investment and economic growth.

2.6 Impact of Not Changing

- 2.6.1 The impacts of no intervention can be summarised as follows:
- There will be increasing journey time delays for vehicles travelling along the A47
 - Wisbech and the Fens becoming a less attractive place to live and work
 - There is a significant risk that the Combined Authority's housing and job growth aspirations for the corridor will not be realised

2.7 Internal Drivers for Change

- 2.7.1 With Government policy and the Combined Authority focusing on job creation and economic growth, there is an increasing need to improve the well-being of the local economy, to make the Fens a more attractive place to live and work.
- 2.7.2 There are major aspirations to grow the population and jobs along the A47 corridor, particularly focused on Wisbech.
- 2.7.3 A lack of a consistent dual carriageway standard road between Peterborough and Kings Lynn will undermine this aspiration through a mixture of:
- Lack of highway capacity to accommodate the planned growth
 - Making the corridor an unattractive place to live, work and ultimately inwardly invest

2.8 External Drivers for Change

- 2.8.1 The A47 between the A1 and Great Yarmouth is of mixed standard, with some sections dualled, some built to modern single carriageway standards and other stretches remaining unimproved. HE are committed to dualling further sections of the A47 between the A1 and Great Yarmouth, which will further emphasise the discontinuous nature of the A47, particularly between Peterborough and Wisbech (Walton Highway).

2.9 The Need for Intervention

- 2.9.1 The key challenges and opportunities to be addressed by the A47 improvements are:
- **To address current congestion and delay**, reduce journey times and improve reliability on the A47 and on local routes impacted by the traffic and congestion on the A47
 - **To provide conditions that facilitates economic growth and prosperity** by encouraging inward investment in higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk
 - **To ensure sufficient highway capacity** to accommodate employment and housing growth along the A47 corridor
 - **To address the increasing travel demands of a growing population**, by creating a modern, technologically advanced road network that is smoother, smarter and sustainable and continues to enable the region's economy to grow and remain competitive
- 2.9.2 These challenges and opportunities can only be realistically addressed by dualling the remaining sections of the A47 between Peterborough and Kings Lynn, ensuring a dual carriageway standard throughout its length. These improvements would improve:
- **Regional Economic Wellbeing:** The UK economy relies on key strategic links. The A47 has vital links with the A11 trunk road which has been developed as an important Norwich Cambridge Technology Corridor along with the A140, A10, A17, A16, A15, A12 and the A1; A47 improvements will support quicker and more reliable journeys providing crucial infrastructure linkages to the rest of the UK.

- **Local Economic Wellbeing:** Dualling the A47 will improve the economic wellbeing of those communities along the A47 and enable them to enjoy some of the Cambridge centric economic prosperity.
- **Road Safety:** Dualling will contribute to HE's goal of a 40% reduction in accidents while improving resilience and response times for the emergency services.
- **Connectivity:** Improved connections between key towns and cities including Lowestoft, Great Yarmouth, Norwich, Dereham, Swaffham, King's Lynn, Wisbech and Peterborough ensuring a thriving local economy and improved quality.

2.9.3 Dualling of the A47 will support the growth of logistics, technology and agri-tech industries and other major businesses along the route and encourage further inward investment.

Summary

2.9.4 Dualling the remaining sections of the A47 is key to:

- **Improving journey times along the A47** to address current congestion and delay, reduce journey times and improve reliability on the A47 and on local routes impacted by the traffic and congestion on A47
- **To provide for future travel demand** between Kings Lynn, Wisbech and Peterborough
- **Rebalancing the economic growth across Cambridgeshire and Peterborough.** To provide conditions that encourage inward investment in higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk
- **Contributing to the growth of Cambridgeshire and Peterborough.** To ensure employment and housing growth along the A47 corridor can be accommodated

2.10 Objectives

Cambridgeshire and Peterborough Combined Authority Objectives

2.10.1 The CPCA has set the following objectives:

- Doubling the size of the local economy
- Accelerating house building rates to meet local and UK need
- Delivering outstanding and much needed connectivity in terms of transport and digital links
- Providing the UK's most technically skilled workforce
- Transforming public service delivery to be much more seamless and responsive to local need
- Growing international recognition for our knowledge based economy
- Improving the quality of life by tackling areas of deprivation

2.10.2 It recognises that transport investment will play a critical role in meeting these objectives through:

- Increasing network capacity (both road and rail)
- Improving connectivity, particularly around access to employment and housing

- Unlocking new developments
- Improving journey time and/or journey time reliability
- Providing greater mode choices such as walking and cycling, private car and public transport

2.10.3 The Combined Authority has subsequently agreed a methodology for prioritising infrastructure investment based on the criteria and which aligns with the key principles of a 5-case Business Case model (strategic, economic, financial, management) as set out below:

Table 2-4 – Combined Authority Criteria to Prioritise Infrastructure Investment

Case	Criteria
Strategic	<ul style="list-style-type: none"> • Reduce congestion • Unlock housing and jobs
Economic	<ul style="list-style-type: none"> • Scale of impact • Value for money
Financial	<ul style="list-style-type: none"> • Other funding sources / contributors
Management	<ul style="list-style-type: none"> • Delivery certainty • Project risks • Stakeholder support

2.10.4 The Combined Authority's Strategic Case assessment criteria can be considered its Core Objectives behind delivering infrastructure investment.

Scheme Objectives

2.10.5 A transport scheme can have both primary and secondary objectives. The primary objectives are the fundamental outputs of why the scheme is being promoted and therefore must be achieved whereas secondary objectives are other outputs that are achieved along the way, but are not necessary to the success of the scheme. The secondary objectives tend to be delivered as a consequence of delivering the primary objectives, as a causal chain effect.

2.10.6 The primary objectives therefore represent the transport outcomes required by the scheme:

Primary Objectives

2.10.7 The Primary Objectives of dualling the A47 are:

- **Wider economic benefits:** Provide conditions that encourage inward investment in higher value employment sectors in the north of Cambridgeshire and in Norfolk;
- **Improve connectivity:** Improve connectivity between the north of Cambridgeshire and Norfolk to Peterborough, the strategic road and rail networks and to national markets;
- **Encourage homes and jobs:** Ensure that the planned employment and housing growth along the A47 corridor is promoted, whilst providing for future travel demand between Kings Lynn, Wisbech and Peterborough; and

- **Tackle congestion and improve journey time reliability:** Tackle congestion and address journey time reliability on the A47 and on local routes through an improved road standard and network resilience.

2.10.8 The Table below shows how the A47 scheme objectives map across the Combined Authorities objectives.

Table 2-5 – A47 Scheme Objectives compared to Combined Authority Objectives

A47 Scheme Objective	Combined Authority Objective
<ul style="list-style-type: none"> • Improve connectivity 	<ul style="list-style-type: none"> • Improve connectivity
<ul style="list-style-type: none"> • Encourage jobs and homes • Wider economic benefits 	<ul style="list-style-type: none"> • Unlock new developments , particularly around access to employment and housing
<ul style="list-style-type: none"> • Tackle congestion and improve journey time reliability 	<ul style="list-style-type: none"> • Increase network capacity • Improving journey time and/or journey time reliability

Secondary Objectives

2.10.9 The Secondary Objectives include:

- **Improve road safety:** Reduce personal injury accidents and improve personal security amongst all travellers
- **Improve community health:** by increasing cycling and walking and reducing transport related pollution
- **Sustainable travel:** Increase opportunities for travel, both local and inter-regional, by sustainable transport modes
- **Protect and enhance the environment:** maintain local distinctiveness and conserve natural resources
- **Promote social inclusion:** by ensuring that members of the community can access facilities

2.11 Measures of Success

2.11.1 The outcomes from the scheme can be assessed and monitored in a number of ways against the primary objectives, as identified in the table below:

Table 2-6 – A47 Dualling: Measures of Success

Objective	Outcome	Method of Assessment
Wider economic benefits	<ul style="list-style-type: none"> • Reduced congestion along the A47 and at key junctions between Peterborough and Kings Lynn and • Continued/ increased level of investment in Peterborough, Cambridgeshire and West Norfolk. 	<ul style="list-style-type: none"> • Traffic and travel surveys along the A47 corridor • Census and journey to work statistics for 2021 and 2031 • Employment and salary statistics • Employment sector surveys
Improve Connectivity	<ul style="list-style-type: none"> • Reduced congestion and delay along the A47 corridor and at key junctions 	<ul style="list-style-type: none"> • Traffic and travel surveys along the A47 corridor

Objective	Outcome	Method of Assessment
	<ul style="list-style-type: none"> Improved journey times and journey time reliability along the A47 corridor between Peterborough and Wisbech Maintain and improve accessibility by all modes to key destinations and local settlements along the A47 corridor between Peterborough and Kings Lynn 	<ul style="list-style-type: none"> Residents survey undertaken by the relevant Local Authority Census and journey to work statistics for 2021 and 2031
Encourage homes and jobs	<ul style="list-style-type: none"> Ensure successful delivery of committed and statutory development across Peterborough, Cambridgeshire and West Norfolk Improved job and employment prospects along the A47 corridor and in surrounding areas 	<ul style="list-style-type: none"> Traffic and travel surveys along the A47 corridor Local authority housing monitoring reports Residents survey undertaken by the relevant Local Authority Census and journey to work statistics for 2021 and 2031 Employment and salary statistics Employment sector surveys
Tackle congestion and improve journey time reliability	<ul style="list-style-type: none"> Reduced congestion and delay along the A47 corridor and at key junctions Improved journey times and journey time reliability along the A47 corridor between Peterborough and Wisbech 	<ul style="list-style-type: none"> Traffic and Travel Surveys along the A47 corridor

2.12 Scope

2.12.1 The scope of the project is to dual the remaining sections of the A47 to ensure a continuous dual carriageway between the A1 and Kings Lynn, with the primary objective of

- Increasing wider economic benefits
- Improving connectivity
- Encouraging houses and jobs
- Reducing Traffic delay and congestion

2.13 Constraints

2.13.1 A desktop study has revealed that the key constraints to the dualling of the A47 can be summarised as:

- Funding:** the cost of the scheme will probably exceed the Combined Authority's core budget allocation, necessitating a combination of direct Government, HE and Developer contributions. Other funding mechanisms would also need to be explored, such as Private Finance Initiatives (PFI)
- Environmental:** the key environmental constraints are considered to be:
 - Noise – potential impact on residential properties
 - Air quality
 - Visual intrusion

- Flooding – significant tracts of land around Wisbech are potentially subject to flooding
- **Land owners:** land necessary for the dualling of the A47 will need to be acquired from third parties, requiring negotiation and potential Compulsory Purchase if such negotiations fail

2.13.2 Other potential route constraints include:

- Crossing of the River Nene on any route to the North of Wisbech, due to the need to allow for shipping

2.14 Inter-dependencies

2.14.1 There are no known inter dependencies.

2.15 Stakeholders

2.15.1 The key stakeholders are:

- The Combined Authority
- Cambridgeshire County Council (CCC)
- Norfolk County Council
- Peterborough City Council (PCC)
- Fenland District Council
- The A47 Alliance
- Highways England

3 Outline Options Development

3.1 Low Cost Options

- 3.1.1 A Low Cost Options Technical Note and Early Assessment Sifting Tool (EAST) have been submitted as an addendum to the Options Appraisal Report which covers a number of potential low cost options to dualling the A47 along the study area corridor. None of these identified low cost options met the primary objectives of the scheme or fully addressed the identified issues. None provided sufficient network capacity to meet housing growth and development aspirations along the A47 corridor, including proposals for Wisbech Garden Town. The Low Cost Option Technical Note can be found in Appendix A.

3.2 Junction Strategy

- 3.2.1 An early assessment on junction capacity has shown that the junction strategy for dualling of the A47 could be that all junctions be at-grade though with key junctions formed as roundabouts. Nevertheless the strategic and economic benefits for grade separated junctions will be sensitivity tested at the detailed Option Appraisal stage of the project.

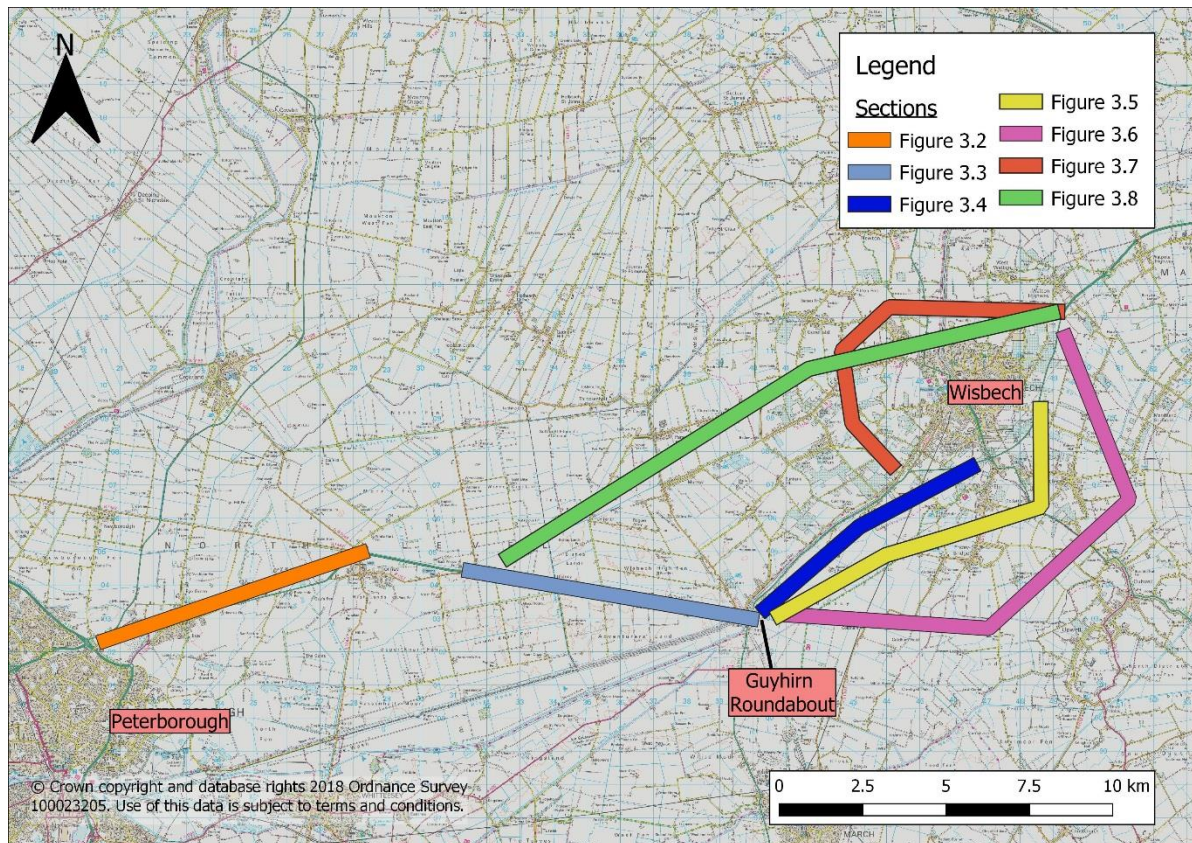
3.3 Route Description and Key Constraints

- 3.3.1 The existing route of the A47 carriageway between the A47 / A16 junction in the west (near Peterborough) and the A47/ Lynn Road junction in the east (north east of Wisbech) has been broken down into four individual route sections for which engineering options will be considered for the proposed dualling of the A47.
- Section 1 (A16 to Thorney Bypass)
 - Section 2 (Thorney Bypass to Guyhirn)
 - Section 3 (Guyhirn to Wisbech)
 - Section 4 (Wisbech Bypass)

3.4 Potential Route Alignment Options

- 3.4.1 Potential route alignment options for the various A47 route sections are summarised in Figure 3.1.

Figure 3.1: A47 Dualling Scheme Route Options



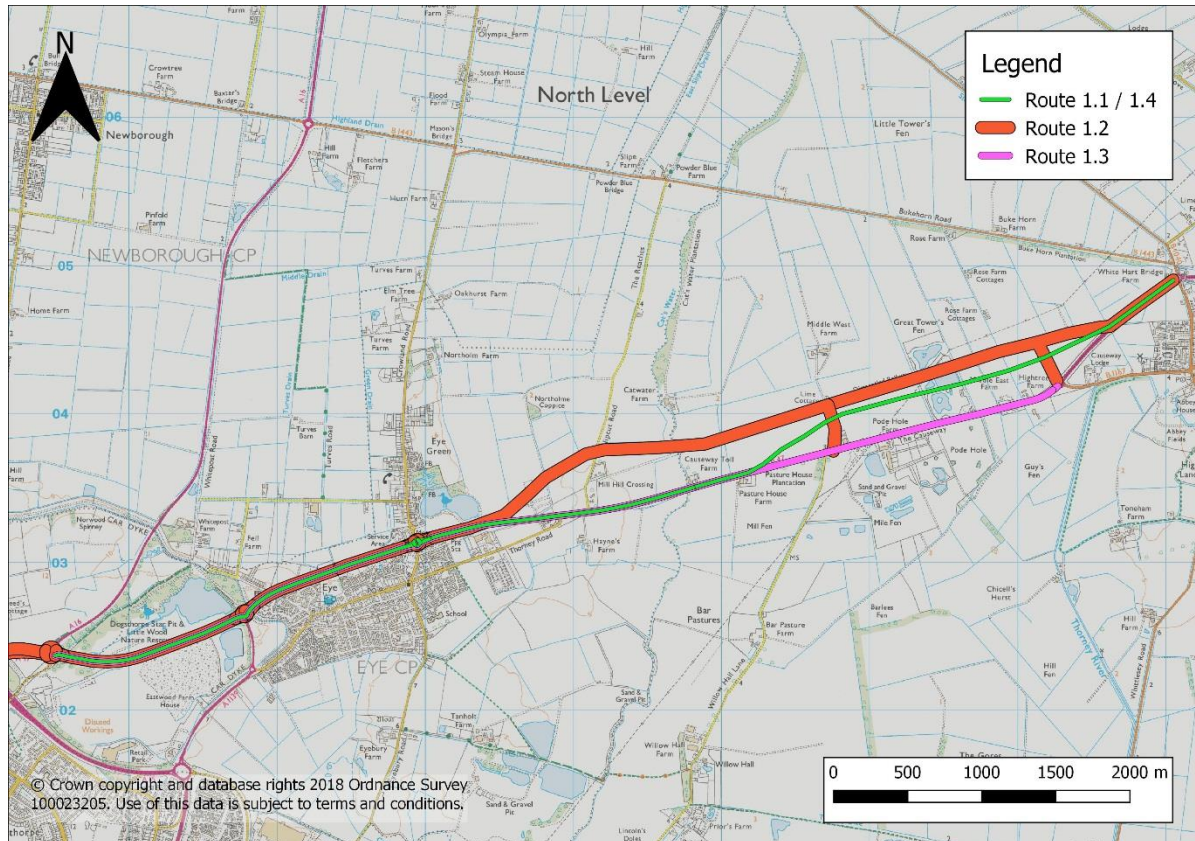
Section 1 (A16 to Thorney Bypass)

3.4.2 Four potential route options have been identified:

- **Route 1.1:** Dual Carriageway immediately to the north of the existing A47
- **Route 1.2:** Part online and offline Dual Carriageway to the north of the existing A47 (predominantly following path of disused railway)
- **Route 1.3:** Fully online Dual Carriageway to the north of the existing A47
- **Route 1.4:** As Route 1.1 as one way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic

3.4.3 These Routes are shown on Figure 3.2 below.

Figure 3.2: Section 1 (A16 to Thorney Bypass)



3.4.4 Route 1.3 utilises the existing carriageway, and therefore represents a lower cost option. However, due to the proximity to existing residential, industrial and agricultural premises, stakeholder support is likely to be low. Working on the existing line and maintaining traffic during construction would impose constraints on the construction phase.

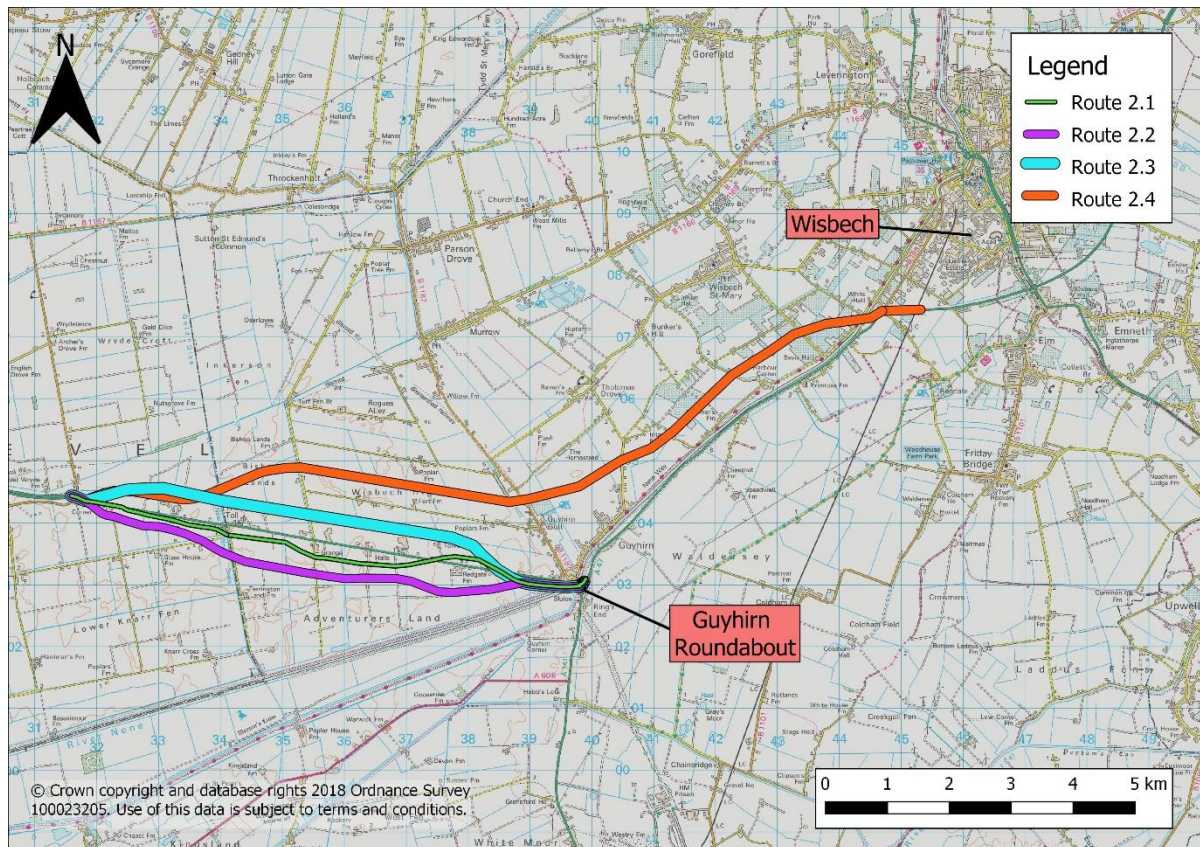
Section 2 (Thorney Bypass to Guyhirn)

3.4.5 Four potential route options have been identified:

- **Route 2.1:** Online dualling of the A47
- **Route 2.2:** Dualling of the A47 south of the existing A47
- **Route 2.3:** Dualling of the A47 north of the existing A47
- **Route 2.4:** Offline dualling Thorney to Wisbech north of Guyhirn village

3.4.6 These Routes are shown on Figure 3.3

Figure 3.3: Section 2 (Thorney Bypass to Guyhirn)



3.4.7 Routes 2.1 to 2.3 are dual carriageway alternatives for the A47 between Thorney and Guyhirn whilst Option 2.4 would dual the A47 directly between Thorney and Wisbech.

Section 3 (Guyhirn to Wisbech)

3.4.8 Eight potential route options have been identified shown across three separate Figures.

Figure 3.4

- **Route 3.1:** Online dualling of the A47
- **Route 3.2:** Dualling of the A47 south / east of the existing alignment
- **Route 3.3:** Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout

Figure 3.5

- **Route 3.4:** Hybrid of Routes 3.1, 3.2 and 3.3
- **Route 3.5:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Elm but north of Emneth and Friday Bridge

Figure 3.6

- **Route 3.6:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Emneth and Friday Bridge
- **Route 3.7:** Similar to Route 3.6

3.4.9 These Routes are shown on Figure 3.4 to 3.6 below.

Figure 3.4: Section 3 (Guyhirn to Wisbech)

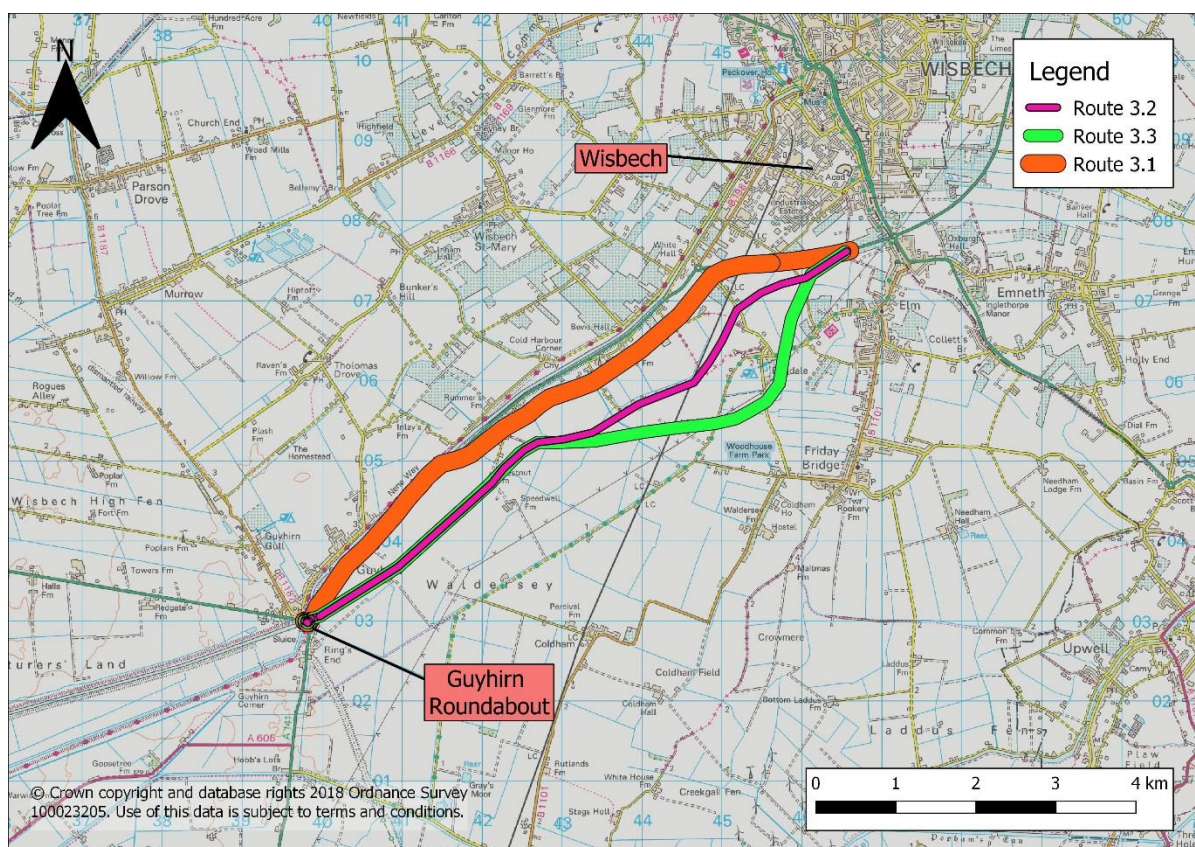
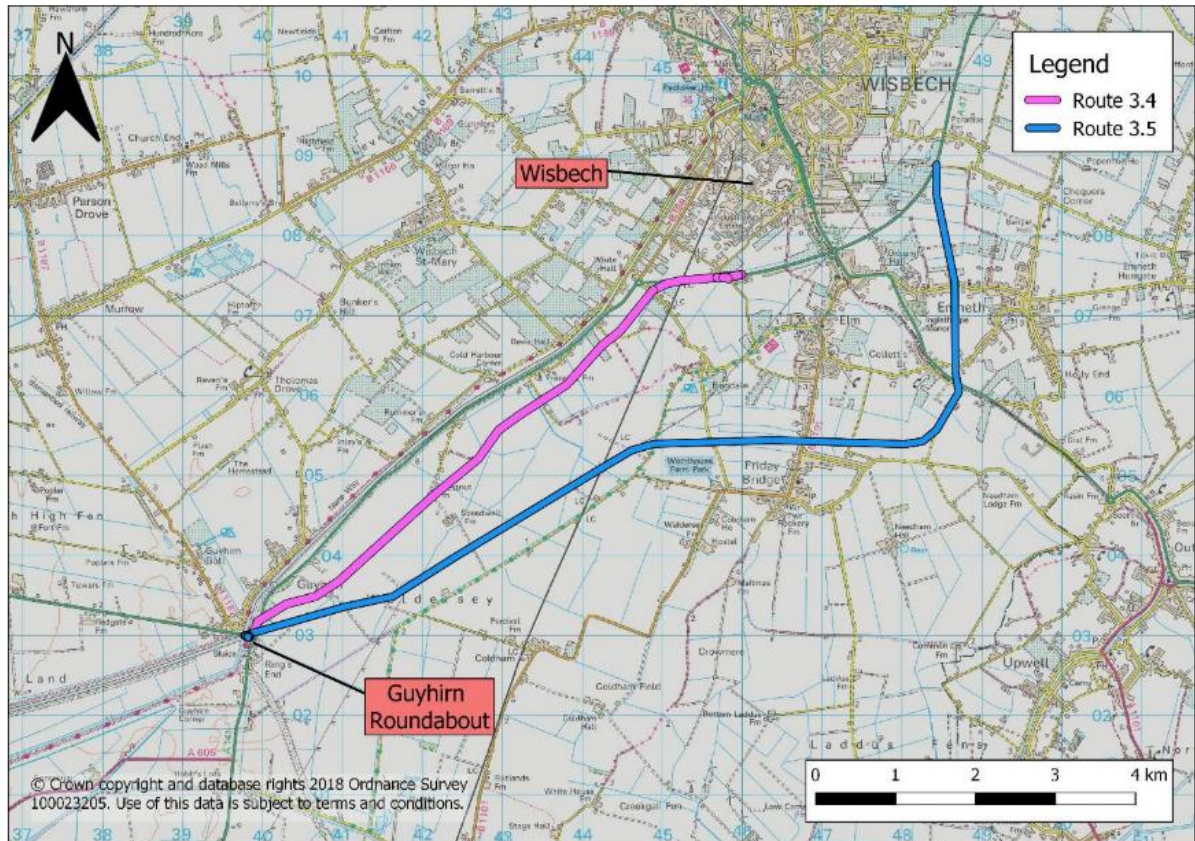
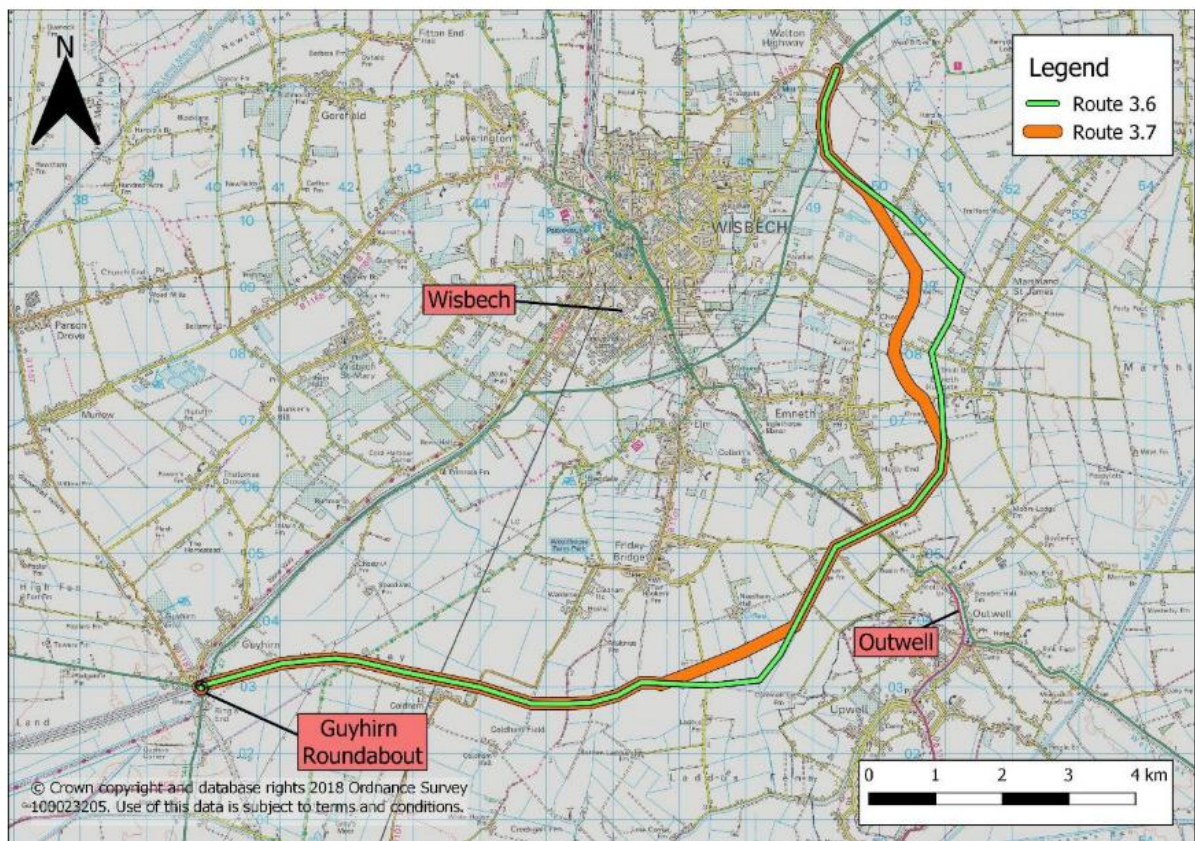


Figure 3.5: Section 3 (Guyhirn to Wisbech)



3.4.10 Route 3.4 is a hybrid of Routes 3.1, 3.2 and 3.3 shown in Figure 3.2, whilst Route 3.5 would run offline between Guyhirn and Walton Highway.

Figure 3.6: Section 3 (Guyhirn to Wisbech)



3.4.11 Routes 3.6 and 3.7 would run offline between Guyhirn and Walton Highway to the south of Emneth.

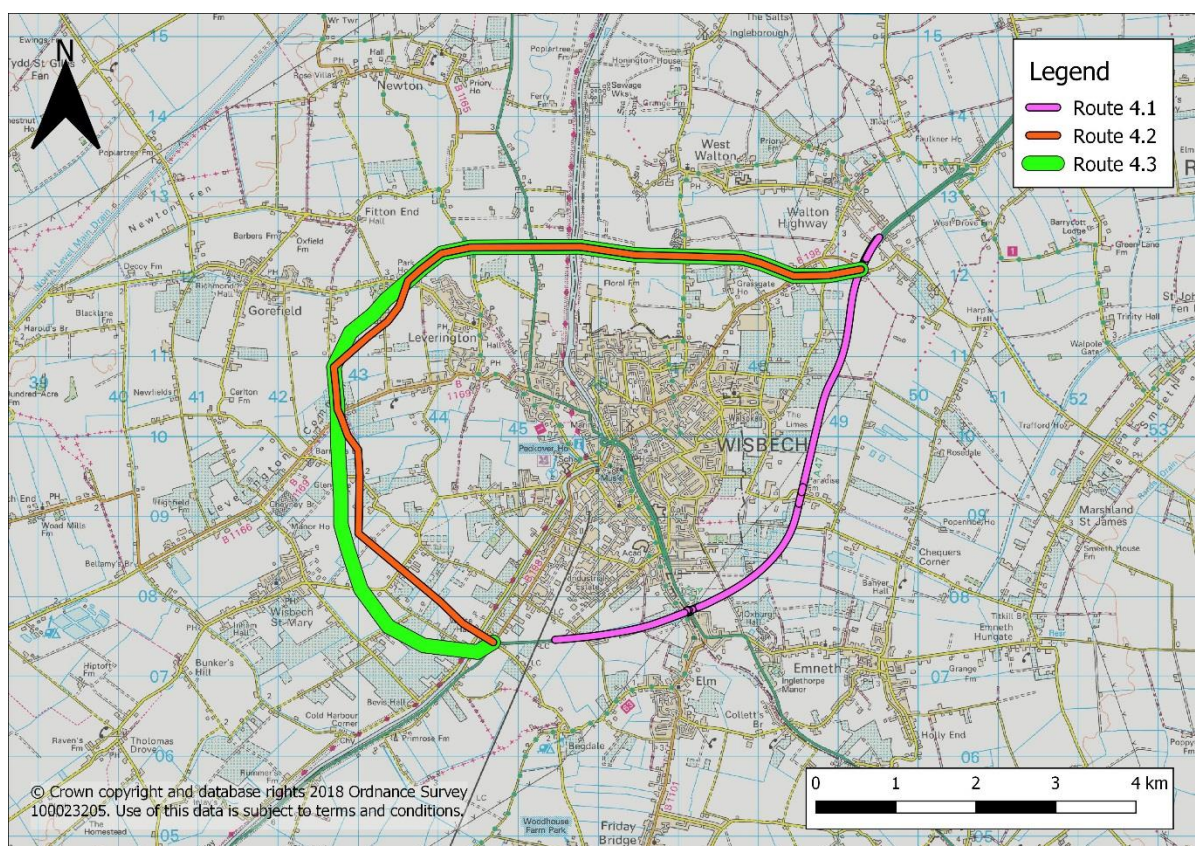
Section 4 (Wisbech Bypass)

3.4.12 Three potential route options have been identified:

- **Route 4.1:** Online dualling of the A47
- **Route 4.2:** Northern Orbital of Wisbech, tying in with the A47 at its junctions with the B198 (Redmoor and Lynn Road junctions)
- **Route 4.3:** Variation on Route 4.2

3.4.13 These Routes are shown on Figure 3.7 below.

Figure 3.7: Section 4 (Wisbech Bypass)



3.4.14 Routes 4.2 and 4.3 would require two new crossings of the River Nene and are some 4 to 5km longer than the online option 4.1. The additional river crossing would adversely affect the buildability of the routes, whilst the longer route around the town would mean it would be less attractive to A47 through-traffic and thus have limited impact at reducing congestion along the existing A47.

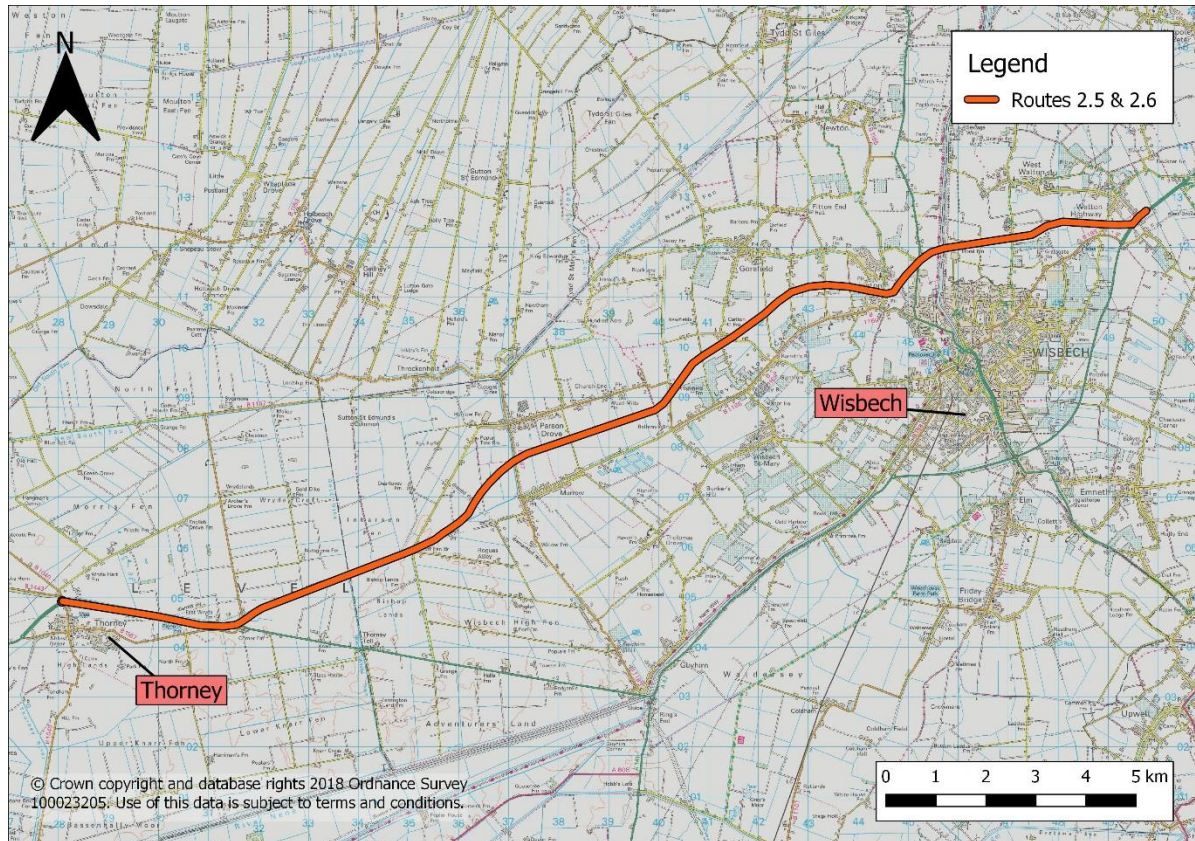
Section 2 to 4 (Thorney Bypass to Walton Highway)

3.4.15 Two potential route options have been identified:

- **Route 2.5:** Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
- **Route 2.6:** Offline dualling Thorney to Walton Highway running to the north of Wisbech

3.4.16 These Routes are shown on Figure 3.8.

Figure 3.8: Section 2 to 4 (Thorney Bypass to Walton Highway)



3.4.17 Routes 2.4 and 2.5 are would be a totally offline route between Thorney and Walton Highway running to the north of Wisbech, with Option 2.5 built as a single carriageway route. These Routes would better serve the Wisbech Garden Town, but would be difficult to phase and would require a new river crossings of the River Nene to the north of Wisbech.

4 Initial Option Appraisal

4.1 Introduction

4.1.1 The long list of options have been initially appraised against the Combined Authority's Strategic Case assessment (Table 2.2), whose Core Objectives are closely aligned to the A47 scheme primary objectives. Each Option was scored against each of the objectives on a seven-point scale from +3 to -3, as follows:

- +3 major benefit at a regional level
- +2 major benefit at a more local level or more minor benefit at a regional level
- +1 minor benefit at a local level
- 0 neutral: no impact
- -1 minor disbenefit or negative impact at a local level
- -2 major disbenefit at a more local level or more minor benefit at a regional level
- -3 major disbenefit at a regional level

4.1.2 The approach to this work was to undertake the scoring and analysis and then to identify those options that did not “perform” well. The objective of this process was not to rank these measures but to identify the measures that should be taken forward and those that are unlikely to meet the objectives for the A47 study.

4.1.3 The results of the Assessment shown in Appendix C show that all the routes would be equally viable except for:

- **Routes 1.3:** Should be rejected as it is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction
- **Routes 2.1 and 3.1:** Should be rejected as it is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction
- **Routes 3.5, 3.6 and 3.7:** Should be rejected as they would fail to deliver housing growth around Wisbech, due to their routing to the south of the town
- **Routes 4.2 and 4.3:** Should be rejected as they will not reduce existing congestion on the A47 Wisbech bypass (being a longer and therefore unattractive route) and likely to offer poor value for money

4.1.4 It is also note that:

- Routes 2.4, 2.5 and 2.6 cannot be readily phased. The whole length route would have to be built in one go (at significant cost) before any benefits could be realised, rather than (say) Thorney to Guyhirn as Phase 1 (Routes 2.2 or 2.3) and Guyhirn to Wisbech as Phase 2 (Routes 3.2, 3.3 or 3.4):
- Route 2.6 has the biggest potential to unlock Wisbech Garden Town and maximise wider economic benefits

4.2 Summary

4.2.1 Table 4.6 summarises the schemes that should be taken through to a more detailed assessment within a separate Option Appraisal report.

Table 4-1 – Summary of Routes to be Assessed in Further Detail

Section	Route	Route Description
Section 1 (A16 to Thorney Bypass)	Route 1.1	Dual carriageway immediately to the north of the existing A47
	Route 1.2	Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
	Route 1.4	As Route 1.1 as a one-way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic
Section 2 (Thorney Bypass to Guyhirn)	Route 2.2	Dualling of the A47 to the south of the existing A47
	Route 2.3	Dualling of the A47 to the north of the existing A47
	Route 2.4	Offline dualling Thorney to Wisbech north of Guyhirn village
Section 2 to 4 (Thorney Bypass to Walton Highway)	Route 2.5	Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
	Route 2.6	Offline dualling Thorney to Walton Highway running to the north of Wisbech
Section 3 (Guyhirn to Wisbech)	Route 3.2	Dualling of the A47 south / east of the existing alignment
	Route 3.3	Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout (B198).
	Route 3.4	Hybrid of Routes 3.2 and 3.3
Section 4 (Wisbech Bypass)	Route 4.1	Online dualling of the A47

5 The Economic Case

5.1 Introduction

- 5.1.1 The Economic Case provides evidence of how the scheme is predicted to perform, in relation to its stated objectives, identified problems and targeted outcomes. The Economic Case determines if the proposed scheme is a viable investment, whose strengths outweigh its weaknesses and which provides good value for money.
- 5.1.2 The potential value for money of the A47 improvement scheme has been initially assessed using a spreadsheet model by calculating and then comparing the likely journey time benefits 'with' and 'without' the scheme scenarios. The monetary benefits of travel time savings for vehicle user classes has been calculated to enable initial BCRs (Benefit Cost Ratios) to be produced for each Option.
- 5.1.3 The purpose of the initial assessment is to determine whether it is likely such a scheme would offer a positive value for money and to enable a qualitative assessment of the potential benefits between Routes.

5.2 Assumptions

- 5.2.1 The Economic Case has been developed based on the comparison of a 'without scheme' and the 'with scheme' (proposed dualling improvements options).
- 5.2.2 The following assumptions have been made in the development of the Economic Case:
 - Scheme journey times applied to the 'with scheme' options are based on observed speeds for existing dualled sections of the A47
 - Journey time savings for weekday AM and PM peak hours, have been annualised over 253 days (the standard number of working weekdays per annum). There is potential for benefits beyond the peak hours but these have not been accounted for
 - Value of time per vehicle and journey purpose proportions are taken from the WebTAG DataBook (December 2017)
 - Maintenance costs are included and are based on values taken from the QUADRO user manual
 - Scheme opening year has been taken as 2026 and a horizon year assessment based on 2041
 - Transport user benefits have been calculated for a 60-year appraisal period in line with WebTAG
 - Optimism Bias has been applied at 44%, as recommended by WebTAG for this stage of assessment
 - A risk allowance of 15% has been made on top of construction cost estimates
 - Potential benefits for Public Transport users have not been included in the assessments

- Land costs for offline options have been taken as £10,000 per acre whilst widening options have been based on a land cost of £100,000 per acre as offline options are more likely to require agricultural land with no development “hope” value
- Preparation costs are based on 9% of construction costs, as used by the HE for its initial appraisals of schemes
- Supervision costs are based on 5% of construction costs, as used by the HE for its initial appraisals of schemes

5.3 Traffic Forecasting and Economic Appraisal

5.3.1 The economic case for this scheme is focussed on:

- Assessing the direct, localised, economic efficiency benefit of the scheme
- Qualitative appraisal of wider scheme benefits, and
- Assessing the scheme benefits against the direct scheme costs as an individual package.

5.3.2 The appraisal criteria and overall approach to the assessment of options at this stage is based on a direct appraisal of journey time saving benefits as compared to the direct scheme costs.

5.4 Environment

5.4.1 The economic benefits of a scheme in relation to carbon reduction and other environmental impacts are often monetised as part of scheme appraisal, particularly for large schemes where congestion reduction is a specific objective of the scheme.

5.4.2 At this stage the appraisal of multiple options has been undertaken and whilst it is evident that some options are shown to result in travel time savings by reducing congestion and assessment of the potential impacts of this on carbon reduction have not yet been undertaken. It is usual to undertake such assessments at the Option Appraisal and Outline Business Case stage.

5.5 Social

5.5.1 It is noted that highway schemes are often assessed with both travel time savings and accident benefits. Accident benefits normally come from a change of junction or link types or of flow volume. Scheme accident benefits have not been directly assessed at this stage because the proposed scheme does not include sufficient detail at this stage as regards the form of junction to be proposed in each location. In addition, the accident rate in the area is not above what might be expected and the scheme is not being promoted as an accident reduction measure.

5.5.2 However, analysis of this data will become part of the design process; and accident monitoring will be part of the post-opening evaluation.

5.6 Quantified Costs

- 5.6.1 An indicative cost estimate for each of the options has been provided based on applying standard cost rates to the route length and the number of junctions and structures required, as is normally undertaken at Strategic Outline Business Case stage. For the purposes of the economic appraisal these have been converted to 2010 market prices. The construction costs presented below are inclusive of land, supervision, preparations, risk and adjustment for optimism bias.
- 5.6.2 As the A47 dualling improvements are likely to result in the creation of new road space an initial estimate of the future maintenance costs has also been made. These are based on values provided within the QUADRO manual. For the purposes of the economic appraisal these have been converted to 2010 market prices.
- 5.6.3 Quantified costs for each of the route options is provided in Table 5-1 below.

Table 5-1 – A47 Dualling Options: Quantified Costs (2010 Market Prices)

Section	Route	CONSTRUCTION	MAINTENANCE	TOTAL
Section 1 (A16 to Thorney Bypass)	1.1	£71,280,846	£1,467,039	£72,747,885
	1.2	£64,208,314	£1,425,724	£65,634,038
	1.4	£51,504,621	£607,336	£52,111,957
Section 2 (Thorney Bypass to Guyhirn)	2.2	£125,960,300	£1,535,535	£127,495,835
	2.3	£133,009,908	£1,533,360	£134,543,269
	2.4	£170,611,981	£2,644,331	£173,256,311
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	£163,204,711	£1,629,441	£164,834,152
	2.6	£240,037,679	£3,935,963	£243,973,641
Section 3 (Guyhirn to Wisbech)	3.2	£97,768,075	£1,556,011	£99,324,086
	3.3	£94,274,027	£1,615,446	£95,889,473
	3.4	£88,858,638	£1,373,899	£90,232,537
Section 4 (Wisbech Bypass)	4.1	£57,982,121	£524,443	£58,506,564

5.7 Quantified Benefits

1. The user benefits are set out in

- 5.7.1 Table 5-2 below and are based on vehicle time savings across the following vehicle/user classes:

- Car Employers Business
- Car Commute
- Car Other
- LGV Employer Business
- LGV Commute
- LGV Other
- OGV1
- OGV2

5.8 Benefit Cost Ratio

5.8.1 Table 5-2 below summarises the analysis of monetised costs and benefits (AMCB). The costs and benefits are calculated based on the following:

- Scheme cost (2018 prices)
- Risk and optimism bias adjusted cost (2018 prices excl. VAT)
- Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 market prices

5.8.2 User Benefits (PVB) for the initial BCR are based on vehicle user time savings (excluding passenger service vehicles), and include two tests:

2. **Core test:** based on TEMPRO 7.2 Government Forecast
3. **Sensitivity test:** based on 50% increase in growth (houses and job) and which resulting increase in traffic delay.

Table 5-2 – A47 Dualling Options: Benefit to Cost Ratios

Section	Route	PVC (£,000)	Core Test		Sensitivity Test	
			PVB (£,000)	BCR	PVB (£,000)	BCR
Section 1 (A16 to Thorney Bypass)	1.1	£72,748	£86,411	1.19	£134,643	1.85
	1.2	£65,634	£89,697	1.37	£138,677	2.11
	1.4	£52,112	£81,421	1.56	£128,655	2.47
Section 2 (Thorney Bypass to Guyhirn)	2.2	£127,496	£117,734	0.92	£181,911	1.43
	2.3	£134,543	£117,694	0.87	£181,827	1.35
	2.4	£173,256	£248,979	1.44	£376,066	2.17
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	£164,834	£316,253	1.92	£487,357	2.96
	2.6	£243,974	£330,741	1.36	£504,806	2.07
Section 3 (Guyhirn to Wisbech)	3.2	£99,324	£45,414	0.46	£81,232	0.82
	3.3	£95,889	£39,916	0.42	£74,472	0.78
	3.4	£90,233	£62,261	0.69	£101,945	1.13
Section 4 (Wisbech Bypass)	4.1	£58,507	£125,716	2.15	£189,697	3.24

PVC = Present Value of Costs (2010 Market Prices)

PVB = Present Value of Benefits (2010 Market Prices)

BCR – Benefit to Cost Ratio

5.8.3 It should be noted that whilst TEMPRO 7.2 is the latest Government Forecast for traffic growth but does not necessarily reflect the latest Local Plan growth, and the sensitivity testing shows the BCR is very much dependent on the assumed growth in land use (housing and jobs).

5.9 Qualitative assessment of benefits

5.9.1 The appraisal of the identified options for dualling the A47 indicates a range of BCRs which suggest that the options identified could be shortlisted to include only those options which offer medium or high value for money based on the Department for Transport value for money categories:

- Very High: BCR greater than or equal to 4
- High: BCR between 2 and 4
- Medium: BCR between 1.5 and 2
- Low: BCR between 1 and 1.5
- Poor: BCR between 0 and 1
- Very Poor: BCR less than or equal to 0

- 5.9.2 Note that the BCRs shown in Table 5.2 are ONLY shown for comparative purposes (between Routes), and do not take account of Wider Economic Benefits, the impact of increasing congestion, potential impact of a Wisbech Garden Town nor phasing of the routes: a BCR might be improved by delaying a scheme until the congestion would otherwise occur in the Base Scenario. The key issue to conclude is that initial BCR shown indicate a more detailed assessment is justified (as part of an Option Appraisal Report).

5.10 Social and Distributional Impacts

- 5.10.1 The social and distributional impacts of the A47 scheme are likely to have a positive impact on the populations within the Cambridge and Peterborough Combined Authority area. A summary of the socio-economic profile for the Combined Authority area is provided in Appendix D.

5.11 Appraisal Summary Table

- 5.11.1 A summary appraisal of the benefits and dis-benefits of each of the options is presented within the assessment provided in Appendix C. A more detailed Appraisal Summary Table for each option has not been completed at this stage.

5.12 Value for Money Statement

- 5.12.1 A range of BCR values has been presented for the various options identified for dualling of the A47. It is evident from the initial BCR values presented that, whilst some options do not currently offer very good value for money, there are options which would represent medium or high value for money.
- 5.12.2 Given the simplicity of the approach taken to assessing the value for money ratings of these options, it should be noted that a low level of certainty should be applied to the BCR values presented. It is considered that for the stage of the appraisal that the BCR presented provide a useful barometer for the comparison of options and should only be deemed as a rough indicator of the potential scheme BCR. Following the identification of a shortlisted set of options these shall be subject to a more detailed highways modelling, forecasting and economic appraisal exercise.

6 Financial Case

6.1 Introduction

- 6.1.1 The Financial Case for A47 Dualling Study gives a breakdown of the expected project cost components for the transport investment. It considers if these capital costs are affordable from public accounts at the times when the costs will arise. It also identifies where contributions of anticipated funding will be obtained; and assesses the breakdown of funds between available sources and by year; and considers how secure these funds are likely to be. Finally, it reviews the risks associated with the scheme investment and examines possible mitigation.

6.2 Budgets and Funding Cover

Project Costs

- 6.2.1 The breakdown of the wider project cost estimates for the A47 Dualling Study options are summarised in Table 6-1 below.

Table 6-1 – Breakdown of Costs (2018 prices)

Section	Route	Total (£'000s)
Section 1 (A16 to Thorney Bypass)	1.1	46,100
	1.2	41,526
	1.4	33,310
Section 2 (Thorney Bypass to Guyhirn)	2.2	81,463
	2.3	86,023
	2.4	110,341
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	105,551
	2.6	155,242
Section 3 (Guyhirn to Wisbech)	3.2	63,230
	3.3	60,971
	3.4	57,468
Section 4 (Wisbech Bypass)	4.1	37,499

- 6.2.2 The costs presented in Table 6-1 are based on standard unit prices per square metre of carriageway construction in the UK. The land costs are based on values per acre of £10,000 for farmland where the route is offline and £100,000 per acre where widening is to be achieved online or involves property demolition (as an average length over the route option).
- 6.2.3 Preparation and supervision costs have been based on standard values applied to Highways England schemes through the Project Appraisal Report process for a scheme at concept stage of 9% and 5% respectively.

6.3 Risks / Leverage

- 6.3.1 The A47 Dualling Study is likely to be dependent on CPCA funding supplemented by funding from other local sources such as capital grant budgets and developer contributions.
- 6.3.2 Potential cost escalations would reduce the overall benefits of the scheme. The economic appraisal of the A47 Dualling scheme has therefore included a 44% Optimism Bias not shown in Table 6-1.

7 The Commercial Case

7.1 Introduction

- 7.1.1 This chapter sets out the Commercial Case for the scheme including the potential procurement strategy, contract arrangements, risk management strategy and financial arrangements.

7.2 Output Based Specification

- 7.2.1 Dualling of the A47 will support a range of local and national objectives, including the potential for growth of Wisbech Garden Town. The key drivers for the scheme are to:
- Promote wider economic investment
 - Improve connectivity
 - Encourage homes and jobs
 - Tackle congestion and reliability

7.3 Commercial Viability

- 7.3.1 The options for procurement and commercial viability of the scheme have not yet been fully considered. Experience will be drawn from previous contracts along with independent advice from industry experts to decide on an appropriate procurement route, which will provide a robust and well tested mechanism for the delivery of the scheme. A high level of interest from the industry is considered likely due to the scale of the proposals and it considered that this will drive the commercial case for the scheme.

7.4 Procurement Strategy

- 7.4.1 An initial set of procurement options which have been considered include:
- a **traditional arrangement**, where one contract secures a detailed design and specification for the construction, which is then tendered as a separate contract
 - a **single stage Design and Build contract**, where the design and construction are tendered as one package, with the successful contractor providing the detailed design, and
 - an **ECI Two Stage Design and Build contract**, where the design and build are again tendered as one package as in a single stage contract. However, this differs from a single stage Design and Build contract as there is potential to review the contractor's performance and construction target cost and stop the process at the end of the design phase if necessary.
- 7.4.2 Each of these arrangements has advantages and disadvantages, as outlined below.

Traditional separate contracts for design and construction

- 7.4.3 The traditional arrangement allows close control of the design process by the client. However, as the construction contract is awarded on the basis of the completed design, there is limited opportunity for the successful contractor to influence into the design to reduce risks and cost. Although contractor input can be brought in during the design stage, it may not be relevant as the same contractor may not undertake construction.
- 7.4.4 This form of contract can also limit the contractor's ability to use innovative construction methods which could result in savings and increased performance of the finished scheme. Separate contracts between the client and the parties providing the design and construction results in risks from any issues arising from the design resting, at least initially, with the client. This arrangement is more suitable for schemes that are well developed and hold lower or easily identified risks.

Single Stage Design and Construct

- 7.4.5 A single stage Design and Build contract places the design and construction in one package. The contract is awarded on the basis of a target cost for the design and construction of the works, based on an outline or reference design. This arrangement does offer an incentive for the contractor to ensure that the design is buildable and can facilitate a quicker start on construction as work can commence before the design is complete, so long as it is sufficiently advanced. However, as the contractor must estimate the cost at tender stage based on preliminary design information, there is a risk that the actual cost for construction is significantly different with the potential for contractual claims and disputes.

ECI Two stage Design and Construct

- 7.4.6 An Early Contractor Involvement (ECI) Two-Stage Design and Build Contract would typically use the New Engineering Contract 3rd Edition (NEC3). The design phase of the scheme would be undertaken using the NEC3 Professional Services Contract. The construction phase would be undertaken using the NEC3 Engineering and Construction Contract, Option D Target Price with Bill of Quantities. The NEC contract is the most widely used form of contract in construction and encourages good management and cooperation between the parties to the contract.
- 7.4.7 ECI Two stage Design and Construct is a collaborative form of contract, which brings the contractor into the project team early, with the team working together through the design and construction phases. This provides benefits of ensuring that the contractor can use his experience in the design phase to reduce overall project risk and ensure buildability. There are some significant differences compared with the single stage approach however, that provide a greater level of cost control and certainty.

- 7.4.8 Although the contract is awarded for design and construction, the process is divided into two parts, the first phase covering the detailed design and consents process, with construction as a second phase. There is a presumption that the scheme would be delivered as a single package, but there is no guarantee that the contractor would move directly from detailed design to construction. This is conditional on satisfactory performance and agreement of a construction target price. The contract would give ownership of the design to the scheme sponsor, so that in the rare event that a target price cannot be agreed, it may be used to re-tender the construction.
- 7.4.9 The ECI two stage approach also mitigates against cost and programme overruns as there is much greater certainty over the design and understanding of the risks at the point the construction target price is agreed (when the detailed design is sufficiently advanced). Developing this understanding can result in a longer contract period, but one that is likely to be more realistic as to cost and risk. A situation where construction commences before a design is sufficiently advanced would also be avoided.

Summary

- 7.4.10 In deciding on the form of contract, a number of arrangements for the delivery of the scheme will be considered. Specific factors pertaining to the scheme, including process and construction risks, the stage of development of the project, and the appetite to accept or transfer risk to a contractor should be considered. The importance of understanding the risks in delivery and ensuring that the contractual arrangement places risks with the party best placed to deal with them was a key consideration.
- 7.4.11 The form of contract will be based on lessons learned from previous projects, and subsequent construction projects.

8 The Management Case

8.1 Evidence of Similar Projects

- 8.1.1 Addenbrooke's Access Road in Cambridge, a project of similar scope including a road and rail bridge was delivered using early contractor involvement in the design phase to eliminate and reduce risk in delivery by ensuring that construction methodology, programming and logistics were achievable.
- 8.1.2 Huntingdon West of Town centre link road was delivered using contractor designed elements. It involved difficult ground conditions and unforeseen amounts of contaminated land which was successfully managed without delay to the programme. Like Ely, a primary driver was facilitating the growth and economic development and areas made accessible are now being developed for both residential and commercial use.
- 8.1.3 The delivery of the Cambridgeshire Guided Busway was reviewed by an independent consultant and a report included a number of "lessons learned" which have been incorporated into subsequent project, especially in respect of the form of contract and contractual arrangements being used.

8.2 Project and Programme Dependencies

- 8.2.1 The dualling of the A47 will help the Combined Authority to support agricultural industry growth across East Anglia, regenerate Wisbech and deliver significant housing growth along the corridor.

Programme / Project Reporting

- 8.2.2 It is envisaged that dualling of the A47 could be conservatively phased over a 15-year programme, with, with each phase (section of route) taking some 5 to 7 years. Nevertheless it is recognised that the project could be accelerated depending on funding availability.
- 8.2.3 The following stages are the normal requirements within each phase.
 - 1. Outline Design
 - 2. Permissions (planning consent etc).
 - 3. Detailed Design
 - 4. Mobilisation
 - 5. Construction
- 8.2.4 It is envisaged that phasing would be dependent on prioritising sections of the A47 for dualling first (dependant on need and value for money), and the programme could be accelerated dependent on resourcing, funding availability and benefits to be gained.

Table 8-1 – A47 Dualling Programme

Year	Phase (section of the A47)			
	Phase 1	Phase 2	Phase 3	Phase 4
1	Outline Design			
2	Permissions			
3		Outline Design		
4	Detailed Design	Permissions		
5			Outline Design	
6	Mobilisation	Detailed Design	Permissions	
7	Construction			Outline Design
8		Mobilisation	Detailed Design	Permissions
9		Construction		
10			Mobilisation	Detailed Design
11			Construction	Mobilisation
12				Construction
13				
14				
15	Full Scheme Opening			

8.2.5 The scheme is also under the Planning Act 2008 rather than the Highways Act 1980 therefore the scheme gets submitted for Development Consent Order (DCO) in Stage 4.

8.3 Governance, Organisational Structure and Roles

8.3.1 The following Governance is proposed:

- Senior Responsible Owner
- Programme Manager

8.3.2 Key decisions relating to the project are the responsibility of the Combined Authority, who would establish a **Project Board** to oversee the continued development and delivery of the scheme, and provide a forum for delivery issues to be considered and resolved and risk to be reviewed.

8.3.3 **The Project Board** should be supported by technical specialists and would invite other key stakeholders to attend as necessary.

8.3.4 **A Project Team** would be identified and be responsible for the delivery and day to day management of consultants and contractors.

8.3.5 The governance arrangement would be maintained throughout the duration of the scheme.

8.4 Programme / Project Plan

8.4.1 The current key programme milestones are outlined below:

Business Case

- Strategic Outline Business Case – May 2018

- Option Appraisal Report – August 2018
- Consultation - November 2018
- Outline Business Case - February 2019

Funding agreed in Principle

- Full Business case - June 2019

Funding Decision

Construction

- Tender preparation
- PQQ issued
- Tender period
- Award contract
- Detailed design
- Agree construction price
- Construction

8.5 Assurance and Approvals Plan

- 8.5.1 Assurance reviews will be undertaken by an Independent Technical Advisor to determine whether the scheme provides good value for money.

8.6 Communications and Stakeholder Management

- 8.6.1 In order to maintain confidence with the community and stakeholders the following plan will be carried out:
- Provide regular updates on delivery progress and key activities for the local community, businesses and key stakeholders.
 - Engage with the local community, businesses and key stakeholders about the delivery to ensure local needs are taken into account throughout the duration of the project, and in particular the early development of the project
 - Ensuring information is shared using appropriate methods of communication to all sectors of the community, businesses and key stakeholders

Target Audience

- Residents and businesses in and around the A47 study area
- Homeowners and tenants next to the road that will be affected by the construction
- Landowners
- Cycling groups
- Interest and action groups
- Pedestrians
- Parish/Town Councils in the area
- Neighbourhood and community organizations
- Schools in the area

- Cambridgeshire County, Peterborough CC, Norfolk CC, Fenland CC and Kings Lynn and West Norfolk Councillors
- Relevant Council Officers
- Network Rail
- Road users
- Historic England
- MPs

8.7 Risk Management Strategy

- 8.7.1 In accordance with Government advice a project risk register was developed when the project was initiated. The aim of the register is to develop a clear view of risks associated with the scheme and to evaluate the factors that could have a detrimental effect.
- 8.7.2 The risk register was based on the following documents:
- Department for Transport: Transport Analysis Guidance (TAG) Unit 3.9.3
 - Treasury Taskforce Private Finance Technical Note No 5: How to construct a Public Sector Comparator.
- 8.7.3 A Risk Register and Quantified Risk Assessment will be undertaken. It is envisaged that the risks will reduce further during the life of the project and as more information becomes available and risks are understood. This will give more certainty as far as costs are concerned.
- 8.7.4 The key areas that were identified in relation to the project are:
- Permissions and Policy
 - Economic and Procurement
 - Design
 - Construction
 - Performance
 - Environmental and Integration.

Permission and Policy Risk

- 8.7.5 The Combined Authority and its partners will work closely with the Planning Authority, Environment Agency and other statutory bodies to ensure the scheme meets their aspirations for the area. Consultation with stakeholders and feedback from the public will be reflected in the design to ensure that the scheme reflects the needs of the local community.
- 8.7.6 A planning application has yet to be submitted for the scheme.
- 8.7.7 The possibility of protestor action is considered to be low risk.

Economic / Procurement

- 8.7.8 It is considered that Early Contractor Involvement (ECI) would reduce the risk of cost overrun by selection of appropriate design and construction methods. The risk in appointing a suitable contractor to deliver the scheme is low, based on the current position in the procurement timetable.

Design:

- 8.7.9 The scheme would adopt a PRINCE 2 Process Model method to ensure sound project management procedures are applied. The use of this process will reduce the risk of programme over-run during the design stage.
- 8.7.10 The scheme carries a full CDM requirement and appropriate Registers will be maintained to document the design and approval process.

Construction

- 8.7.11 There is a risk of damage to plant and injury to personnel. Contact would be established with the necessary Statutory Authorities and maintained through the design and construction stages. Full design details would be supplied to affected organisations in order that appropriate and necessary measures are taken to divert or protect plant and highway users and the contractor would be required to undertake the necessary liaison and processes.
- 8.7.12 Unforeseen ground conditions represent a considerable risk to major construction schemes in rural locations. Ground Investigations would be undertaken and results provided to tenderers. The successful contractor would be required to undertake further comprehensive ground investigations and analysis of data to verify any information provided and to secure additional information required for the final design.

Performance

- 8.7.13 There is a risk that operating and maintenance costs will be higher than expected. Existing costs have been considered for highways with similar attributes.
- 8.7.14 The design considers appropriate safety measures to mitigate potential concerns highlighted through safety advice and staged safety audits.

Environmental and Integration

- 8.7.15 Preliminary environmental, ecological and archaeological studies have been undertaken. Further investigations and findings will form a key part of the design process.
- 8.7.16 Borehole studies will be undertaken to monitor groundwater trends. The risk of pollution to groundwater is considered low and full co-operation with the Environment Agency will be maintained.

8.8 Monitoring and Evaluation

- 8.8.1 A Monitoring and Evaluation Plan will be produced to ensure the scheme is fully evaluated against scheme objectives. The scheme “Before” and “After (1 year and 5-year post opening)” surveys will be undertaken to monitor changes in:
- Traffic Flow
 - Accidents
 - Journey Time
- 8.8.2 Implementation of the scheme would also be monitored against time and budget

8.9 Project Management

8.9.1 Overall project management for the dualling of the A47 has not been considered at this stage.

8.10 Contingency Plan

8.10.1 A contingency plan for the dualling of the A47 has not been considered at this stage.

9 Design Development

9.1 Preferred route options design

Following the initial route options considered at the start of the stage, design development has narrowed down 3 preferred routes that align with the objectives and desired outcomes of the scheme.

The length of options A-C are common between the A16/A47 roundabout and the B1167/A47 roundabout. Routes B and C are also common between B198/A47 roundabout and A47/Lynn road roundabout. All 3 options include a new structure crossing the River Nene

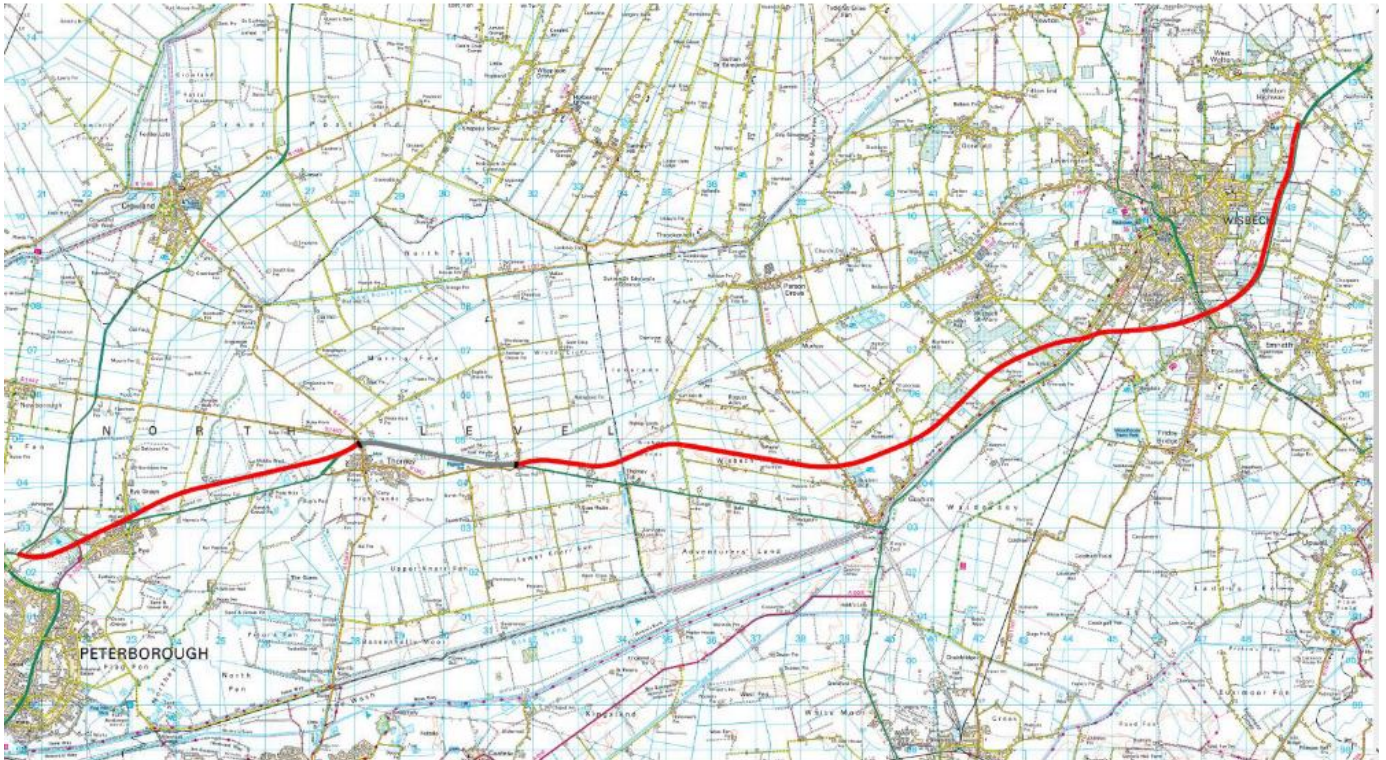
Route A:

The length of Route A would total over 33km with approximately 27km to be constructed offline.



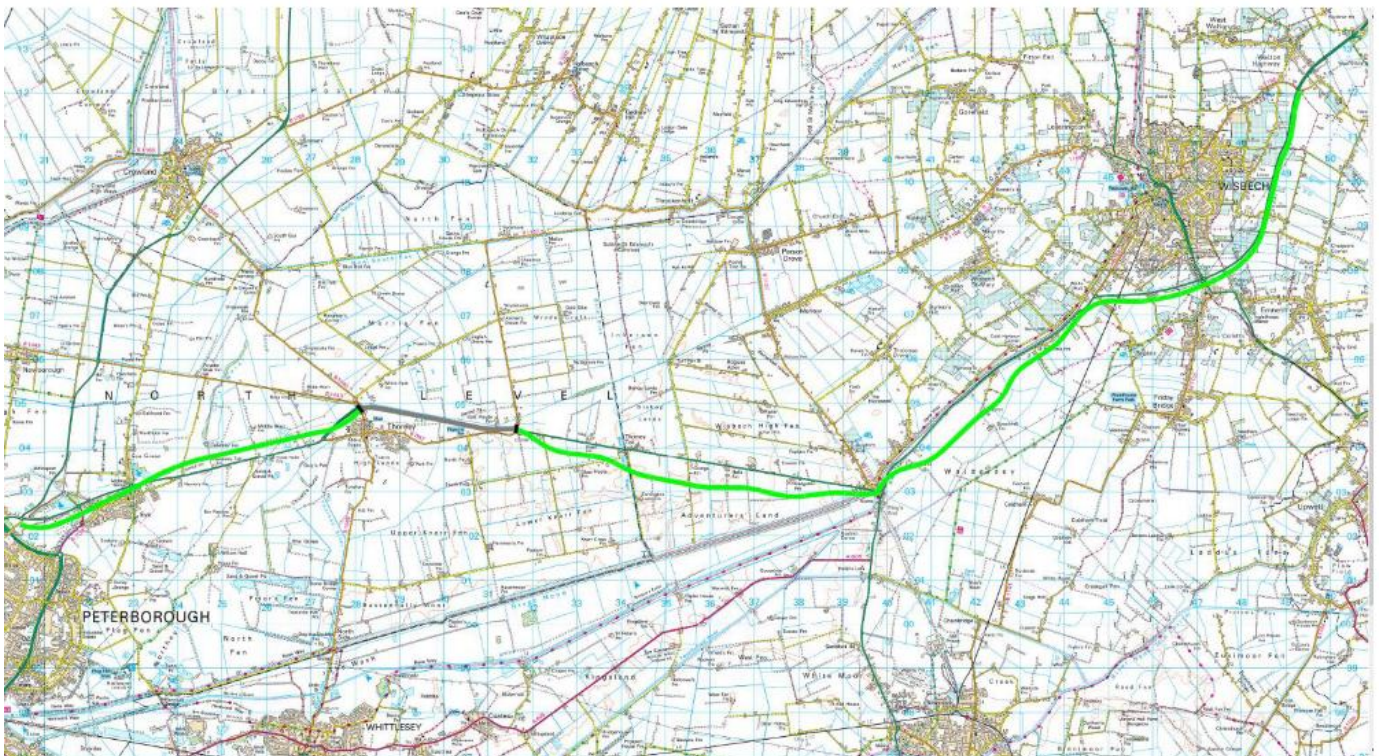
Route B:

The length of Route B would total over 33km with approximately 20km to be constructed offline.



Route C:

The length of Route C would total over 34km with approximately 20.5km to be constructed offline.



9.2 Preferred Route Options Cost Estimate

Route options A-C have all been internally costed comprising; preparation, supervision, works, land, project risk and inflation. With the assumption that Inflation will go up 2% each year to 2025 and risk is 10% of total cost after inflation is added. The designs have developed through this stage as such, the costing figures below relate to each route option at the finalisation of PCF Stage 0.

Route A:

Preparation	£43,691,311.44
Supervision	£6,241,615.92
Works	£549,262,201
Lands	£24,966,463.68
Project Risk	£47,772,000
TOTAL	£671,933,592

Route B:

Preparation	£39,239,604.97
Supervision	£5,605,657.85
Works	£493,297,891
Lands	£22,422,631.41
Project Risk	£56,056,578.52
TOTAL	£616,622,364

Route C:

Preparation	£38,500,061.57
Supervision	£5,500,008.80
Works	£484,000,774
Lands	£22,000,035.18
Project Risk	£55,000,087.95
TOTAL	£605,000,968

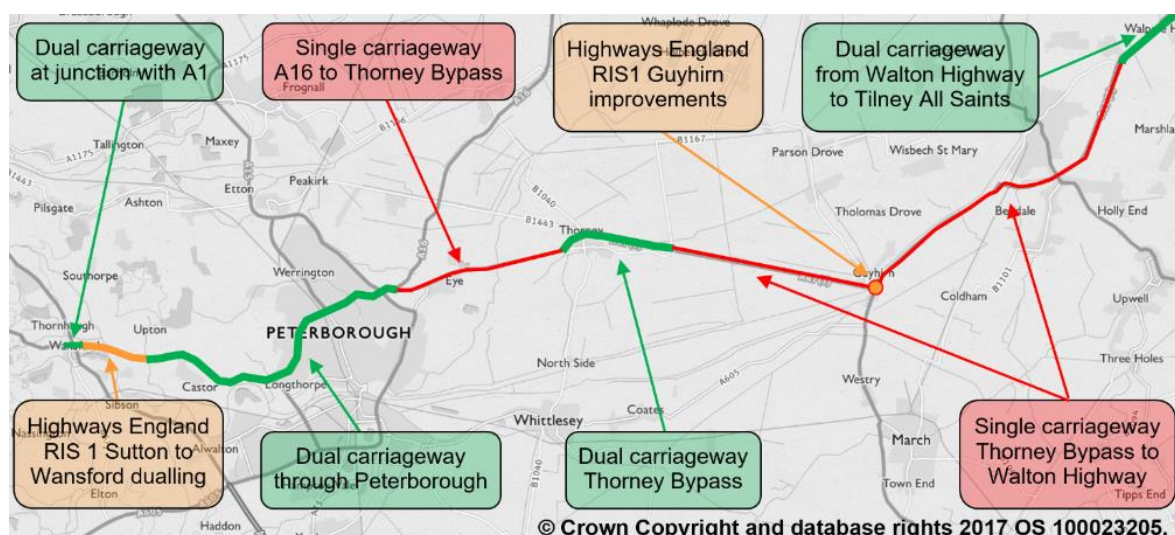
Appendices

Appendix A: Low Cost Options Technical Note

9.3 Introduction

- 9.3.1 A Strategic Outline Business Case (SOBC) and subsequent Option Appraisal Report (OAR) were issued in August 2018 in support of the business case for the dualling of the remaining single carriageway sections of the A47 between the A16 to the east of Peterborough and Walton Highway to the east of Wisbech. Single carriageway sections are detail in red in Figure A.9 below. From this, three broad route options (A-C) have been proposed for offline dualling of the A47 between Peterborough and Walton Highway. These proposals are now to be progressed through each stage of the Highways England (HE) Project Control Framework (PCF).
- 9.3.2 This Technical Note (TN) has been produced to support scheme development through PCF Stage 0 of technical modelling and appraisal of the A47 dualling scheme. This TN aims to identify and address whether potential low-cost alternative options to dualling the A47 would provide viable options to meet the strategic objectives of the scheme as well as deliver aspirational levels of housing and economic growth across the study area.
- 9.3.3 The following low-cost options have been identified by HE for consideration:
1. Junction Improvements along the existing A47 route
 2. Wide Single 2 + 1
 3. Online dualling where possible without property acquisition
 4. Online dualling with property acquisition
 5. Online dualling with discrete offline sections to avoid property acquisition
 6. An offline S2 route
- 9.3.4 A short discussion around each of these options is provided in subsequent sections, as well as model output summary statistics for each option relative to the forecast Do-Minimum. Modelling results have been presented for comparative purposes to assess how each low-cost option performs relative to the proposed dualling options.

Figure A.9: Extent of Proposed A47 Dualling



9.4 Low Cost Option 1 - Junction Only Improvements

9.4.1 Junction only improvements have the potential to provide a low-cost option for delivering capacity and traffic flow improvements along the A47 corridor between Peterborough and Walton Highway. Key junctions running west to east between Peterborough and Walton Highway are details as follows:

1. A47/ A16 Junction
2. A47/ A1139 Junction
3. A47/ Crowland Road Junction (Eye Green)
4. A47/ The Causeway Junction (Thorney Bypass)
5. A47/ B1040 Crowland Road Junction (Thorney Bypass)
6. A47/ B1167 Wisbech Road Junction (Thorney Bypass)
7. Guyhirn Roundabout Junction
8. A47 B198 Cromwell Road Junction (Wisbech Bypass)
9. A47/ A1101 Elm High Road Junction (Wisbech Bypass)
10. A47/ Broadend Road Junction (Wisbech Bypass)
11. A47/ Lynn Road Junction (Walton Highway)

9.4.2 As part of previous work undertaken during completion of the SOBC and OAR, core scenario traffic forecasting was undertaken for 2026 and 2041 for Do-Nothing (DN) and Do-Minimum (DM) scenarios. The DM scenario included transport infrastructure supply improvements to the following junctions proposed as part of both Highways England (HE) improvements schemes and the Wisbech Access Study (WAS):

- Guyhirn Roundabout (HE Scheme);
- A47/ B198 Cromwell Road junction (WAS Scheme);
- A47/ A1101 Elm High Road junction - existing junction widening (WAS Scheme); and
- A47/ Broadend Road junction (WAS Scheme).

9.4.3 The WAS represents a number of junction interventions around Wisbech to improve capacity at and reduce congestion both along the A47 and in Wisbech town centre, designed to support housing aspirations and specific development site allocations identified in the Fenland Local Plan. The short term package of measures is due to be completed by 2021, with £10.5m funding to pursue scheme detailed design and scheme construction approved following a combined authority board meeting in November 2018³.

9.4.4 The proposed intervention at Guyhirn Roundabout forms a £16 million HE scheme, put forward as one of number of interventions along the A47 across Cambridgeshire and Norfolk. These are funded through the Road Investment Strategy (RIS) 2 funding package, with a proposed completion date of 2022.

³ <http://cambridgeshirepeterborough-ca.gov.uk/meetings/cambridgeshire-and-peterborough-combined-authority-board-5/>

9.4.5 The results presented in Table A.2 overleaf compare DN (as existing transport infrastructure) and DM scenarios with core scenario forecasts applied to opening (2026) and horizon (2041) modelled years.

Table A.2: DN/ DM Junction Average V/C

Junction Description	2017 - As Existing			2026			2041		
	V/C (%) - Do Nothing								
	AM	IP	PM	AM	IP	PM	AM	IP	PM
A47/ A16	62	35	49	68	41	55	78	50	67
A47/ A1139	62	49	68	69	59	77	76	73	91
A47/ Crowland Road	70	50	74	78	60	82	87	73	95
A47/ The Causeway	49	35	47	53	42	50	57	48	54
A47/ B1040	47	29	43	52	35	47	58	41	53
A47/ B1167	32	23	31	35	28	34	38	33	38
Guyhirn Roundabout	84	59	76	94	70	84	109	84	94
A47/ Cromwell Road	65	49	65	74	59	74	94	73	86
A47/ Elm High Road	68	58	67	76	67	75	82	81	90
A47/ Broadend Road	56	41	55	61	46	60	70	53	61
A47/ Lynn Road	43	32	43	52	37	50	69	49	66
	V/C (%) - Do Minimum								
A47/ A16	62	35	49	68	41	55	78	50	68
A47/ A1139	62	49	68	69	59	77	76	73	92
A47/ Crowland Road	70	50	74	79	60	82	90	73	97
A47/ The Causeway	49	35	47	55	42	50	63	48	56
A47/ B1040	47	29	43	53	35	48	63	41	55
A47/ B1167	32	23	31	36	28	34	42	33	39
Guyhirn Roundabout	84	59	76	75	60	71	88	70	81
A47/ Cromwell Road	65	49	65	30	23	28	36	29	34
A47/ Elm High Road	68	58	67	53	47	55	67	61	69
A47/ Broadend Road	56	41	55	37	27	36	44	34	42
A47/ Lynn Road	43	32	43	49	35	47	64	45	61

9.4.6 Table A.2 indicates that the proposed WAS schemes at A47 junctions with Crowell Road, Elm High Road and Broadened Road improve V/C values at each location, taking them within capacity in future forecast years. Improved V/C values are also observed at Guyhirn roundabout between DN and DM scenarios. Identified options at each location are considered to be the best performing/ most cost-effective option for improving these junctions without wider improvements to A47 link sections.

9.4.7 The following junctions within the study area are shown to be operating within capacity in both DN and DM scenarios:

- A47/ The Causeway junction (Thorney Bypass);
- A47/ B1040 junction (Thorney Bypass);
- A47/ B1167 junction (Thorney Bypass); and
- A47/ Lynn Road junction (Walton Highway).

- 9.4.8 The Causeway, B1040 and B1167 junctions with the A47 are located along Thorney Bypass. Each has two-lane approaches on A47 approach arms, with increased junction capacity added during construction of the bypass itself. Table A.2 indicates that these junctions operate well within capacity in both DN and DM scenarios, with minimal delay to traffic on A47 approaches. Similarly, the A47/ Lynn road junction to the east of Wisbech presents no capacity issues without a proposed intervention, operating within capacity in both DN and DM scenarios. It is, therefore, considered that any proposed junction only intervention at these locations would have a minimal effect of traffic flow efficiency and user delay, and likely to provide low or poor Value for Money (VfM) during economic appraisal.
- 9.4.9 The remaining three junctions within the study area corridor, located between Peterborough and Thorney Bypass, are detailed as follows:
- A47/ A16 junction;
 - A47/ A1139 junction; and
 - A47/ Crowland Road junction (Eye Green).
- 9.4.10 These represent the only A47 junctions within the study area where an intervention is not already proposed in the DM scenario or would generate significant user benefits. In order to test the likely impact of providing junction only improvements at these three junctions, capacity increases at each junction were applied in line with increases applied during modelling of dualling route options A-C. Modelling Results are presented in Table A.4 and discussed in subsequent sections.
- 9.4.11 Isolated junction only improvements are unlikely to meet the wider aims of the overall A47 dualling scheme, and would not provide sufficient network capacity to encourage aspirational levels of housing growth proposed for the study area corridor. While providing localised capacity increases and reduced delay, isolated junction improvements would not provide significant benefits to strategic traffic utilising the A47 for longer distance journeys or improve overall journey time reliability.

9.5 Low Cost Option 2A and 2B - Wide Single 2+1

- 9.5.1 A low-cost option to provide Wide Single (WS) 2+1 carriageway along the existing alignment has been considered to provide additional link capacity along the existing A47 alignment in line with guidance provided in TD70/08. WS2+1 carriageway provides short stretches of overtaking lanes to reduce link delay and improve journey time reliability.
- 9.5.2 Low cost option 2A relates to provision of WS2+1 carriageway along the current A47 alignment without the requirement for property acquisition. Low cost option 2B relates to provision of WS2+1 carriageway along the current A47 alignment with property acquisition.
- 9.5.3 WS2 widening would be considered unacceptable for Cambridgeshire County Council (CCC) if it were the Highway Authority for the A47, as evidenced at a public inquiry for a proposed housing development off the A10 when a similar WS2 scheme was proposed for that road. CCC, as Highway Authority for the A10, objected on the grounds of road safety. This view was subsequently endorsed by the planning inspector. It is also noted that the A47 between the A16 and Eye was built and marked as WS2, but has been hatched out to a standard S2 because of consequential road safety issues.

- 9.5.4 WS2 would marginally increase the capacity of the A47 as evidenced by TA 46/97, which indicates a maximum design capacity of 21,000 vehicles Annual Average Daily Traffic (AADT) for that type of road, however this is already equal to the current observed flow along some single carriageway sections of the A47. As a result, the overall level of benefit realised from this propose option is expected to be low. Enhancement of the existing carriageway alignment to WS2 would also involve disruption to traffic flows during construction phases, incurring both additional costs and increased user delay during construction (see low cost options 3 and 4 below in relation to online dualling).
- 9.5.5 In addition, TD70/08 states that *“To promote journey time reliability on long distance single carriageway roads, provision of a WS2+1 road can be a more effective solution than other single carriageway road options at flows of up to 25,000 Annual Average Daily Traffic (AADT)”*. Current core scenario estimates predict AADT flows to increase beyond 25,000 by 2031, indicating WS2+1 would not provide a sufficient long-term solution to relieve link congestion. As a result, this option is unlikely to fulfil the main objectives of the A47 dualling scheme to relieve congestion, improve journey time reliability and provide sufficient network infrastructure to support housing and economic growth aspirations.

9.6 Low Cost Option 3 and 4 - Online Dualling

- 9.6.1 Low cost options 3 and 4 relate to dualling the A47 along its existing alignment between Peterborough and Walton Highway. Low cost option 3 relates to dualling along the current A47 alignment without the need for property acquisition. Low cost option 4 relates to dualling along the current A47 alignment with property acquisition. Low cost option 3 is identical to low cost option 4 aside from the section of carriageway between the A47/B1167 junction (Thorney bypass) to the west and Guyhirn Roundabout to the west. This section remains S2 carriageway in low cost option 3.
- 9.6.2 Both online dualling options would not be considered low cost due to:
- The additional cost of acquiring and demolishing the necessary properties and businesses along the route; and
 - The additional costs of construction caused by necessary traffic management measures having an adverse impact on the efficiency of construction. It would be expected that costs will increase from current initial estimates.
- 9.6.3 In addition, an online dualling option would likely see increased user delay during construction phases and provide a dis-benefit to users during this period. Construction of an online dualling option is likely to affect a large number of vehicles, with a lack of alternative routes available to users between Peterborough and Wisbech. Offline options are likely to cause less disruption (dis-benefits) to existing users during the construction phase.
- 9.6.4 Both the requirement for traffic management and increased user delay during construction have not been considered in initial option cost estimates and appraisals. Online dualling will, therefore, reduce the level of benefit from A47 dualling once user delay during construction are considered within the overall Present Value of Benefits calculation.

9.7 Low Cost Option 5 - Online Dualling with Discrete Offline Sections

- 9.7.1 An option for online dualling with discrete offline dualled sections to avoid the need for property acquisition and demolition is considered to be broadly in line with the proposed Route Option C for Dualling of the A47 between Peterborough and Walton Highway. Route Option C predominantly follows the existing A47 alignment around Peterborough and Wisbech, with offline sections around Thorney Toll and Guyhirn to avoid the need for property acquisition. As a result, modelling results for dualling route option C have been presented for low cost option 5 and is not considered as an independent low-cost option.

9.8 Low Cost Option 6 - A new Off-line S2

- 9.8.1 A new offline S2 alignment for the A47 would not be considered a low-cost option due to engineering feasibility constraints along the corridor between Peterborough and Walton Highway. The low-lying topography, the location of proposed off-line route alignments across a floodplain and the requirement to futureproof any scheme against the impacts of climate change require any new highway to be constructed on raised embankment, with extensive foundations and groundworks required during construction.
- 9.8.2 It is expected that construction of new offline carriageway would incur significant cost from construction of raised embankments irrespective of the standard of carriageway ultimately constructed. The level of benefit realised from construction of a new S2 carriageway alignment would be notably less than that for a D2 carriageway, for a relatively similar construction cost. As a result, it would be expected that estimated BCR values for a new D2 carriageway would be far greater than those resulting from a proposed S2 carriageway.

9.9 Early Assessment Sifting Tool

- 9.9.1 The Early Assessment Sifting Tool (EAST) is a decision support tool that has been developed by the DfT to quickly summarise and present evidence on options in a clear and consistent format. This has been completed for each of the identified low cost options, as well as an offline dualling option, and can be found in Appendix A. A summary table of key metrics from the EAST assessment can be found in Table A.13 below. This indicates that a new offline dual carriageway route provides the best fit with transport and government objectives, and is most likely to deliver changes of sufficient scale to provide the required level of benefit and achieve the schemes main objectives.

Table A.13: East Assessment Summary

Assessment Option	Scale of Impact (1-5)	Fit with Transport and Gov. Objectives (1-5)	Economic Growth	Carbon Emissions	Socio-distributional Impacts	Local Environment	Well Being	Expected VfM Category
Junction Only Improvements	1	3	Red/amber	Amber	Amber	Amber	No Impact	Medium 1.5-2
Online WS2+1 Improvements	2	2	Red/amber	Amber	Amber	Amber	Red/amber	Poor <1
Online Dualling WO Demolition	2	2	Red/amber	Amber	Amber	Amber	No Impact	Low 1-1.5
Online Dualling with Demolition	4	3	Amber/green	Amber	Amber	Red/amber	Amber	Low 1-1.5
New Offline S2 Route	3	2	Red/amber	Amber	Amber	Amber	No Impact	Low 1-1.5
New Offline D2 Route (Routes A-C)	5	4	Green	Amber	Amber/green	Amber	No Impact	High 2-4

9.10 Summary and Modelling Results

9.10.1 The results in Table A.4 overleaf present network summary statistics for all low-cost options as well as each of the three offline dualling route options. Total model travel time expressed in PCU hours is compared to the forecast DM scenario. Results are present for both the scheme opening (2026) and horizon (2041) years across AM, Inter-Peak (IP) and PM time periods.

9.10.2 The results presented indicate that all of the identified low-cost options offer relatively minor user benefits and journey time savings relative to the DM as the three proposed offline dualling options. Offline dualling route options A to C all provide a relative model total travel time saving of between 13% and 16% in AM and PM time periods relative to the DM by 2041.

9.11 Low cost option 1

9.11.1 Junction only improvements are shown to provide some travel time savings in the PM time period, with a 9% reduction in total model travel time by 2041 relative to the DM. However, a low travel time reduction during the AM (1.9%) and no travel time savings during the IP indicate this option does not deliver the required increase in network capacity and travel time saving to achieve each of the main objectives of the scheme. These travel time reductions are relatively small compared to those provided by offline dualling options A to C.

9.11.2 The scope of junction improvements has also been limited to junctions close to Peterborough, with improvements already proposed to Guyhirn roundabout and junctions around Wisbech in the DM scenario. As a result, this option will not assist in delivering aspirational housing growth and development ambitions around Wisbech and in the Fenland area.

9.12 Low cost options 2A and 2B

- 9.12.1 Provision of WS2+1 both with and without property acquisition is shown to provide a low travel time saving compared to each of the three offline dualling options relative to the DM scenario. Low cost option 2A provides a modelled travel time savings of 2.2% (AM) and 1.8% (PM) in 2041 relative to the DM. Low cost option 2B provides a slightly increased travel time saving of 3.2% (AM) and 2.8% (PM) in 2041 relative to the DM. Both options provide significantly reduced journey time savings as compared to offline dualling route options A to C.
- 9.12.2 As mentioned previously, core scenario traffic flows are forecast to rise above the maximum flow ranges and design capacity of WS2+1 carriageway in provide journey time savings and reliability benefits. As a result, WS2+1 carriageway is not considered to provide sufficient capacity improvements to meet the main scheme objectives and deliver wider housing and economic growth ambitions.

9.13 Low cost options 3 and 4

- 9.13.1 Online dualling both with and without property acquisition is shown to deliver significantly less travel time savings compared to each of the three offline dualling options relative to the DM scenario. Low cost option 3 (without property acquisition) provides a modelled travel time savings of 3.5% (AM) and 3.0% (PM) in 2041 relative to the DM. Low cost option 4 (with property acquisition) provides a slightly increased travel time saving of 5.7% (AM) and 5.8% (PM) in 2041 relative to the DM.
- 9.13.2 Similar to WS2+1 options, online dualling is shown to provide significantly reduced journey time savings as compared to offline dualling route options A to C. It is also noted that these options would not necessarily be considered low cost, with a requirement for traffic management during construction phases increasing scheme costs and providing disbenefit to existing road users.

9.14 Low Cost Option 5

- 9.14.1 Low cost option 5 for online dualling with discrete offline dualling sections is considered to be broadly in line with proposals offline dualling route option C. As a result, modelling result presented are identical to for route option C.

9.15 Low cost option 6

- 9.15.1 Provision of a new offline S2 carriageway alignment of the A47 is shown to provide significantly lower travel time savings across each of the future forecast time periods as compared to offline dualling options. Low cost option 6 provides a modelled travel time savings of 9.1% (AM) and 3.7% (PM) in 2041 relative to the DM. These travel time savings are significantly less than those provided by offline dualling route option A, which follows an identical alignment, and gives reductions of 15.3% (AM) and 13.3% (PM) by 2041 relative to the DM.
- 9.15.2 Significant construction costs are likely to be incurred with development of a new offline carriageway regardless of the standard of carriageway constructed, and likely to give a reduced BCR value as compared to and offline D2 scheme.

Table A.4: Low Cost Option Modelling Summary Statistics

Scenario	Year	Time Period	Total Travel Time (PCU hrs)				
			Current Time Period	Next Time Period	Total	Change from DM	% Change from DM
DM	2026	AM	2825	254	3079	-	
		IP	1862	118	1980	-	
		PM	2461	159	2620	-	
	2041	AM	4132	799	4931	-	
		IP	2374	203	2577	-	
		PM	3454	712	4166	-	
Low Cost Option 1 – Junction Only Improvements	2026	AM	2797	251	3048	-31	-1.0%
		IP	1862	118	1980	0	0.0%
		PM	2399	93	2492	-128	-4.9%
	2041	AM	4060	777	4837	-94	-1.9%
		IP	2372	204	2576	-1	0.0%
		PM	3364	425	3789	-377	-9.0%
Low Cost Option 2A – WS2+1 WO Demolition	2026	AM	2791	257	3048	-31	-1.0%
		IP	1833	118	1951	-29	-1.5%
		PM	2419	156	2575	-45	-1.7%
	2041	AM	3994	829	4823	-108	-2.2%
		IP	2331	203	2534	-43	-1.7%
		PM	3390	701	4091	-75	-1.8%
Low Cost Option 2B – WS2+1 with Demolition	2026	AM	2771	257	3028	-51	-1.7%
		IP	1820	117	1937	-43	-2.2%
		PM	2400	155	2555	-65	-2.5%
	2041	AM	3952	821	4773	-158	-3.2%
		IP	2314	203	2517	-60	-2.3%
		PM	3351	699	4050	-116	-2.8%
Low Cost Option 3 – Online Dualling WO Demolition	2026	AM	2698	255	2953	-126	-4.1%
		IP	1771	116	1887	-93	-4.7%
		PM	2355	154	2509	-111	-4.2%
	2041	AM	3894	866	4760	-171	-3.5%
		IP	2248	200	2448	-129	-5.0%
		PM	3357	684	4041	-125	-3.0%
Low Cost Option 4 – Online Dualling with Demolition	2026	AM	2634	253	2887	-192	-6.2%
		IP	1725	115	1840	-140	-7.1%
		PM	2284	149	2433	-187	-7.1%
	2041	AM	3798	851	4649	-282	-5.7%
		IP	2190	199	2389	-188	-7.3%
		PM	3246	679	3925	-241	-5.8%
Low Cost Option 5 (as Route Option C)	2026	AM	2425	178	2603	-476	-15.5%
		IP	1615	113	1728	-252	-12.7%
		PM	2107	119	2226	-394	-15.0%
	2041	AM	3472	670	4142	-789	-16.0%
		IP	2064	200	2264	-313	-12.1%
		PM	2996	550	3546	-620	-14.9%
Low Cost Option 6 – Offline S2 Route	2026	AM	2613	184	2797	-282	-9.2%
		IP	1761	117	1878	-102	-5.2%
		PM	2337	185	2522	-98	-3.7%
	2041	AM	3809	672	4481	-450	-9.1%
		IP	2237	206	2443	-134	-5.2%
		PM	3243	768	4011	-155	-3.7%
Offline Dualling - Route Option A	2026	AM	2457	181	2638	-441	-14.3%
		IP	1665	115	1780	-200	-10.1%
		PM	2159	123	2282	-338	-12.9%
	2041	AM	3490	687	4177	-754	-15.3%
		IP	2118	203	2321	-256	-9.9%
		PM	3049	562	3611	-555	-13.3%
Offline Dualling - Route Option B	2026	AM	2442	179	2621	-458	-14.9%
		IP	1633	113	1746	-234	-11.8%
		PM	2127	119	2246	-374	-14.3%
	2041	AM	3486	684	4170	-761	-15.4%
		IP	2085	201	2286	-291	-11.3%
		PM	3017	551	3568	-598	-14.4%
Offline Dualling - Route Option C	2026	AM	2425	178	2603	-476	-15.5%
		IP	1615	113	1728	-252	-12.7%
		PM	2107	119	2226	-394	-15.0%
	2041	AM	3472	670	4142	-789	-16.0%
		IP	2064	200	2264	-313	-12.1%
		PM	2996	550	3546	-620	-14.9%

9.16 Conclusions

- 9.16.1 Each of the identified low-cost options is not considered significant enough in scale to achieve the main objectives of the dualling scheme or provide sufficient network capacity to deliver the levels of economic growth and development proposed for the study area corridor in future years. Monetised benefits in addition to travel time savings are also likely to be realised from a dualling scheme as compared to each of the identified low cost options during later stages of scheme appraisal, including a reduction in traffic collisions, journey time reliability benefits and increased economic development unlocked by additional network capacity.

Appendix B: Outline Options Development

A.1 Junction Strategy

An early assessment on junction capacity has shown that the junction strategy for the dualling of the A47 is for all junctions to be at-grade, with key junctions formed as roundabouts. There appears to be no justification for grade separated junctions, although passive designs could be made for future-grade separation if considered appropriate.

Most at-grade junction can be designed to accommodate a maximum one-way entry flow of up to 2,000 vehicles and hour, which is within the forecast flow of the A47 expected in the next 20 years.

A.2 Route Description and Key Constraints

The existing route of the A47 carriageway between the A47 / A16 junction in the west (near Peterborough) and the A47/ Lynn Road junction in the east (north east of Wisbech) has been broken down into four individual route sections for which engineering options will be considered for the proposed dualling of the A47.

- Section 1 (A16 to Thorney Bypass)
- Section 2 (Thorney Bypass to Guyhirn)
- Section 3 (Guyhirn to Wisbech)
- Section 4 (Wisbech Bypass)

A general description of each section as well as the key design constraints and considerations within each can be found below.

Section 1 (A16 to Thorney Bypass)

Section 1 runs between the A47/ A16 roundabout at Peterborough in the west and Thorney Bypass (existing dual carriageway) in the east. The existing A47 alignment takes an almost straight line between these two locations. There are two existing roundabouts positioned along this route providing access to the village of Eye and for the A1139. In addition, there are a small number of residential and agricultural premises fronting onto the existing highway between Eye Green and Thorney Bypass, as well as Pode Hole Quarry which has direct access onto the A47. Thorney Road to the east of Eye Village also forms a minor arm at a priority junction with the A47 leading directly into the centre of Eye Village.

Overhead electric cables supported by pylons cross the existing A47 at one location along this section. Most of this section lies outside of the flood zone with only a short length of the A47 at the eastern extent lying within the flood zone. Due to the proximity of the area to flood zone 3, it is anticipated that road levels will need to be maintained and possibly raised to account for future climate change projections.

All route options within this section involve upgrading the westernmost 2.5km of existing carriageway from single to dual carriageway along its current alignment. This section of carriageway is currently 10m wide single carriageway, and extends between the A47/A16 roundabout at Peterborough and the A47/ Crowland Road roundabout at Eye. There are no existing premises along this section, meaning that construction would require little demolition.

Two shared footway bridges cross Section 1, one located near the A47/ A1139 Junction near Eye, and a second located near Eye Green. Neither bridge is currently wide enough to accommodate a 2-lane dual carriageway along the existing alignment and will need to be accommodated or replaced in the development of route options.

Section 2 (Thorney Bypass to Guyhirn)

Section 2 runs between Thorney Bypass (existing dual carriageway) to the west and Guyhirn roundabout between the A47 and A141 to the east. The existing A47 carriageway takes a direct straight line between these two locations and has a number of residential, agricultural and industrial premises fronting onto the highway, particularly around Thorney Toll located approximately half way long Section 2.

Immediately to the west of Guyhirn roundabout, the A47 crosses the River Nene. A SSSI runs in a south westerly direction along the River Nene to the south of the existing A47 carriageway, forming a major constraint on route options at this location. All routes have been designed to avoid encroachment onto this SSSI. Highways England have developed a scheme to upgrade the existing Guyhirn roundabout to increase capacity⁴. All proposed route options in this section are considered to tie into this Highways England scheme.

The whole of Section 2 is located within flood zone 3, and based on advice given in Royal Haskoning's Flood Risk Report, the existing carriageway levels along this section should as a minimum be maintained. It is however anticipated that the road levels will need to be increased to satisfy climate change projections.

Section 3 (Guyhirn to Wisbech)

Section 3 runs between the Guyhirn roundabout junction to the south and the A47/ A198 Cromwell Road roundabout junction to the north. The B198 Cromwell Road forms one of three main access roads into Wisbech town centre. As was the case for Section 2, Route options within Section 3 are considered to tie into the proposed Highways England scheme at Guyhirn roundabout.

⁴ <https://highwaysengland.citizenspace.com/he/a47-guyhirn-junction-improvement/>

The existing A47 alignment runs parallel to the River Nene along the entirety of Section 3. There are a number of side roads from the existing alignment serving residential and agricultural premises. There are environmental constraints along the river to the west; therefore all options along this section do not encroach any land to the west of the existing A47 alignment. Other major constraints along this section are located to the east of the existing alignment include electricity pylons and the abandoned rail line between Wisbech and March. In July 2017 Fenland District Council (FDC) secured £3.2m funding to peruse a GRIP-3 study to test engineering options to reopen the abandoned line between March and Wisbech⁵. All options crossing the rail line will include a structure to meet Network Rail clearance standards.

The whole of Section 3 is located within flood zone 3, and based on advice given in Royal Haskoning's Flood Risk Report, as a minimum the road will require embankments, and it is anticipated that the embankment heights will require raising to ensure that future climate change projections are met and ensure that the road is not at risk of flooding from any source. In addition, it is recommended that the proposed route does not cross the Waldersey Main Drain which is located to the east of the existing A47 alignment.

Section 4 (Wisbech Bypass)

Section 4 runs between the A47/ A198 Cromwell Road roundabout junction to the south-west and the A47/ Lynn Road roundabout junction to the north-east. This section of the A47 along its existing alignment forms Wisbech Bypass. From the A47/ Lynn Road junction northwards, the A47 is dual carriageway until the A47/ Pullover Road junction approaching Kings Lynn. The existing A47 runs around the perimeter of Wisbech. Within this section there are a number of existing and proposed junctions linking into the town of Wisbech.

All land between Wisbech and the existing A47 alignment has been earmarked development, with a number of FDC Local Plan site allocations to the east, south and west of the town. In addition, wider development proposals for Wisbech Garden Town (WGT) have emerged since the adoption of the FDC Local Plan, with an estimated 10,000 to 12,000 dwellings and associated amenities planned. These development proposals form a major constraint through Section 4.

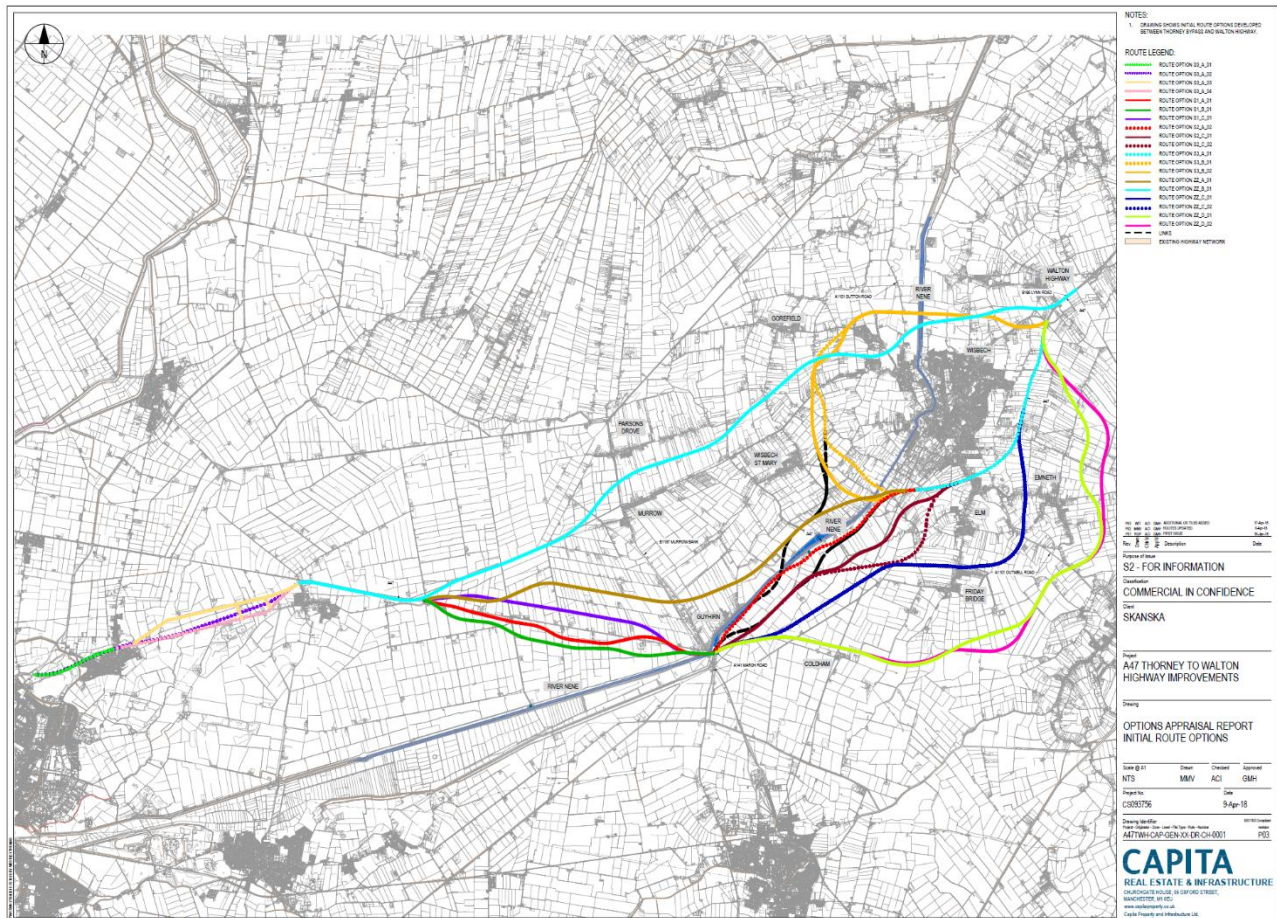
Overhead electric cables supported by pylons cross the existing A47 at three separate locations along this section. Over 50% of this section is located within flood zone 3, and based on recommendations made in the Royal Haskoning Flood Risk Report, embankments will need to be maintained and possibly increased to account for future climate change projections.

A.3 Proposed Route Alignment Options

Proposed route alignment options for the various A47 route sections can be found below and are presented in Figure B.10. A number of options extend across multiple sections and are detailed as appropriate.

⁵ <https://wisbechrail.org.uk/2017/07/11/wisbechrail-update-grip-3-funded/>

Figure B.10: A47 Dualling Scheme Route Options



Section 1 (A16 to Thorney Bypass)

Route 1.1 and Route 1.4: Option S0 A 03 (Section 1)

- **Route 1.1:** Dual Carriageway immediately to the north of the existing A47
- **Route 1.4:** As Route 1.1 as one way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic

Routes 1.1 and 1.4 are proposed for Section 1 of the A47 corridor. Route 1.1 is considered as a dual carriageway arrangement, while Route 1.4 is considered as a single carriageway arrangement. Both route options take an alignment that runs neatly along field boundaries to the north, taking the A47 away from properties fronting directly onto the existing highway. However, the alignment does run close to agricultural premises set back from the A47.

The route ties in along Thorney bypass to the north of the A47/ B1167 roundabout. The proposal also offers two links back to the existing alignment, one serving Pode Hole Quarry, and the other back to the B1167 roundabout. Both route options are predominantly offline after the A47/ Eye Green junction with good buildability. There is an area of pond land close to the proposed alignment for this option, so environmental constraints and localised issues with construction may be encountered.

Route 1.1 Summary:

- Length: 8,096m
- Indicative Cost: £40m
- No of junctions: 6
- No of bridges: 2
- No of culverts: 15

Route 1.4 Summary:

- Length: 8,096m
- Cost: £29m
- No of junctions: 6
- No of bridges: 2
- No of culverts: 15

Route 1.2: Option S0_A_02 (Section 1)

- **Route 1.2:** Part online and offline Dual Carriageway to the north of the existing A47 (predominantly following path of disused railway)

This route option is proposed for Section 1 of the A47 corridor. It involves widening an additional 1km of the existing A47 from the A47/ Crowland Road roundabout, moving eastwards. The remainder of the route then involves constructing a new dual carriageway to the north of the existing alignment and south of Option S0_A_03, tying in along Thorney Bypass to the north of the A47/ B1167 roundabout.

This route also takes the A47 away from properties fronting directly onto the existing highway, whilst the existing road can remain open to provide access. However, this option will have greater impact on agricultural premises that are set-back from the existing alignment and will cause land severance, leading to low stakeholder support. The route also crosses through an area of pond land to the north of the existing route which may impose environmental constraints, as well as pose difficulties during construction.

Route 1.2 Summary:

- Length: 7,868m
- Cost: £36m
- No of junctions: 5
- No of bridges: 2
- No of culverts: 7

[Route 1.3: Option S0 A 04 \(Section 1\)](#)

- **Route 1.3:** Fully online Dual Carriageway to the north of the existing A47.

This route option is proposed for Section 1 of the A47 corridor. This option is considered as a fully online option between the A16 and B1167 junctions, and utilises the full extent of the existing dual carriageway along Thorney bypass. There are a number of properties fronting directly onto the existing A47, meaning localised accommodation works will be required to maintain access, particularly to the quarry. As this option utilises the existing carriageway, it represents a lower cost option. However, due to the proximity to existing residential, industrial and agricultural premises, stakeholder support is likely to be low. Working on the existing line and maintaining traffic during construction will impose constraints on the construction phase.

[Route 1.3 Summary:](#)

- Length: 7,022m
- Cost: £18m
- No of junctions: 4
- No of bridges: 2
- No of culverts: 5

[Section 2 \(Thorney Bypass to Guyhirn\)](#)

[Route 2.1: Option S1 A 01 \(Section 2\)](#)

- **Route 2.1:** Online dualling of the A47

Route 2.1 is proposed for Section 2 of the A47 corridor. An option between Thorney and Guyhirn that utilises as much of the existing carriageway as possible has been considered. A fully on-line option along this section was not feasible due to properties fronting onto the existing A47, particularly around Thorney Toll. This route generally stays south of the existing A47 alignment, running close to Thorney Toll and other agricultural properties along the existing route. The route crosses the existing alignment to the west of Guyhirn to provide a link back to existing local infrastructure. A number of accommodation bridges are required to provide access to isolated properties to the south of the route, where access is currently only provided from the existing A47. Whilst this route could be constructed in phases and offer better value for money by utilising the existing carriageway in places, the proximity to existing residential, agricultural and industrial premises will negatively impact on buildability and stakeholder support.

[Route 2.1 Summary:](#)

- Length: 8,464m
- Cost: £70m
- No of junctions: 5
- No of bridges: 6
- No of culverts: 17

[Route 2.2: Option S1_B_01 \(Section 2\)](#)

- **Route 2.2:** Dualling of the A47 south of the existing A47

This route option is proposed for Section 2 of the A47 corridor. Route Option S1_B_01 has been considered as an alternative to route 2.1 and is located further south of the existing A47 alignment. This route utilises less of the existing carriageway, but imposes less impact on existing properties along the existing route. The route also runs more neatly along existing field boundaries, reducing land severance. A number of accommodation bridges are required to provide access to isolated properties to the south of the route, where access is currently only provided from the existing A47. This route doesn't offer the opportunity to utilise any of the existing carriageway and consequentially has a higher cost than route 2.1. However, due to the location away from existing residential, agricultural and industrial premises this option will benefit from improved buildability and better stakeholder support. The alignment running to the south of the A47 will also have low communal severance between the existing alignment and population centres located to the north.

[Route 2.2 Summary:](#)

- Length: 8,474m
- Cost: £71m
- No of junctions: 4
- No of bridges: 6
- No of culverts: 16

[Route 2.3: Option S1_C_01 \(Section 2\)](#)

- **Route 2.3:** Dualling of the A47 north of the existing A47

This route option is proposed for Section 2 of the A47 corridor. Route Option S1_C_01 has been considered as an option running to the north of the existing A47 alignment. This option utilises none of the existing carriageway, which will remain open to provide access to properties along the existing A47 and isolated properties to the south. The route is able to neatly follow the field boundaries along the alignment, reducing land severance. The route does impact on residential, agricultural and industrial premises to the north of the A47, whilst also impacting on the wider highway network. For these reasons, the stakeholder support will not be as high with this route when compared to route 2.2. In addition, the proposed alignment will segregate properties along the existing A47 from villages to the north. Due to the impact on the wider highway network and the proximity to residents, phasing potential and general buildability is not as good as route 2.2.

[Route 2.3 Summary:](#)

- Length: 8,462m
- Cost: £75m
- No of junctions: 3
- No of bridges: 6
- No of culverts: 26

Route 2.4: Option ZZ A 01 (Sections 2 and 3)

- **Route 2.4:** Offline dualling Thorney to Wisbech north of Guyhirn village

Route 2.4 extends over Section 2 and Section 3 of the A47 corridor, tying into the A47/B1167 Wisbech Road junction to the west, and the A47/B198 Cromwell Road junction to the east. The route runs through the north end of Guyhirn village, and remains to the west of the River Nene. A new structure over the Nene is required where the route crosses adjacent to the A47/B198 Cromwell Road junction tie in. As the route bypasses the Guyhirn roundabout, a junction is proposed with the B1187 at Guyhirn which would provide a link through to the A141 road to March, whilst the existing A47 remaining open will also provide a link.

Due to the isolated nature of much of the route, the buildability is good, however there is limited scope to phase the build. In addition, much of the route avoids impacting on existing properties and half of the route to the west of Guyhirn runs neatly along field boundaries, avoiding land severance. However, the route does cut through the north end of Guyhirn which will result in communal severance. Due to the offline nature and the new river crossing, this route does represent an expensive option.

Route 2.4 Summary:

- Length: 14,593m
- Cost: £96m
- No of junctions: 3
- No of bridges: 7
- No of culverts: 24

Route 2.5 and Route 2.6: Option ZZ B 01 (Sections 2, 3 and 4)

- **Route 2.5:** Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
- **Route 2.6:** Offline dualling Thorney to Walton Highway running to the north of Wisbech

Both Routes 2.5 and 2.6 follow the same alignment and encompass sections 2, 3 and 4. The route ties into the A47/ B1167 Wisbech Road junction to the south west and ties back into the A47 to the north of the A47/Lynn Road roundabout where the existing carriageway is already dual carriageway. The route alignment takes the most direct route between these two points, and is therefore the shortest end to end route on the scheme. However, this option is located furthest away from the existing A47 alignment, and therefore does not utilise any of the existing carriageway.

This route provides the opportunity to keep the existing A47 route open from start to finish, and therefore presents an opportunity to provide a single carriageway along this alignment. Therefore, Route 2.5 is presented as a single carriageway option, and Route 2.6 as a dual carriageway option. The single carriageway option provides a lower cost alternative whilst still providing good links for development and improving journey times. The dual carriageway option, whilst being more expensive, offers even further growth potential. Whilst not easily able to phase this route due to the isolated nature of the alignment, the buildability is good due to the lack of interference from surrounding infrastructure.

The alignment runs between the villages of Parsons Drove and Murrow and remains north of Wisbech St Mary, where junction links with the B1187 and the B1166 are suggested respectively. The route runs north of Wisbech and is ideally located to provide a link into the area allocated for future growth to the West of Wisbech. A junction is suggested to the south of Leverington village, which would provide this link. A new structure over the Nene is required where the route crosses the river to the north of Wisbech.

Route 2.5 Summary:

- Length: 21,721m
- Cost: £92m
- No of junctions: 5
- No of bridges: 14

Route 2.6 Summary:

- Length: 21,721m
- Cost: £135m
- No of junctions: 5
- No of bridges: 14

Section 3 (Guyhirn to Wisbech)

Route 3.1: Option S2 A 02 (Section 3)

- **Route 3.1:** Online dualling of the A47

This route option is proposed for Section 3 of the A47 corridor. Route 3.1 has been considered to realise an option between Guyhirn and Wisbech that utilises as much of the existing A47 carriageway as possible. Due to the number of side roads, residential and agricultural premises connecting onto the existing carriageway, this route runs to the east of the existing carriageway along the northern section of the route. The southernmost portion of this route remains along the line of the existing carriageway, whilst eliminating the sub-standard horizontal curvature immediately north of Guyhirn roundabout.

Whilst this route could be constructed in phases and offer better value for money by utilising the existing carriageway in places, the proximity to existing residential, agricultural and industrial premises has negative impacts on the buildability as well as the stakeholder support.

Route 3.1 Summary:

- Length: 7,545m
- Cost: £43m
- No of junctions: 3
- No of bridges: 5
- No of culverts: 7

Route 3.2 (Option S2 C 01) and Route 3.3 (Option S2 C 02)

- **Route 3.2:** Dualling of the A47 south / east of the existing alignment
- **Route 3.3:** Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout.

Routes 3.2 and 3.3 also cover Section 3 of the A47 corridor and have been considered as alternative options to Route 3.1 and are located further east of the existing A47 alignment. Both routes run neatly along field boundaries and existing watercourses along the first half of the route, minimising land severance. A number of accommodation bridges will however be required.

The two routes take alternative alignments around the village of Begdale. Route 3.2 remains west of the village, and is consequentially able to form a junction linking to Wisbech in closer proximity to the existing A47/B198 roundabout. However, to maintain standard horizontal geometry, the route requires a skew structure over the abandoned rail line. Route 3.3 runs to the east of Begdale meaning it is therefore unable to form a link back to the A47/B198 junction, limiting growth potential. This route is able to achieve a more perpendicular crossing of the rail line, but crosses the line of pylons which has an impact on the buildability of the route.

Both routes offer good buildability, with route 3.2 fairing slightly better, however, both routes represent more expensive options when compared with option 3.1 due to both routes being unable to utilise any of the existing carriageway.

Route 3.2 Summary:

- Length: 8,587m
- Cost: £55m
- No of junctions: 3
- No of bridges: 7
- No of culverts: 13

Route 3.3 Summary:

- Length: 8,915m
- Cost: £53m
- No of junctions: 3
- No of bridges: 7
- No of culverts: 19

Route 3.4: Option S2 B 01 (Section 3)

- **Route 3.4:** Hybrid of Routes 3.1, 3.2 and 3.3

Route 3.4 is a hybrid option of Route 3.1 and Route 3.2/ 3.3. The alignment follows the line of route 3.2 for the southern half, before linking over to the alignment of route 3.1 to the north. This route does not utilise any of the existing carriageway but runs closer to south Wisbech providing a good junction opportunity and aiding growth potential.

The route generally provides good buildability with clear opportunities for phasing. However, the route does not provide the cost benefits of being able to utilise some of the existing carriageway.

Route 3.4 Summary:

- Length: 7,582m
- Cost: £50m
- No of junctions: 3
- No of bridges: 4
- No of culverts: 18

Route 3.5: Option ZZ C 01 (Section 3)

- **Route 3.5:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Elm but north Emneth and Friday Bridge

Route 3.5 spans Section 3 and much of Section 4. The alignment runs from Guyhirn roundabout before tying into the existing A47 carriageway to the east of Wisbech. The route runs parallel alongside the existing pylons to the east of the existing A47, before dissecting the villages of Friday Bridge, Elm and Emneth. Due to the densely built up area around these villages, this route adversely impacts on existing residential and agricultural premises, whilst also imposing significant land and communal severance. In addition, the route passes close to buildings of historical importance in Emneth and crosses the Waldersey Main Drain, going against recommendations made regarding flood risk.

The buildability of this route is not as good as other options considered through section 3, due to the proximity to pylons and building through built up areas. Furthermore, this route moves further away from the majority of the areas surrounding Wisbech which are earmarked for future growth. Due to these reasons, stakeholder support for this route is likely to be low, and the cost will be higher than many of the alternative options.

Route 3.5 Summary:

- Length: 13,275m
- Cost: £70,000,00
- No of junctions: 3
- No of bridges: 5
- No of culverts: 24

Route 3.6 (Option ZZ D 01) and Route 3.7 (Option ZZ D 02)

- **Route 3.6:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Emneth and Friday Bridge
- **Route 3.7:** Similar to Route 3.6

Route 3.6 and Route 3.7 routes have been considered as two similar routes spanning Sections 3 and 4 and avoiding the densely populated areas of the town of Wisbech and the surrounding villages of Elm, Emneth and Friday Bridge. Due to the urban nature of the area to the south east of Wisbech as described in other route options, it is difficult to provide a corridor through this area that doesn't adversely affect existing properties. These two longer routes run much further south east than the previous routes, but succeed in avoiding built up areas.

The route ties in at the A47/A141 Guyhirn roundabout to the south, and the A47/Lynn Road roundabout to the north. The alignment runs north of Coldham, south of Friday Bridge and south east of Elm and Elmeth. A junction link is suggested with the A1101 to provide a link back to Wisbech, as well as south to Outwell and beyond.

Despite limiting adverse impact on existing properties, this route is an expensive option that does not deliver growth opportunity to the town of Wisbech due to the lack of proximity. Whilst there is potentially good buildability associated with these routes, the land to the north of Emneth village is densely occupied by watercourses, which may cause some issues with the construction. In addition, this route crosses the Waldersey Main Drain, going against recommendations made regarding flood risk.

Route 3.6 Summary:

- Length: 18,971m
- Cost: £98m
- No of junctions: 3
- No of bridges: 10
- No of culverts: 32

Route 3.6 Summary:

- Length: 19,438m
- Cost: £100m
- No of junctions: 3
- No of bridges: 10
- No of culverts: 32

Section 4 (Wisbech Bypass)

Route 4.1: Option S3 A 01 (Section 4)

- Route 4.1: Online dualling of the A47

Route 4.1 has been considered as an entirely online upgrade of the existing A47 carriageway between the A47/B198 roundabout and the A47/Lynne Road roundabout. Additional junctions are proposed in line with recommendations made in the Wisbech Access Studies; in addition, a new structure is suggested over the abandoned rail line which crosses the existing A47.

Much of the land around the existing A47 carriageway is open and free from existing properties, lending itself to an online widening option. However, the existing junction between the A47 and Elm High Road imposes a pinch point due to the proximity of residential properties to the existing A47 and the presence of pylons with electricity cables passing directly over the roundabout. A number of junction arrangements have been considered at this location, concluding that some impact on the surrounding properties is unavoidable.

The buildability of this option is good and the construction can be easily phased. By retaining the existing alignment and utilising the existing carriageway, a low cost solution and high growth potential can be realised.

Route 4.1 Summary:

- Length: 6,991m
- Cost: £31m
- No of junctions: 5
- No of bridges: 1
- No of culverts: 5

[Route 4.2 \(Option S3 B 01\) and Route 4.3 \(Option S3 B 02\)](#)

- Route 4.2: Northern Orbital of the Wisbech
- Route 4.3: Variation on Route 4.2

Routes 4.2 and 4.3 provide alternative routes around the western side of the town of Wisbech, compares with all other routes considered in this assessment. The routes loosely follow the extent of the land allocated for future growth as part of the Wisbech Garden Town plans. The routes tie in to the A47/B198 junction to the south and run west around the town, tying into the A47/Lynn Road junction to the north. Intermediate junctions with the B1169 north east of Wisbech St Mary and the A1101 east of Leverington are suggested, providing links to areas of future growth potential.

However, these routes require two new crossings of the River Nene and are 4 – 5km longer than the online option 4.1, meaning that the cost is higher. The additional river crossing also negatively affect the buildability of the routes, whilst the longer route around the town mean that the effectiveness at reducing congestion is much lower than other routes considered.

[Route 4.2 Summary:](#)

- Length: 11,625m
- Cost: £83m
- No of junctions: 4
- No of bridges: 9
- No of culverts: 18

[Route 4.3 Summary:](#)

- Length: 12,952m
- Cost: £91m
- No of junctions: 4
- No of bridges: 10
- No of culverts: 29

Appendix C: Initial Option Appraisal

B.1 Introduction

The long list of options have been initially appraised against the Combined Authority's Strategic Case assessment, whose Core Objectives are closely aligned to the A47 scheme primary objectives. Each Option was scored against each of the objectives on a seven-point scale from +3 to -3, as follows:

- +3 major benefit at a regional level
- +2 major benefit at a more local level or more minor benefit at a regional level
- +1 minor benefit at a local level
- 0 neutral: no impact
- -1 minor disbenefit or negative impact at a local level
- -2 major disbenefit at a more local level or more minor benefit at a regional level
- -3 major disbenefit at a regional level

The approach to this work was to undertake the scoring and analysis and then to identify those options that did not “perform” well. The impacts of these options were then re-considered: certain measures were then included within the shortlist and others were rejected. This review process ensured that proper consideration would be given to schemes that merit further consideration, whilst recognising that certain options could not be further justified, on the grounds that they would not meet the objectives for the study area.

The objective of this process was not to rank these measures but to identify the measures that should be taken forward and those that are unlikely to meet the objectives for the A47 study.

B.2 Assessment

Section 1 (A16 to Thorney Bypass)

Comments

- **Route 1.1:** Dual carriageway immediately to the north of the existing A47
- **Route 1.2:** Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
- **Route 1.3:** Fully online dual carriageway to the north of the existing A47.
- **Route 1.4:** As Route 1.1 as one way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic

Table C.1 – Section 1 (A16 to Thorney Bypass) Initial Option Assessment

	Strategic		Economic		Financial	Management				
Route	Reduce congestion	Unlock housing and jobs	Scale of impact	Expected VfM	Other funding sources / contributors	Delivery certainty	Project risks	Stakeholder support	Buildability	Total Score
1.1	3	3	2	2	2	3	2	2.5	3	22.5
1.2	3	3	2	2	2	2	1	0	1	16
1.3	3	3	3	2	2	1	1	-1	0	14
1.4	3	3	4	1	2	2	1	0	1	17

Note:

- Route 1.3: Should be rejected as it is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction.

Section 2 (Thorney Bypass to Guyhirn)Comments

- Route 2.1:** Online dualling of the A47
- Route 2.2:** Dualling of the A47 to the south of the existing A47
- Route 2.3:** Dualling of the A47 to the north of the existing A47
- Route 2.4:** Offline dualling Thorney to Wisbech north of Guyhirn village
- Route 2.5:** Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
- Route 2.6:** Offline dualling Thorney to Walton Highway running to the north of Wisbech

Table C.2 – Section 2 (Thorney Bypass to Guyhirn) Initial Option Assessment

	Strategic		Economic		Financial	Management				
Route	Reduce congestion	Unlock housing and jobs	Scale of impact	Expected VfM	Other funding sources / contributors	Delivery certainty	Project risks	Stakeholder support	Buildability	Total Score
2.1	3	3	3	1	2	1	0	-2	0	11
2.2	3	3	3	1	2	2	2	2	3	21
2.3	3	3	3	1	2	2	1	1	1	17
2.4	3	3	3	2	1	1	2	2	3	20
2.5	3	3	3	3	2	1	2	2	3	22

2.6	3	4	3	2	1	1	2	2	3	21
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Note:

- Route 2.1: Should be rejected as it is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction.
- Routes 2.4, 2.5 and 2.6 cannot be readily phased
- Route 2.6 has the biggest potential to unlock Wisbech Garden Town and maximise wider economic benefits.

Section 3 (Guyhirn to Wisbech)Comments

- **Route 3.1:** Online dualling of the A47
- **Route 3.2:** Dualling of the A47 south / east of the existing alignment
- **Route 3.3:** Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout.
- **Route 3.4:** Hybrid of Routes 3.1, 3.2 and 3.3
- **Route 3.5:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Elm but north Emneth and Friday Bridge
- **Route 3.6:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Emneth and Friday Bridge
- **Route 3.7:** Similar to Route 3.6

Table C.3 – Section 3 (Guyhirn to Wisbech) Initial Option Assessment

	Strategic		Economic		Financial	Management				
Route	Reduce congestion	Unlock housing and jobs	Scale of impact	Expected VfM	Other funding sources / contributors	Delivery certainty	Project risks	Stakeholder support	Buildability	Total Score
3.1	3	3	3	1	2	-2	-1	-1	-1	7
3.2	3	3	3	1	2	2	2	2	3	21
3.3	3	3	3	1	2	2	1	1	2	18
3.4	3	4	3	1	2	2	2	2	3	22
3.5	3	1	2	3	1	2	1	-1	2	14
3.6	2	1	1	1	1	2	3	0	3	12
3.7	2	1	1	1	1	2	3	0	3	12

Note:

- Route 3.1: Should be rejected as it contains too many project risks

- Routes 3.5, 3.6 and 3.7 should be rejected as they would fail to deliver housing growth around Wisbech, due to their routing with regard to Wisbech.

Section 4 (Wisbech Bypass)

Comments

- **Route 4.1:** Online dualling of the A47
- **Route 4.2:** Northern Orbital of the Wisbech
- **Route 4.3:** Variation on Route 4.2

Table C.4 – Section 3 (Wisbech Bypass) Initial Option Assessment

	Strategic		Economic		Financial	Management				
Route	Reduce congestion	Unlock housing and jobs	Scale of impact	Expected VfM	Other funding sources / contributors	Delivery certainty	Project risks	Stakeholder support	Buildability	Total Score
4.1	3	3	3	3	2	2	2	1	2	21
4.2	1	1	2	-1	1	1	0	1	1	9
4.3	1	2	2	-1	1	1	0	1	1	10

Note:

- Routes 4.2 and 4.3 should be rejected as they will not reduce existing congestion on the A47 Wisbech bypass (being a longer route) and therefore are likely to offer poor value for money.

B.3 Summary

An early option assessment has been undertaken against the Combined Authority's Strategic Case core assessment criteria. On this basis, Table C.5 summarises the schemes that should be taken through to a more detailed within a separate Option Appraisal report.

Table C.5 – Summary of Routes to be Assessed in Further Detail

Section	Route	Route Description
Section 1 (A16 to Thorney Bypass)	Route 1.1	Dual carriageway immediately to the north of the existing A47
	Route 1.2	Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
	Route 1.4	As Route 1.1 as one way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic
Section 2 (Thorney Bypass to Guyhirn)	Route 2.2	Dualling of the A47 to the south of the existing A47
	Route 2.3	Dualling of the A47 to the north of the existing A47
	Route 2.4	Offline dualling Thorney to Wisbech north of Guyhirn village
Section 2 to 4 (Thorney Bypass to Walton Highway)	Route 2.5	Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
	Route 2.6	Offline dualling Thorney to Walton Highway running to the north of Wisbech
Section 3 (Guyhirn to Wisbech)	Route 3.2	Dualling of the A47 south / east of the existing alignment
	Route 3.3	Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout (B198).
	Route 3.4	Hybrid of Routes 3.2 and 3.3
Section 4 (Wisbech Bypass)	Route 4.1	Online dualling of the A47

Appendix D: Economic Assessment

C.1 Introduction

The Economic Case provides evidence of how the scheme is predicted to perform, in relation to its stated objectives, identified problems and targeted outcomes. The Economic Case determines if the proposed scheme is a viable investment, whose strengths outweigh its weaknesses and which provides good value for money.

The scheme appraisal of identified options focuses on those aspects of scheme performance that are relevant to the nature of the intervention. However, we do acknowledge the strands of assessment that are required under various pieces of statutory guidance (e.g. DfT WebTAG, VfM Assessment, LSTF HM Treasury 'Green Book').

The potential value for money of the A47 improvement scheme has been initially assessed based on spreadsheet modelling results of the average journey times comparing the 'with' and 'without' scheme scenarios. These results are available for the AM, Inter-Peak and PM peaks. A TUBA-like calculation for travel time savings for vehicle user classes has been undertaken to calculate an initial assessment of the option BCRs.

The purpose of the initial assessment is to determine whether it is likely such a scheme would offer a positive value for money and to undertake a qualitative assessment of the potential benefits between Routes.

C.2 Assumptions

The economic case has been developed based on the comparison of a 'without scheme' and the 'with scheme' (proposed dualling improvement options). An indicative cost estimate for each of the options has been provided based on applying standard cost rates to the route length and the number of junctions and structures required.

The following assumptions have been made in the development of the economic case:

- Scheme journey times applied to the 'with scheme' options are based on observed speeds for existing dualled sections of the A47
- Journey time savings for weekday AM and PM peak hours, have been annualised over 253 days (the standard number of working weekdays per annum). There is potential for benefits beyond the peak hours but these have not been accounted for
- Value of time per vehicle and journey purpose proportions are taken from the WebTAG DataBook (December 2017)
- Maintenance costs are included and are based on values taken from the QUADRO user manual
- Scheme opening year has been taken as 2026 and a horizon year assessment based on 2041
- Transport user benefits have been calculated for a 60-year appraisal period in line with WebTAG

- Optimism Bias has been applied at 44%, as recommended by WebTAG for this stage of assessment
- A risk allowance of 15% has been made on top of construction cost estimates
- Potential benefits for Public Transport users have not been included in the assessments
- Land costs for offline options have been taken as £10,000 per acre whilst widening options have been based on a land cost of £100,000 per acre as offline options are more likely to require agricultural land with no development “hope” value
- Preparation costs are based on 9% of construction costs, as used by the HE for its initial appraisals of schemes
- Supervision costs are based on 5% of construction costs, as used by the HE for its initial appraisals of schemes

C.3 Project Costs

The breakdown of the wider project cost estimates for the A47 Dualling Study options are summarised in Table D.1 below.

Table D.1 – Breakdown of Costs (2018 prices)

Option		Construction (£'000s)	Land (£'000s)	Preparation (£'000s)	Supervision (£'000s)	Total (£'000s)
1.1	Yellow (D2)	40,000	500	3,600	2,000	46,100
1.2	Purple Dotted	36,000	486	3,240	1,800	41,526
1.3	Pink Dotted	18,000	2,169	1,620	900	22,689
1.4	Yellow (S2)	29,000	250	2,610	1,450	33,310
2.1	Red	70,000	2,614	6,300	3,500	82,414
2.2	Green	71,000	523	6,390	3,550	81,463
2.3	Purple	75,000	523	6,750	3,750	86,023
2.4	Brown	96,000	901	8,640	4,800	110,341
2.5	Light Blue (S2)	92,000	671	8,280	4,600	105,551
2.6	Light Blue (D2)	135,000	1,342	12,150	6,750	155,242
3.1	Red Dotted	43,000	2,330	3,870	2,150	51,350
3.2	Claret	55,000	530	4,950	2,750	63,230
3.3	Claret Dotted	53,000	551	4,770	2,650	60,971
3.4	Black	50,000	468	4,500	2,500	57,468
3.5	Dark Blue	70,000	820	6,300	3,500	80,620
3.6	Lime Green	98,000	1,172	8,820	4,900	112,892
3.7	Pink	100,000	1,201	9,000	5,000	115,201
4.1	Light Blue Dotted	31,000	2,159	2,790	1,550	37,499
4.2	Orange Dotted	83,000	718	7,470	4,150	95,338
4.3	Orange	91,000	800	8,190	4,550	104,540

The costs presented in Table C.1 are based on standard unit prices per square metre of carriageway construction in the UK. The land costs are based on values per acre of £10,000 for farmland where the route is offline and £100,000 per acre where widening is to be achieved online or involves property demolition (as an average length over the route option).

Preparation and supervision costs have been based on standard values applied to Highways England schemes through the Project Appraisal Report process for a scheme at concept stage of 9% and 5% respectively.

C.4 Quantified Costs

For the purposes of the economic appraisal the project have been converted to 2010 market prices. The construction costs presented below are inclusive of land, supervision, preparations, risk and adjustment for optimism bias.

As the A47 dualling improvements are likely to result in the creation of new road space an initial estimate of the future maintenance costs has also been made. These are based on values provided within the QUADRO manual. For the purposes of the economic appraisal these have been converted to 2010 market prices.

Quantified costs for each of the route options is provided in Table D.2 below.

Table D.2 – A47 Dualling Options: Quantified Costs (2010 Market Prices)

Route	CONSTRUCTION	MAINTENANCE	TOTAL
1.1	£71,280,846	£1,467,039	£72,747,885
1.2	£64,208,314	£1,425,724	£65,634,038
1.3	£35,081,974	£526,768	£35,608,742
1.4	£51,504,621	£607,336	£52,111,957
2.1	£127,430,457	£634,942	£128,065,399
2.2	£125,960,300	£1,535,535	£127,495,835
2.3	£133,009,908	£1,533,360	£134,543,269
2.4	£170,611,981	£2,644,331	£173,256,311
2.5	£163,204,711	£1,629,441	£164,834,152
2.6	£240,037,679	£3,935,963	£243,973,641
3.1	£79,398,965	£566,002	£79,964,967
3.2	£97,768,075	£1,556,011	£99,324,086
3.3	£94,274,027	£1,615,446	£95,889,473
3.4	£88,858,638	£1,373,899	£90,232,537
3.5	£124,656,185	£2,405,502	£127,061,687
3.6	£174,555,528	£3,437,648	£177,993,176
3.7	£178,125,512	£3,522,271	£181,647,783
4.1	£57,982,121	£524,443	£58,506,564
4.2	£147,413,536	£2,106,513	£149,520,049
4.3	£161,641,795	£2,346,972	£163,988,768

C.5 Traffic Forecasting and Economic Appraisal

The economic case for this scheme is focussed on:

- Assessing the direct, localised, economic efficiency benefit of the scheme

- Qualitative appraisal of wider scheme benefits and
- Assessing the scheme benefits against the direct scheme costs as an individual package.

The appraisal criteria and overall approach to the assessment of options at this stage is based on a direct appraisal of journey time saving benefits as compared to the direct scheme costs.

C.6 Environment

The economic benefits of a scheme in relation to carbon reduction and other environmental impacts are often monetised as part of scheme appraisal, particularly for large schemes where congestion reduction is a specific objective of the scheme.

At this stage the appraisal of multiple options has been undertaken and whilst it is evident that some options are shown to result in travel time savings by reducing congestion and assessment of the potential impacts of this on carbon reduction have not yet been undertaken.

C.7 Social

It is noted that highway schemes are often assessed with both travel time savings and accident benefits. Accident benefits normally come from a change of junction or link types or of flow volume. Scheme accident benefits have not been directly assessed at this stage because the proposed scheme does not include sufficient detail at this stage as regards the form of junction to be proposed in each location. In addition, the accident rate in the area is not above what might be expected and the scheme is not being promoted as an accident reduction measure.

However, analysis of this data will become part of the design process and accident monitoring will be part of the post-opening evaluation.

C.8 Quantified Benefits

The user benefits are set out in Table D.3 below and are based on vehicle time savings across the following vehicle/user classes:

- Car Employers Business
- Car Commute
- Car Other
- LGV Employer Business
- LGV Commute
- LGV Other
- OGV1
- OGV2

C.9 Benefit Cost Ratio

Table C.3 below summarises the analysis of monetised costs and benefits (AMCB). The costs and benefits are calculated based on the following:

- Scheme cost (2018 prices)
- Risk and optimism bias adjusted cost (2018 prices excl. VAT)
- Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 market prices

User Benefits (PVB) for the initial BCR are based on vehicle user time savings (excluding passenger service vehicles), and include two tests.

1. **Core test:** based on TEMPRO 7.2 Government Forecast
2. **Sensitivity test:** based on 50% increase in growth (houses and job) and which resulting increase in traffic delay.

Table D.3 – A47 Dualling Options: Benefit to Cost Ratios

Section	Route	PVC (£,000)	Core Test		Sensitivity Test	
			PVB (£,000)	BCR	PVB (£,000)	BCR
Section 1 (A16 to Thorney Bypass)	1.1	£72,748	£86,411	1.19	£134,643	1.85
	1.2	£65,634	£89,697	1.37	£138,677	2.11
	1.4	£52,112	£81,421	1.56	£128,655	2.47
Section 2 (Thorney Bypass to Guyhirn)	2.2	£127,496	£117,734	0.92	£181,911	1.43
	2.3	£134,543	£117,694	0.87	£181,827	1.35
	2.4	£173,256	£248,979	1.44	£376,066	2.17
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	£164,834	£316,253	1.92	£487,357	2.96
	2.6	£243,974	£330,741	1.36	£504,806	2.07
Section 3 (Guyhirn to Wisbech)	3.2	£99,324	£45,414	0.46	£81,232	0.82
	3.3	£95,889	£39,916	0.42	£74,472	0.78
	3.4	£90,233	£62,261	0.69	£101,945	1.13
Section 4 (Wisbech Bypass)	4.1	£58,507	£125,716	2.15	£189,697	3.24

PVC = Present Value of Costs (2010 Market Prices)

PVB = Present Value of Benefits (2010 Market Prices)

BCR – Benefit to Cost Ratio

It should be noted that whilst TEMPRO 7.2 is the latest Government Forecast for traffic growth but does not necessarily reflect the latest Local Plan growth, and the sensitivity testing shows the BCR is very much dependent on the assumed growth in land use (housing and jobs).

C.10 Qualitative assessment of benefits

The appraisal of the identified options for dualling the A47 indicates a range of BCRs which suggest that the options identified could be shortlisted to include only those options which offer medium or high value for money based on the Department for Transport value for money categories:

- Very High: BCR greater than or equal to 4
- High: BCR between 2 and 4
- Medium: BCR between 1.5 and 2
- Low: BCR between 1 and 1.5
- Poor: BCR between 0 and 1

- Very Poor: BCR less than or equal to 0

9.16.2 Note that the BCRs shown in Table 3.3 are ONLY shown for comparative purposes (between Routes), and do not take account of Wider Economic Benefits, the impact of increasing congestion nor phasing: a BCR might be improved by delaying a scheme until the congestion would otherwise occur in the Base Scenario. The key issue to conclude is that initial BCR shown indicate a more detailed assessment is justified (as part of an Option Appraisal Report).

Option Appraisal Report

A47 Dualling Study

July 2018

A47 Dualling Study

Options Appraisal Report

Cambridgeshire and Peterborough Combined Authority

July 2018

This document and its contents have been prepared and are intended solely for the Cambridgeshire and Peterborough Combined Authority's information and use in relation to the A47 Dualling Study.

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Executive Summary

This document presents an assessment of options to address capacity, safety and economic development challenges and opportunities along the A47 corridor between the A16 and Kings Lynn, to enable a preferred option to be selected.

Nationally, the A47 is a key route into East Anglia, and connects Norwich and Norfolk with the East Midlands and critically the A1, and carries a large amount of heavy goods traffic. Locally the A47 provides direct access between Peterborough, Wisbech and Kings Lynn. Beyond these settlements, the area is lowly populated and is largely agricultural, consequently this section of the A47 is a key commuter route for people travelling into and out of these settlements for employment on a daily basis.

The long distance regional trips (and particularly heavy good vehicles) generate a consistent flow of traffic along the route, and when this is mixed with commuter traffic the local network comes under substantial strain and congestion is common, particularly on the approaches to key junctions such as the A47 / A141 Guyhirn Roundabout and the A47 / A1101 Elm High Road Roundabout.

Need for intervention and associated challenges

The need for intervention and the associated challenges can be summarised as follows:

- The A47 is a strategic route linking both the A1 and Peterborough with Kings Lynn, Norwich and beyond and also provides a key link for communities along the corridor and in particular Wisbech.
- The A47 highway is of inconsistent standard, comprising a mix of dual, older and modern single carriageway. Currently the A47 offers relatively slow and inconsistent journey times along its route and for connections of key population centres.
- Wisbech has poor transport links to the region and the rest of the country, arguably contributing to its isolation and deprivation;
- Due to the nature of the existing A47 corridor, carriageway standards and setting with a significant number of direct access' the corridor has safety issues leading to incidents;
- The Combined Authority has set a bold vision to double the GVA of the local authority whilst accelerating the growth of local housing, which is hindered by infrastructure constraints;
- The A47 corridor is generally set within a rural, agricultural landscape with environmentally sensitive surrounds in terms of habitat, archaeological potential, and flood risk. Any dualling or transport intervention needs to recognise this environmental context.

The A47 corridor scheme primary objectives are summarised as follows:

- **Improving journey times along the A47:** To address current congestion and delay, reduce journey times and improve reliability on the A47 and on local routes impacted by the A47
- **Providing increased capacity:** To cater for future travel demand between Kings Lynn, Wisbech and Peterborough
- **Rebalancing the economic growth across Cambridgeshire and Peterborough.** To encourage investment in higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk
- **Contributing to the growth of Cambridgeshire and Peterborough.** To ensure employment and housing growth along the A47 corridor can be accommodated

Option generation and assessment

The process of scheme development began in 2003 with an initial multi-modal study and was and evolved in 2014 through a series of workstreams, Council activities, reports and workshops.

Within the scope of the A47 study and development of the Strategic Outline Business Case and Options Appraisal Report the A47 scheme corridor has been split into four individual route sections to assess the potential dualling of the A47. The following twelve options were identified as being worthy of further assessment following development of an initial twenty sectional route options developed through 2015 to 2018.

Section	Option	Description
Section 1 (A16 to Thorney Bypass)	1.1	Dual carriageway immediately to the north of the existing A47
	1.2	Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
	1.4	As Route 1.1 as a one-way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic
Section 2 (Thorney Bypass to Guyhirn)	2.2	Dualling of the A47 to the south of the existing A47
	2.3	Dualling of the A47 to the north of the existing A47
	2.4	Offline dualling Thorney to Wisbech north of Guyhirn village
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
	2.6	Offline dualling Thorney to Walton Highway running to the north of Wisbech
Section 3 (Guyhirn to Wisbech)	3.2	Dualling of the A47 south / east of the existing alignment
	3.3	Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout (B198).
	3.4	Hybrid of Routes 3.2 and 3.3
Section 4 (Wisbech Bypass)	4.1	Online dualling of the A47

Each of these options has been assessed against criteria relating to Strategic, Value for Money, Financial, Delivery and Commercial themes, in line with the Government's 'Five Cases Model'¹, and reflecting the Government's Transport Appraisal Guidance (WebTAG) and local priorities.

Performance of options

The relative performance of each of the options is summarised below, along with comparisons of the challenges and benefits which need to be considered to progress the scheme through the Outline Business Case Stage of development.

Following the development and assessment of the sectional route options further analysis and in coordination with the project steering group, three Route Options have been developed combining the benefits of a corridor solution. The three Route Options take sectional options in combination from the three western sections of the corridor, balancing the impacts, benefits and support the scheme objectives, from the detailed assessments.

All three options utilise sectional Option 1.2 within the first section between the A16 and Thorney Bypass. The Routes then separate in three directions with Route A taking a northerly bias, and Route B crossing the River Nene close to White Hall. Route C takes a southerly bias interfacing with Guyhirn Junction being a combination of sectional Options 2.2, 3.4 and 4.1.

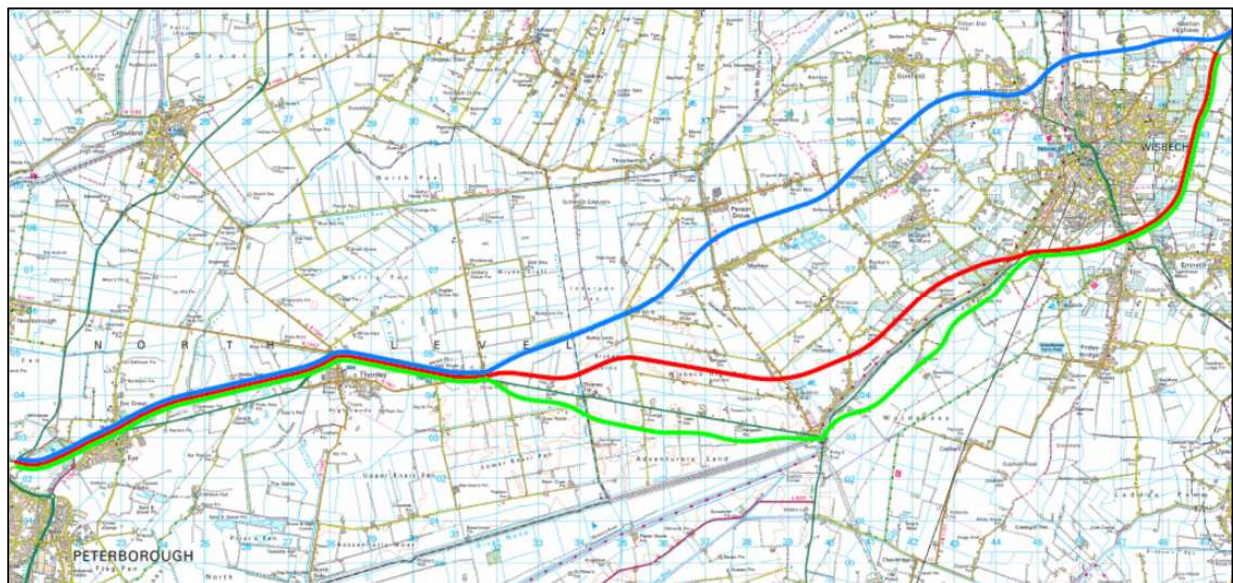


Figure A: Overview of Route Options

¹ Public Sector Business Cases using the Five Case (Green Book Toolkit), HM Treasury. (http://www.hm-treasury.gov.uk/data_greenbook_business.htm)

	Colour	CAPEX	OPEX	PVC	PVB	NPV	BCR
Route A	Blue	£304.2M	£5.4M	£309.6M	£648.7M	£339.1M	2.10
Route B	Red	£292.8M	£4.6M	£297.4M	£705.7M	£408.3M	2.37
Route C	Green	£337.0M	£4.9M	£341.9M	£619.9M	£278.0M	1.81

*Capex – Capital Costs

*PVC – Present Value of Costs

*BCR – Benefit to Cost Ratio

Opex – Operational Costs

PVB – Present Value of Benefits

All Costs in Millions (M)

Route Option A consists of combining the sectional options 1.2 and 2.6, running along the initial western section of the A47 and diverting north around the town of Wisbech. The majority of the route is offline from Thorney Bypass and as such supports easier buildability and construction opportunities than online widening. The Route passes north of Wisbech however is constrained dissecting Leverington and Walton Highway where land acquisition and severance may inversely impact community support. The Option delivers a high BCR at 2.1 and supports the north eastern developments and objectives in proximity to Wisbech.

Route Option B is initially of a similar alignment and standard to that of Option A however maintains a section of online widening west of Thorney Bypass before shifting offline before interfacing again north of Elm. The Route consists of sectional options 1.2, 2.4 and 4.1 and is the least expensive on construction however does have the added challenge of the largest extent of online widening that will impact local traffic conditions around Thorney junction and between Wisbech during construction. This Route also runs closest to the River Nene and SSSI, similarly has the potential risk of impact on the significant overhead power cables close to Begdale. The alignment supports the economic and growth aspirations to the south and west of Wisbech which combined with the lower cost aspect of the Route supports the best BCR of the three Route Options at 2.37.

Route Option C is the largest value scheme and longest Route option diverting south from Thorney Bypass, interfacing with Guyhirn Junction and continuing west around Wisbech. The Route is developed from the combination of sectional options 1.2, 2.2, 3.4 and 4.1 making it the longest and most expensive Option. However the Option alignment substantially supports the economic and housing growth aspirations to the lower western quadrant of Wisbech. The offset between satisfying the scheme objectives and imperatives is noted in the reduced BCR of 1.81 due to the increase in cost. Challenges with the Route are noted and need consideration with respect to environmental constraints in proximity to the SSSI and River Nene and also significant utilities which may require accommodation of diversionary works.

The following assumptions have been made in the assessment of the Route Options:

- Growth scenarios include for high growth and in accordance with the housing (30,000 new homes) and employment aspirations within the Local Plan and Combined Authority objectives;
- Maintenance costs are included and are based on values taken from the QUADRO user manual;

- Scheme opening year has been taken as 2026 and a horizon year assessment based on 2041;
- Transport user benefits have been calculated for a 60-year appraisal period in line with WebTAG
- Optimism Bias has been applied at 44%, as recommended by WebTAG for this stage of assessment

The three route options are all considered viable in terms of a Strategic, Value for Money, Financial, Delivery and Commercial context.

The Route Options would be procured either through entry on to Highways England's RIS 2 Programme or through a DfT funded procurement exercise, most likely through an OJEU tendering process with an ECI ECC Contract.

Introduction

Purpose of the Study and need for intervention

The overall aim of the A47 Dualling Study is to develop a Business Case for dualling of the entire length of the A47 between the A16 to the east of Peterborough and Walton Highway to the east of Wisbech (see Figure 1.1 below). This document as an Options Assessment Report (OAR) presents an assessment of shortlisted options for consultation, to dual the A47.

Role of the Options Assessment Report

The OAR is the first stage in developing solutions to identified problems within a locality. Its role is to collate all feasible options and evaluate these against a common benchmark and identify the overall best solutions and value for money.

The OAR forms part of the wider evidence base of the overall transport appraisal process to inform the design making process, as is illustrated in Figure 1.1.

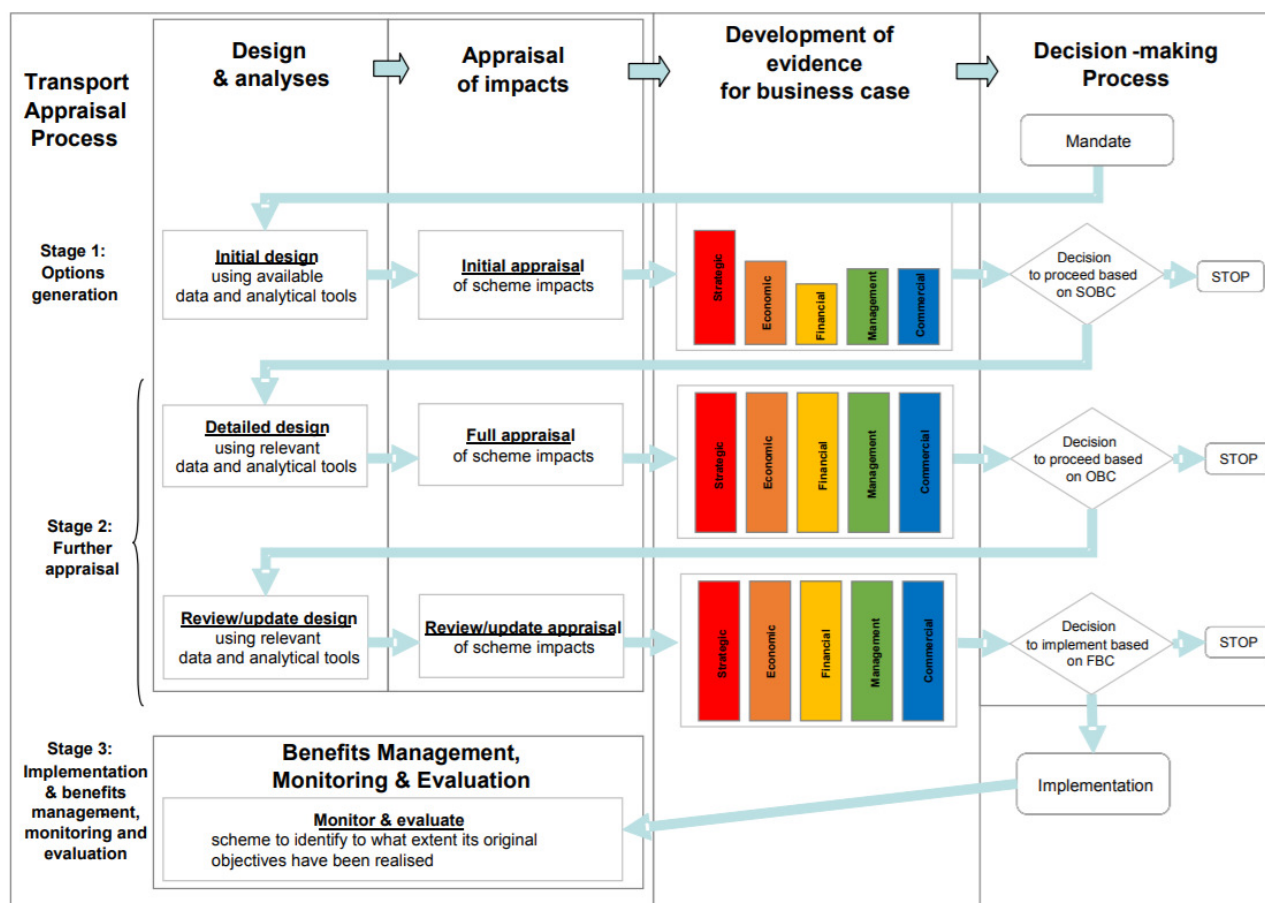


Figure 0.1: Overview of the Transport Appraisal Process²

² Source: WebTAG 'Guidance for the Technical Project Manager' (DfT: May 2018)

Details of the relationship between the OAR and the next stages of appraisal are detailed in the recently updated WebTAG ‘Guidance for the Technical Project Manager’ (DfT: May 2018) document. The guidance describes that the OAR documents the preferred and discarded options, and process undertaken. A secondary outcome is to set out the scope of further work required to fine tune the appraisal of preferred options leading in to the development of Appraisal Specification Report (ASR).

Scheme Objectives

The objectives of the A47 dualling improvements are:

- To address current congestion and delay, reduce journey times and improve reliability on the A47 and on local routes impacted by congestion on the A47.
- To provide conditions that encourage inward investment in higher value employment sectors in the north of Cambridgeshire, Peterborough and in Norfolk
- Improve access from the north of Cambridgeshire and from Norfolk to Peterborough the strategic road and rail networks to and from national markets;
- To ensure the infrastructure is in place to support employment and housing growth in accordance with the Local Plan and Combined Authority aspirations along the A47 corridor;
- Provide for future travel demand between Kings Lynn, Wisbech and Peterborough.

The objectives outlined above have been developed in partnership with the Cambridgeshire and Peterborough Combined Authority (CPCA) in support of their development aspirations. These are designed to be SMART.

- **Specific** to meeting the policy aspirations of the County in relation to economic growth, sustainable development, environmental betterment and social inclusion
- **Measurable** against a set baseline to monitor performance against set goals
- **Assignable** to the scheme and the relatable impacts brought about by its introduction
- **Relevant** to addressing the objectives of the policy agenda of the County; and
- **Time-based** to ensure tangible benefits are secured within project deadlines and policy framework timeframes.

To ensure objectives are met over the lifespan of the scheme and policy frameworks, future monitoring and evaluation, should funding be awarded, will be developed to ensure realisation of the benefits of the scheme.

Scheme Extents and Study Area

The study area is located in the northwest of East Anglia and is a key gateway into the region. The section of the A47 corridor considered within this study passes through Peterborough, Cambridgeshire and Norfolk.

The A47 runs across the East Midlands and East of England forming part of the Strategic Route Network (SRN) between its junction with the A1 west of Peterborough through Kings Lynn, Norwich, and Great Yarmouth before terminating at Lowestoft. In England, the highway authority for the SRN is Highways England (HE), acting on behalf of the Secretary of State for Transport.

The A47 also connects smaller communities along its route such as Thorney and Wisbech, as shown in **Error! Reference source not found.2** below.

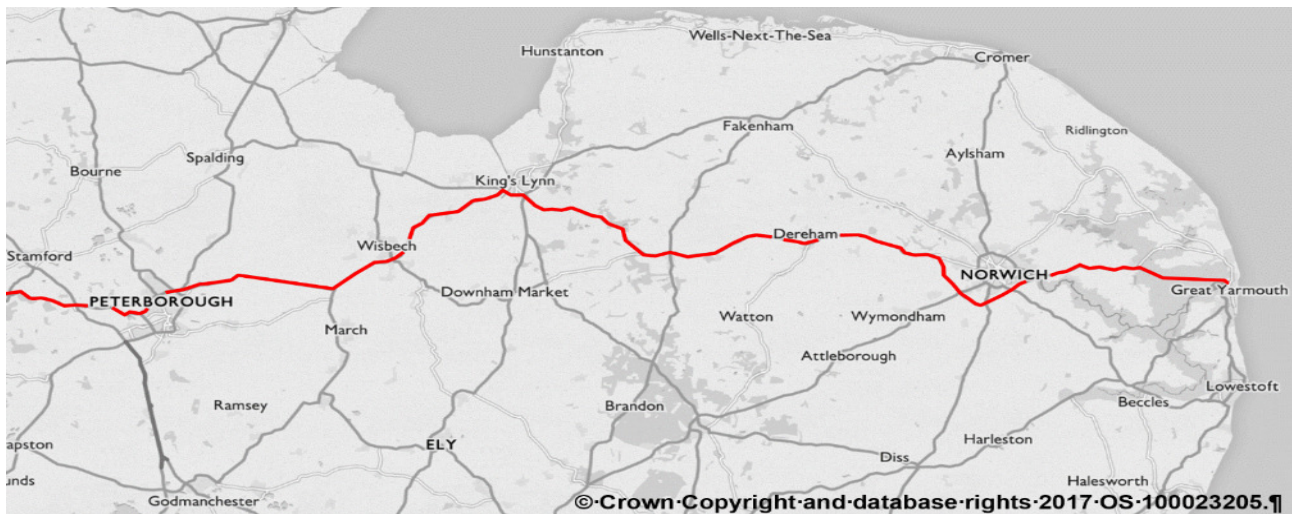


Figure 0.2: The A47 Corridor between Peterborough and Great Yarmouth

The A47 has been periodically diverted and upgraded to accommodate traffic growth and development along its route. The Wisbech Bypass was completed in 1984, running between the B198 Cromwell Road Junction to the south and the Lynn Road Junction to the north east, diverting the A47 route to the south and east of Wisbech town centre. The Walpole Highway/ Tilney High End Bypass opened in 1996, diverting the A47 and creating a 6-mile section of dual carriageway between Wisbech and Kings Lynn. Additionally, Thorney Bypass opened in 2005 creating a 3-mile section of dual carriageway around Thorney Village to relieve local congestion.

As a result of these and other interventions, the A47 between the A1 in the west and its junction with the A17 in the east is of variable standard, comprising a mixture of single and dual carriageway roads, with both at grade and grade-separated junctions at a number of locations along its route. The route can be broken down into a number of links as shown below:

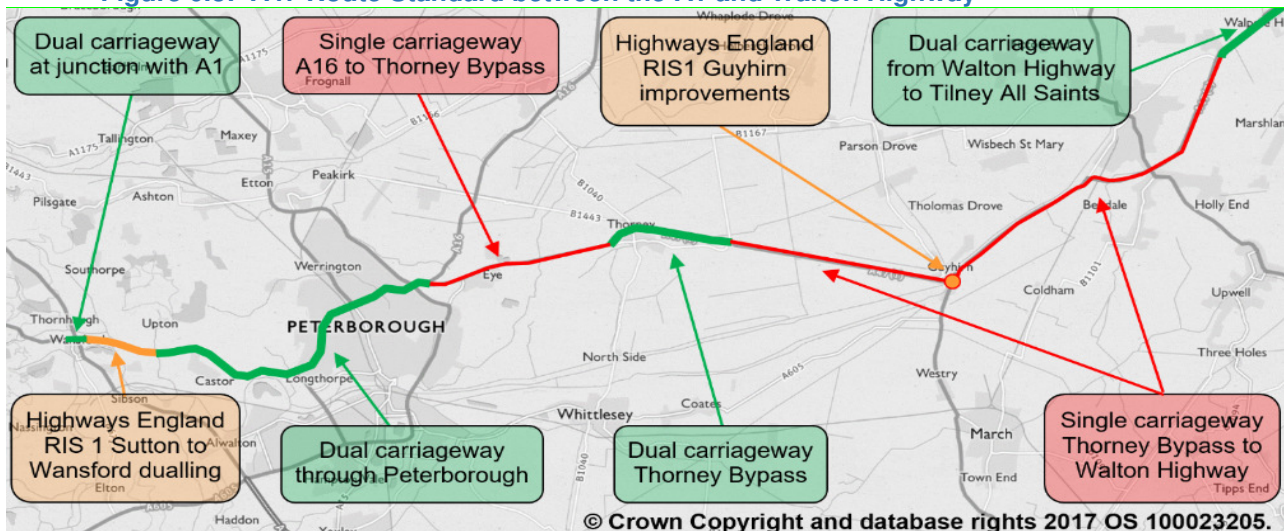
- A1 Wansford – Sutton: Older style S2 AP
- Sutton – A16: Dual Carriageway
- A16 to Former A1073: Modern WS2 AP
- Former A1073 – Thorney Bypass: Older style S2 AP
- Thorney Bypass: Dual Carriageway
- Thorney Bypass to Guyhirn: Older style S2 AP
- Guyhirn to Wisbech: Older style S2 AP
- Wisbech Bypass: Modern S2 AP
- Wisbech to Walton Highway: Older style S2 AP
- Walton Highway to Tilney All Saints: Dual Carriageway
- Tilney All Saints to A17 Kings Lynn: Older style S2 AP

Key:

S2 AP – Normal 2 lane all-purpose carriageway (~7.3m)

WS2 AP – Wide Single all-purpose carriageway (~10m)

Figure 0.3: A47 Route Standard between the A1 and Walton Highway



For the urban centres and areas around Peterborough, Wisbech and Kings Lynn, as well as villages along the A47 corridor, the A47 provides the most direct and practical route for travel between these locations. The majority of the local highway network surrounding these areas consists of local access routes between rural villages linking to the A47. This means longer distance journeys and journeys between Peterborough, Fenland and Kings Lynn are likely to require vehicles to travel via the A47. Whilst there is currently no direct train line linking these locations, there is a reasonably high quality X1 Bus services linking these communities via the A47.

Previous Studies and Information

A number of strategic transport and highway studies have been undertaken of the A47 within the defined study area and the wider A47 route over recent years. These include but not limited to the following:

- Norwich to Peterborough Multi-Modal Study (2003)
 - A47 Alliance, A47 Peterborough and Cambridgeshire, Case for Improvement Evidence and Wider Economic Benefits (2014)
 - A47 Alliance Route Strategy (2014)
 - A47 Thorney to Walton Highway – Initial Option Assessment (2015)
- <https://www.cambridgeshire.gov.uk/transport-funding-bids-and-studies/transport-studies/>
- A47/ A12 Corridor Feasibility Study, Phase 1, 2 and 3 Reports (2015).

These studies, including their conclusions and recommendations, were considered when reviewing baseline conditions, options and subsequent assessment of the dualling of the A47.

Report Structure

In line with best practice for the production of an OAR, this report will consist of the following sections, with the aim of providing a comprehensive overview of baseline traffic, transport and development conditions across the study area:

- Chapter 1: Introduction
- Chapter 2: Current and Future Situation – summarising socio-economic characteristics; and local transport network. This chapter provides context for problems and constraints in the area, and establishes the need for intervention;
- Chapter 3: Initial Option Generation and Sift – describes the initial option development and sift based on key objectives and parameters;
- Chapter 4: Assessment of Short Listed Options – describes the shortlisted 12 options and development of the three key route options which have been identified for further consideration;
- Chapter 5: Detailed Assessment of Short Listed Options – describes the assessment based on the 'Five Cases Model' criteria – Strategic, Value for Money, Financial, Delivery, and Commercial. It also presents supporting commentary and highlights the discriminatory factors across the options.
- Appendices

All supporting appendices are included at the rear of the report.

Current and Future Situation

Introduction

This chapter seeks to establish the current situation along the A47 corridor and the implications of maintaining the 'status' quo into the future, without intervention. This section also describes the geographical context across the different administrative boundaries and provides an analysis of the socio-economic context of these areas.

This data establishes the baseline demographic conditions which will inform future development and appraisal of the proposed A47 Dualling Scheme.

2011 Census data has been obtained for the following census metrics:

- Age Structure;
- Method of Travel to Work;
- Location of usual residence and place of work by method of travel to work;
- Car Ownership; and

Index of Multiple Deprivation (IMD) Data (2015) was obtained from Ministry of Housing Communities and Local Government

Geographical Context

The A47 is a trunk road linking Peterborough to Kings Lynn and beyond as well as communities along the corridor. It provides a crucial East-West link between the East Coast ports and the East Anglian economy and the wider UK economy. Despite this importance it is a relatively slow route and suffers from a lack of capacity, compounded by slow moving HGVs and agricultural vehicles, and little opportunity for overtaking.

The majority of the region's main transport corridors are experiencing high traffic growth and capacity is constrained, with regular peak time congestion on key routes and especially close to key employment or service centres found in Cambridge, Peterborough and the market towns. Travel demand is expected to grow by 23% across the Combined Authority area to 2031, with increases of 28% in Cambridge and 30% in Peterborough forecast.

The A47 is the most important east-west route in the north of the Combined Authority area, and carries up to 42,000 vehicles a day around Peterborough, and around 22,000 vehicles a day on the single carriageway stretch around Wisbech. The mix of functions and the varying quality of the route leads to delays and to unreliable journey times. Significant levels of growth along the route, especially the housing and employment developments at Wisbech, will be delayed without improvements to the A47.

Growth

The Greater Cambridgeshire area is forecast to experience significant job and population growth over the next twenty years. For large parts of the area this represents a continuation of past trends.

Cambridgeshire is the fastest growing county in the country with over 77,000 new houses planned to 2031. This in turn will drive further economic growth and demand to travel.

The driver for this growth is Cambridge, which is now a world centre for high technology, biomedical research and knowledge based industries. This in turn is creating extreme housing pressures in Cambridge and so the majority of the new housing to supply the workers for the Cambridge economy will be outside of the City itself, particularly to the north of Cambridgeshire.

The A47 corridor scheme will be a vital contributor to the economic health of Wisbech, growth ambition linked with an additional 30,000 homes by 2031 and indeed the Cambridge economy, supporting its contribution to wider government objectives on economic growth.

Key Note: *The A47 is a key transport corridor of local, regional, national and international importance: It facilitates the movements of workers and freight goods both within the locality and through it.*

Statutory Bodies and Partnerships

Cambridgeshire, Peterborough and surrounding areas have a well-established, strong and diverse economy. To ensure continued growth and development of the Greater Cambridgeshire and Peterborough area is managed effectively, a number of funding and administrative bodies have been formed to direct inward investment and sustain a higher than UK average level of growth.

The following sub-sections outline these institutions, their policy agendas and the importance of the A47 corridor in relation to the meeting their respective objectives.

Greater Cambridgeshire Greater Peterborough Local Enterprise Partnership

The LEP played a key role in shaping development and funding decisions across the authority area. The vision and priorities of the LEP are set out in their Strategic Economic Plan (SEP) which contains several ambitions to removal barriers to economic growth including provision of ‘a transport network, fit for an economically high growth area that helps to facilitate sustainable growth and enhance prosperity.’

The Greater Cambridge Greater Peterborough (GCGP) LEP area is one of the UK’s fastest growing and most dynamic areas and makes a strong contribution to the UK, in the form of £30 billion gross value added (GVA) per annum. However, transport constraints represent a key challenge to supporting housing and employment growth and continued economic prosperity.

Many of the constraints on business and housing growth concern transport including:

- Road and rail ‘bottlenecks’ causing congestion and unreliable journey times
- Limitations on the capacity of the rail network
- Barriers to the delivery of housing for local workers
- Limited public transport in rural areas
- East-west connectivity across the LEP area, and beyond
- Potential for mode shift towards sustainable travel modes which are not fully realised
- Access issues in relation to Stansted and Luton Airports as well as Heathrow and Gatwick airports

With sections of the region's transport network already operating at capacity, the SEP identified the importance of investment in selected pinch point improvements on the highway network, which are key to unlocking housing and economic growth.

Cambridgeshire and Peterborough Combined Authority

The Cambridgeshire and Peterborough Combined Authority (CPCA) was formed in November 2016 following an agreement to pursue a devolution deal for the area from central government. Key ambitions of the CPCA include:

- £170 million to deliver new homes over a 5-year period in Peterborough and Cambridgeshire which includes affordable, rented and shared ownership housing;
- £20 million a year funding over 30-years to boost growth in the region;
- Responsibility for chairing a review of 16+ skills provision;
 - To double the size of the local economy;
 - To accelerate house building rates to meet local and UK need;
 - To deliver outstanding and much needed connectivity in terms of transport and digital links;
 - To provide the UK's most technically skilled workforce;
 - To transform public service delivery to be much more seamless and responsive to local needs; and
 - To grow international recognition for our knowledge based economy.

The A47 plays a key role in supporting the economic aspirations of the CPCA by facilitating the movement of goods and services, but more importantly by strengthening the economic agglomeration tendencies between skills centres along the corridor. Knowledge economies are highly dependent on these linkages between and access to highly skilled labour markets. Ensuring knowledge 'spillovers' are maintained and enhanced is vital in facilitating collaboration in knowledge intensive industries and services.

Key Note: Developing the sub-regional economy into a world-class economic hub is a key aim of regional institutions and requires the necessary infrastructure to enable this growth to fully exploit the knowledge economy.

Local Authority Areas

Three Local Authority areas cover the majority of land and local highway routes across the wider study area. A summary of these local authority areas can be found in the following sub-sections.

Peterborough City Council

Peterborough City Council (PCC) is a unitary authority within the geographical county of Cambridgeshire. As mentioned above, PCC now forms a key strategic partner in the Cambridgeshire and Peterborough Combined Authority and the Local Enterprise Partnership.

The City of Peterborough is a medieval city with a population of 183,600 residents, with a wider catchment of over 800,000 people. It is set to be England's fastest growing city by 2025.

Peterborough is the UK's top commuter city and has a vibrant workforce with a younger working population than the UK average. It has a pioneering skills vision which matches training provision with the needs of city businesses to ensure the local workforce is skilled in areas demanded by industry.

An Origin-Destination flow diagram of 2011 Census Location of usual residence and place of work by method of travel to work data produced for Peterborough is summarised in Figure 2-1. This indicates a significant net daily inflow of 13,164 people commuting from surrounding districts to work in Peterborough, particularly from South Kesteven, Huntingdonshire and Fenland.

Figure 2.1: Peterborough 2011 Census Origin-Destination Journey to Work Flows



The A47 runs east-west across Peterborough, and forms a section of a ring road around the city. Continuing east, the A47 runs towards Thorney before entering Fenland.

Fenland District Council

Fenland District Council (FDC) forms the local authority for Fenland within the wider county of Cambridgeshire. FDC represents a rural, sparsely populated district to the north of Cambridgeshire. The district is generally rural in character, with the majority of the population confined to a number of market towns including Wisbech, March, Chatteris and Whittlesey. Wisbech is the largest settlement within the district, located in north east corner towards the border with Norfolk.

An Origin-Destination flow diagram of 2011 Census Location of usual residence and place of work by method of travel to work data produced for Fenland is shown in Figure 2-2. This indicates a net outflow of commuters from Fenland to surrounding areas, most notably to Peterborough being the largest significant settlement within reasonable commuting distance. A significant number of people also journey to work in Kings Lynn and West Norfolk (KL&WN).

Figure 2.2: Fenland 2011 Census Origin-Destination Journey to Work Flows

The A47 runs across the north of the district, running in an east-west direction before to the east of the Guyhirn roundabout junction, and in a north-east to south-west direction between Guyhirn and Wisbech. Given the location of this route, and the lack of other strategic roads across Fenland, it is likely that people originating in Fenland in towns such as Wisbech and March are likely to use the A47 to commute to both Peterborough and KL&WN destinations.

Kings Lynn and West Norfolk Borough Council

Kings Lynn and West Norfolk (KL&WN) Borough Council represents the local authority for the Kings Lynn area within the wider county of Norfolk. Similar to Fenland, KL&WN represents a relatively rural district, with the majority of the population located in local market towns such as Kings Lynn and Downham Market, with Kings Lynn accounting for 55% of all employment within the borough and acts as its principle economic driver. The district also has established manufacturing and tourism industries.

An Origin-Destination flow diagram of 2011 Census Location of usual residence and place of work by method of travel to work data produced for KL&WN is shown in Figure 2-3. As was the case for Fenland, KL&WN has a net outflow of commuters to other districts, a significant proportion of which commute to and from Fenland. A significant number of people also commute to KL&WN from Fenland.

Figure 2.3: KL&WN 2011 Census Origin-Destination Journey to Work Flows

The A47 runs across the centre of the district, continuing from Fenland around Wisbech in a north-east to south west direction before meeting the A17 south of Kings Lynn. The A47 also runs in an east-west direction away from Kings Lynn towards East Anglia. It is likely, therefore, that those commuting both to and from KL&WN would utilise the A47 for such journeys as it provides a direct and convenient route between significant locations across both areas.

Analysis of the census data indicates that the A47 is a key corridor in facilitating the movement of the commuters into employment centres.

Key Note: Analysis of the NOMIS TTW areas indicates that the A47 is a key corridor in facilitating the movement of the commuters into centres across employment sectors.

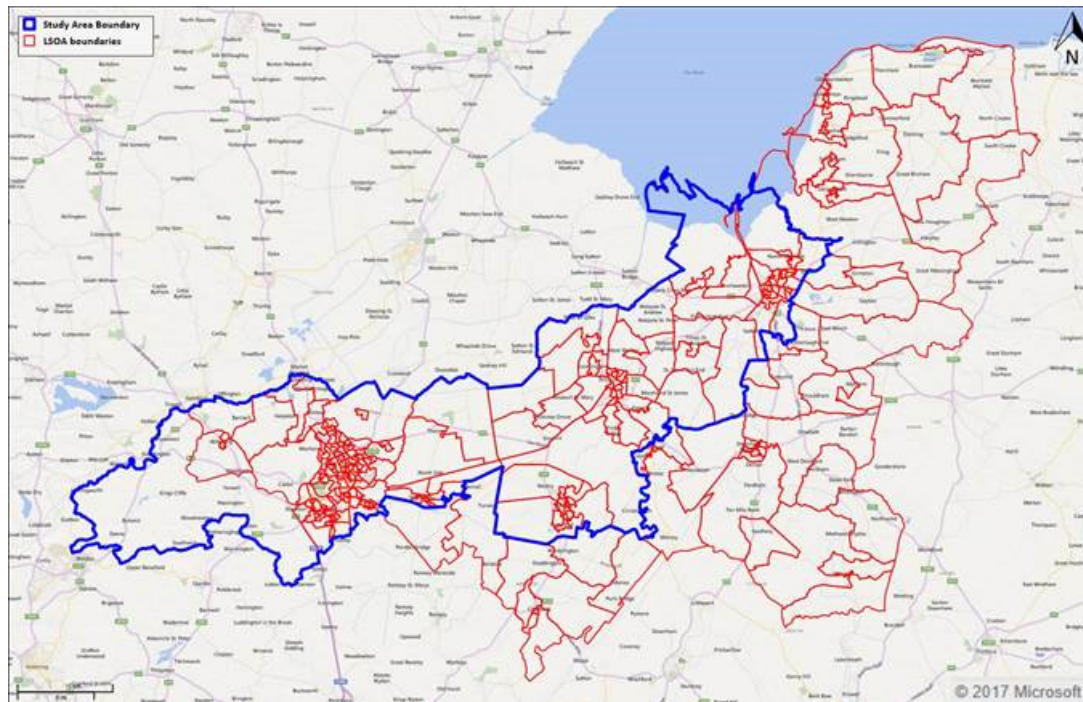
Current Socio-economic and demographic characteristics

Understanding the socio-economic and demographic characteristics of the corridor are important in understanding travel behaviours and demands. The following sub-sections outline key population and travel statistics for the three local authority areas.

Population Distribution

Population density across the study area is illustrated in Figure 2.4, with the study area boundary highlighted in blue. The study area itself contains a mix of Middle Super Output Areas (MSOA) and Lower Super Output Areas (LSOA) geographic boundaries.

For comparative purposes LSOAs across PCC, FDC and KL&WN have been presented (highlighted in red) to represent relative population density. Highly contrasting population densities can be seen across the study area, with the majority of the population located within Peterborough and Market Towns such as Kings Lynn, March and Wisbech and settlements further down the settlement hierarchy.

Figure 2.4: Relative Study Area Population Distribution

Age Structure

Across MSOAs and LSOAs within the study area, the variation in mean age is illustrated in Appendix J. This indicates a lower mean population age across more urban areas around Peterborough and around Kings Lynn. Higher mean population age values are shown across Fenland around Wisbech and in KL&WN surrounding Kings Lynn.

The proportion of the total population across the East of England Region aged 16 and under is 18.96% as shown in appendices. The demographic analysis shows that more urban areas such as Peterborough and Kings Lynn tend to have the greater proportion of people aged under 16, with lower proportions in the surrounding rural areas. Comparatively, the proportion of the total population across the East of England Region aged 65 and over is 17.52%. Appendix J defines the areas within the study area which have a higher proportion of the population aged 65 and over relative to the East of England, identifying a greater proportion of the population over 65 are generally across rural areas, away from urban centres. This provides a contrasting picture to the analysis of the proportion of younger people.

Key Note: Population statistics indicate that younger age groups tend to reside within the urban centres, however higher age groups tend to live in the more rural areas. This may indicate that highly skilled Professionals in the 35-55 age cohort will commute longer distances.

Method of Travel to Work

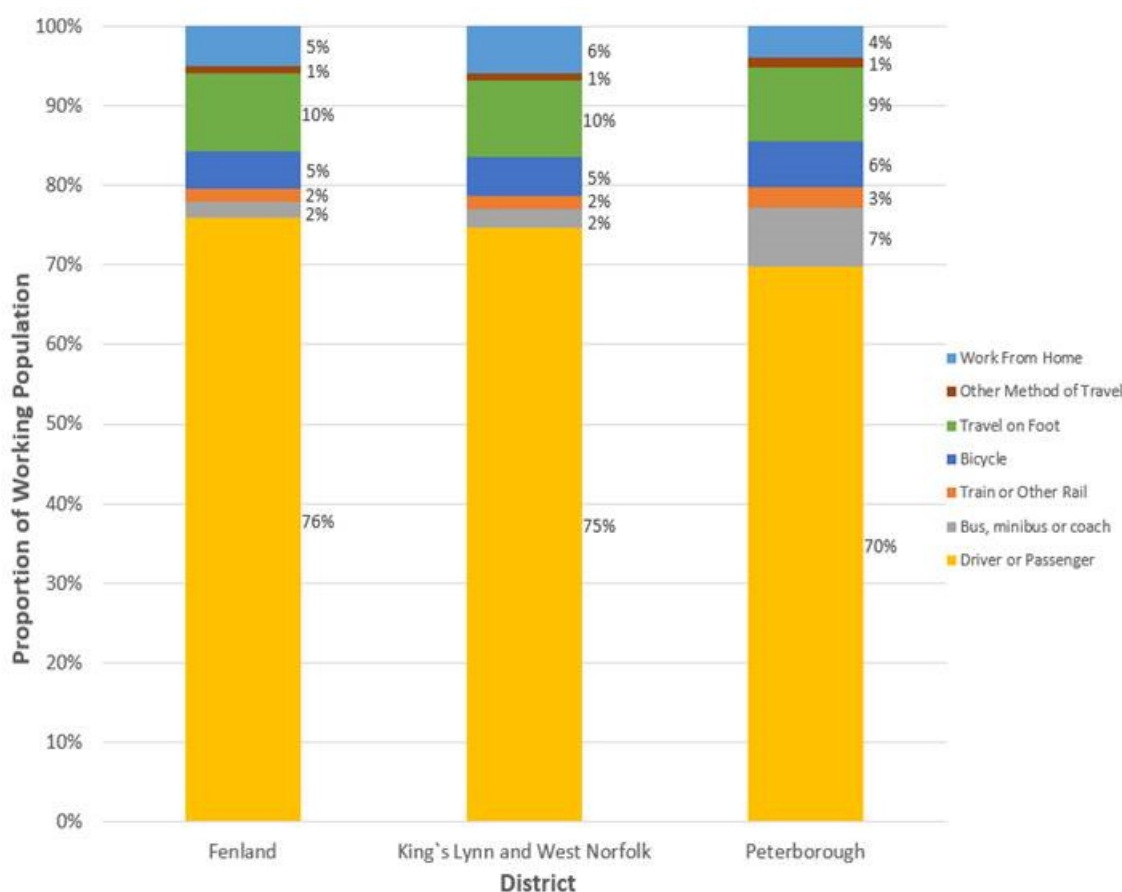
Using 2011 Census Method of Travel to work data, Figure 2.5 illustrates the proportion of each transport mode used as the preferred method of travel to work. The data indicates that there is little variation across the study area between methods of travel to work. The most notable difference is shown in bus use, with approximately 2% of the working population preferring the bus across Fenland and Kings Lynn, compared to 7% in Peterborough. These compare to an East of England regional average of 4% and a national average of 7%.

The proportion commuting by train is also low across all three districts, each district with a proportion below 4%. These values are well below the regional average of 8% and the national average of 9%.

It is clear that journeys as either a car driver or car passenger forms the most common travel mode for commuter journeys. The relative proportions of the working age population utilising a car as a method of travel to work is between 70% and 76% across the study area. These values are above the regional average proportion of 68% and the national average proportion of 64%.

The proportion of people walking and cycling to work are relatively similar across each of the three districts, and are roughly in line with national and regional average values.

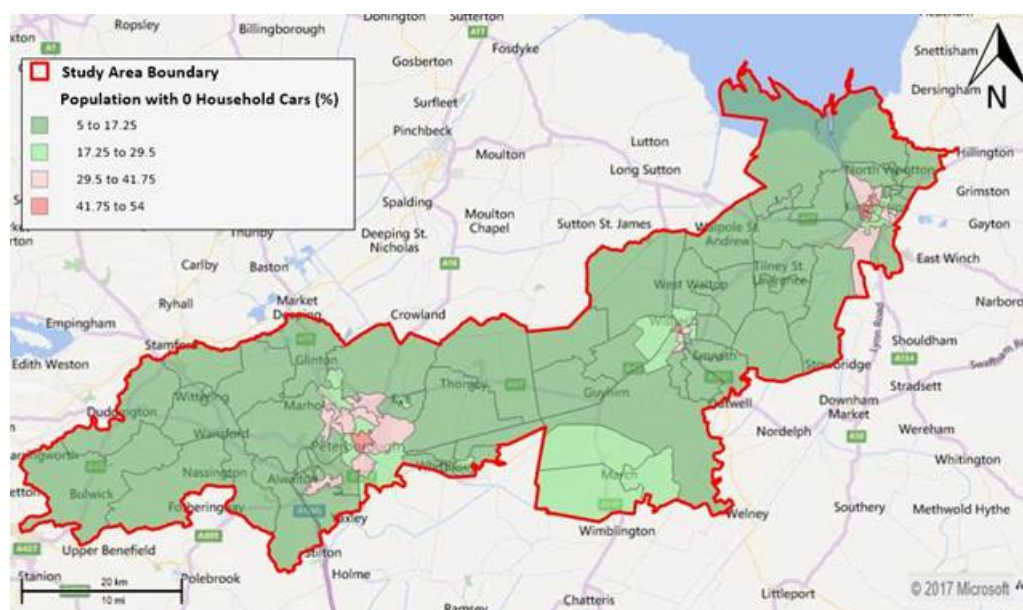
Figure 2.5: Relative Method of Travel to Work by District



Car Ownership

Across MSOAs and LSOAs within the defined Study Area, the variation in relative car ownership is illustrated in Figure 2.6. This highlights the proportion of the population of each MSOA and LSOA with zero cars in their household. A contrasting spatial distribution across the study area is shown, with a relatively high proportion of the population with access to at least one car across rural areas. Low car availability is observed in urban centres, particularly around Peterborough, Wisbech and Kings Lynn.

Figure 2.6: Relative Study Area Distribution of households with no Access to a Car



The proportion of the population across the East of England Region with zero cars per household is 18.5%. Figure 4 in Appendix J illustrates the areas within the study area which have a higher proportion of the population with zero access to a personal car than the East of England average, indicating the majority of the study area has an above average number of households with access to a car. The areas highlighted as having an above regional average proportion of the population with zero access to a car are confined to urban areas, with areas below the regional average across generally rural areas, where levels of dependency on car travel is likely to be higher.

Key Note: Analysis of TTW and car ownership statistics indicate that car ownership is higher than the regional and national average. Rural areas have the highest rates of ownership across the study area and urban areas the lowest.

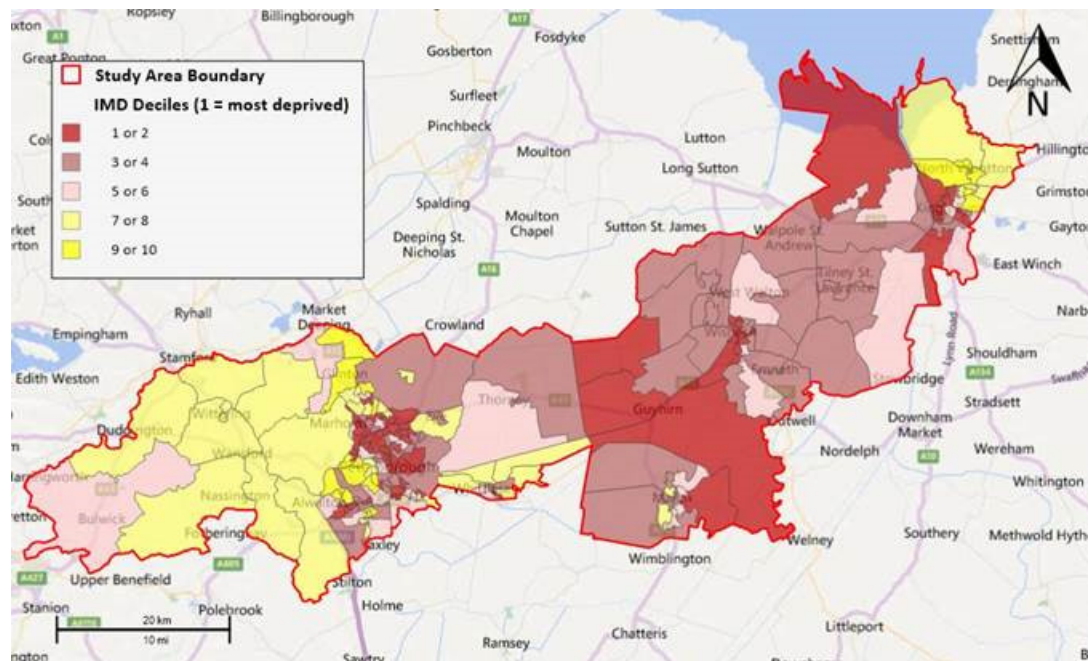
Index of Multiple Deprivation Data

Levels of economic deprivation across the study area have been estimated using the 2015 Index of Multiple Deprivation (IMD) obtained from the Department for Communities and Local Government (DCLG).

This data is available at LSOA level across England. LSOAs are ranked from 1 (most deprived) to 32,844 (least deprived). IMD data is also split into deciles (1 to 10), representing the most deprived 10%, 20% or 30% (and so on) of areas across England.

Within the study area, relative levels of deprivation are estimated using IMD deciles as shown in Figure 2.7.

Figure 2.7: Relative Study Area Distribution of IMD Deciles across each LSOA



As can be seen, many LSOAs towards the centre of Peterborough are amongst the 10% and 20% most deprived nationally as defined by deciles 1 and 2. Other areas considered amongst the most deprived nationally are shown across rural Fenland around Guyhirn and towards the east of the study area south and west of Kings Lynn.

Areas considered to be the least deprived nationally are found at the eastern and western edges of the study area. Notable areas considered amongst the least deprived nationally include residential areas to the west of Peterborough and areas to the north and east of Kings Lynn.

Transport Characteristics & Current Traffic Conditions

Road

The relevant transport characteristics for the A47 corridor are described below. The annual average daily traffic flows have been calculated for the A47 for the following sections and are shown in the table below:

- A16 to Thorney Bypass
- Thorney to Guyhirn
- Guyhirn to Wisbeck
- Wisbeck to Kings Lynn

Table 1: AADT on A47 in 2016³

From/To	Direction	2016 AADF 24 Hour*
A16 to Thorney	EB	12,159
	WB	12,688
	Total	24,847
Thorney/Guyhirn	EB	10,988
	WB	10,795
	Total	21,783
Guyhirn/Wisbeck	EB	9,629
	WB	10,179
	Total	19,808
Wisbeck/Kings Lynn	EB	10,482
	WB	10,557
	Total	21,039

*Supplemented with 2017 data for A16 to Thorney

At this level of the flow, DMBR Vol 5, section1, part 3, TA46/97 would suggest a Dual Carriageway (All Purpose) type of road to accommodate the observed level of flow, as illustrated in Figure 2.8.

Figure 2.8: Recommended Flow Ranges for New Rural Road links⁴

Carriageway Standard	Opening Year AADT	
	Minimum	Maximum
S2	Up to 13,000	
WS2	6,000	21,000
D2AP	11,000	39,000
D3AP	23,000	54,000
D2M	Up to 41,000	
D3M	25,000	67,000
D4M	52,000	90,000

The A47 currently suffers from a large number of commercial vehicle movements and congestion with slow moving HGV's and agricultural vehicles. Also there is a lack of diversions routes which adds to traffic delays due to incidents.

³ Source: DfT WebTRIS website, accessed 5th July 2018.

⁴ Source: DMRB <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol5/section1/ta4697.pdf>

Future Road & Traffic Conditions

Traffic flows on the A47 are expected to increase significantly between 2016 and 2026, with an expected 19.66% increase over 10 years⁵. Calculated AADT flows are presented in Table 2 below.

Table 2: Estimated AADT on the A47 in 2017⁶

From/To	Direction	2026 AADF 24 Hour
Thorney/Guyhirn	EB	13,148
	WB	12,917
	Total	26,065
Guyhirn/Wisbech	EB	11,522
	WB	12,180
	Total	23,702
Wisbech/Kingslynn	EB	12,543
	WB	12,633
	Total	25,176

At this level of the flow, DMBR Vol 5, section1, part 3, TA46/97 would suggest a carriageway type of Dual Carriageway (All Purpose) to accommodate the observed level of flow.

In 2014 the Government published Highways England Road Investment Strategy (RIS) setting out a £15.1 billion investment for 2015-2020 to improve journeys on England's motorways and major A roads through schemes identified to tackle congestion, support economic growth, provide better connections and journey times. The RIS included a package of six schemes to improve journeys on the 115 mile section of the A47 between Peterborough and Great Yarmouth. Within the six schemes, improvements proposed involve converting almost 8 miles of single carriageway to dual carriageway and making improvements to junctions across the route to relieve congestion, improve capacity and the reliability of journey times for drivers.

In relation to schemes within the defined Study Area, the following schemes have been proposed along the A47:

- **A47 Wansford to Sutton dualling:** The section of the A47 between Wansford and Sutton is still currently single carriageway. This is seen to act as a bottleneck, resulting in congestion, increased journey times and a poor road safety. The proposed scheme is expected to relieve congestion, reduce journey times and encourage economic growth; and
- **A47/ A141 Guyhirn Junction Improvements:** The junction between the A47 (and the A141 (March Road) at Guyhirn currently experiences high levels of congestion and long delays. The proposed scheme is expected to increase the size of the

⁵ Source: TEMPro data

⁶ Source: DfT WebTRIS website, accessed 5th July 2018.

existing junction to relieve congestion, reduce journey times and encourage economic growth.

Rail

Currently there is no rail line running through the A47 corridor route connecting Peterborough, Wisbech and Kings Lynn directly.

To the south of the A47, stations are located at Peterborough, Whittlesea, March and Ely, ultimately continuing to Norwich. Between Peterborough and March services run with an approximate 60-minute frequency, with a journey time of 15 minutes. This service is a cross country service operated by East Midland Trains between Liverpool and Norwich. Journey times between Peterborough and Norwich are approximately 90 minutes.

Rail travel between Peterborough and Kings Lynn requires users to change services at Ely to the south of the study area, travelling via Downham Market, with a total journey time of approximately 85 minutes. There is currently no railway station serving Wisbech.

Table 3 highlights the number of passengers using these stations in 2016 and the level of growth over a 5-year period.

Table 3: ORR Estimate of Station Usage: Total entries and Exits for 2012/13 to 2016/17⁷

Station Name	2012-13	2013-14	2014-15	2015-16	2016-17
Peterborough	4,290,598	4,398,491	4,596,144	4,697,874	4,774,744
Whittlesea	23,494	26,938	26,102	28,456	30,474
March	350,246	357,864	378,586	386,610	395,950
Ely	1,878,426	1,976,134	2,068,240	2,131,818	2,209,350
Total	6,542,764	6,759,427	7,069,072	7,244,758	7,410,518

This indicates that rail usage has increased 13.3% in the last 5 years.

Key Note: The A47 corridor carries a substantial number of travellers and is operating above the DMRB guidance of 21,000 AADT flow for the current Wide Single carriageway type, with traffic flows expected to increase significantly in the future. Rail passenger numbers have also increased significantly over the last 5 years suggesting the capacity of both road and rail is reaching its design limits.

Future Rail Conditions

Rail trips in Cambridgeshire are expected to increase by 6.4%⁸ from 2016 to 2026, indicating a significant increase in rail patronage. Table 4 highlights the increase in rail trips between 2016/2017 and 2026/2027

⁷ Source: ORR <http://orr.gov.uk/statistics/published-stats/station-usage-estimates>

⁸ Source: TEMpro dataset v7.2 for Cambridgeshire County Council area selection.

Table 4: TEMPro forecast rail trip increase: 2016/2017 – 2026/2027

Station Name	2016-17	2026-2027
Peterborough	4,774,744	5,080,328
Whittlesea	30,474	32,424
March	395,950	421,291
Ely	2,209,350	2,350,748
Total	7,410,518	7,884,791

The ongoing Wisbech Railway Project is currently reviewing options to reopen the disused Bramley railway line between March and Wisbech, and reinstate rail services between Wisbech, March and Cambridge. A new rail link is considered necessary to support the Wisbech Garden Town (WGT) proposals and associated levels of housing development. In July 2017 FDC recently secured £3.2m funding for GRIP-3 study to test engineering options for reopening the railway line. The proposals also have support of the recently elected GCGP Metro Mayor.

It is anticipated that the reopening of the rail link would significantly improve connectivity and would unlock other economic benefit.

Key Note: *Whilst localised improvements are expected to be implemented in the near future, demand growth for road and rail travel is expected to increase on an already congested network.*

Future Development Proposals

Introduction

This section describes and reviews the local planning and development proposals across each of the three districts within the study area. Information is based on information and targets contained within relevant local plan documents, specific site allocation details as well as additional development information provided directly by local authorities feeding in to this study.

Key Local Plan Site Allocations and Proposed Developments

Peterborough City Council (PCC)

The Peterborough Local Development Framework (Peterborough Core Strategy Development Plan Document) adopted in 2011 covers the plan period to 2026. This document provides a summary of the overall priorities and objectives for PCC. These are as follows:

- Growth that is viable, deliverable and accompanied by appropriate infrastructure;
- Sustainable development that contributes to Peterborough's ambition to be the Environment Capital of the UK; and
- Improvements in the quality of life of people and communities through new development, regeneration, the provision of services and facilities, and the protection and enhancement of our heritage and environmental assets.

The **Regional Spatial Strategy (RSS)** for the east of England covers the Peterborough area. This requires PCC to make provision for 25,000 new properties between 2001 and 2021. It also includes an indicative target of 20,000 additional jobs over the same time period.

The **Local Development Framework Document** also outlines a requirement for a further 7,171 dwellings between 2021 and 2026. To help PCC achieve its growth aspirations and housing targets, the document outlines a number of housing and employment strategic site allocations across the authority area as sites for proposed development.

According to the latest available housing monitoring report published by PCC for March 2017, a total of 7,652 dwellings have been completed since 2009, with 19,649 remaining to meet its housing requirement. Table 5 provides a breakdown of these figures, and provides the locations of completions since 2009 and expected locations of future development.

Table 5: PCC Historical and Proposed Future Housing Development

Location	Minimum requirement at 2009 (to 2026)	Completions and Committed 2009 - 2017	Proposed Future Development Sites to 2026
City of Peterborough			
City Centre	4,300	1418	2,343
District Centres	1,300	391	1,118
Remaining Peterborough Urban Area	4,400	2506	2,139
Proposed Urban Extensions			

Hampton	4,100	1040	3,569
Paston Reserve	1,200	371	963
Norwood	2,300	0	2,300
Stanground South	1,500	1196	515
Great Haddon	5,300	0	5,960
Other Locations/ Villages within PCC authority Area			
Key Service Centres	600	432	330
Limited Growth Villages	450	205	381
Small Villages	50	70	21
The Countryside	0	23	10
Totals	25,500	7,652	19,649

PCC are currently preparing a new updated local plan document for the period to 2036, currently undergoing public consultation which is due for submission in early 2018. This proposes an additional site allocation located at Land to the north of Castor and Ailsworth (Great Kyne), with an indicative 2,500 proposed dwellings.

Fenland District Council (FDC)

The current FDC Local Plan (adopted May 2014) outlines the districts policies and broad locations for growth to the year 2031. In its vision statement, the FDC local plan states that:

“Between 2011 and 2031, Fenland will be a growing district, growing by 11,000 new homes, meeting the housing needs of all our communities. There will be increased employment opportunities across the district and a bolstered tourism economy, and existing businesses will be encouraged to expand. Growth in homes and jobs will be closely linked to each other, with new infrastructure such as schools, roads, health facilities and open space provision planned and provided at the same time as the new buildings.”

In relation to housing, Policy LP4 – Housing emphasizes a target for new housing of 11,000 properties across FDC by 2031. These are split over the areas found in Table 6 below, predominantly over the district’s four main market towns as well as a number of other locations in rural areas and villages.

Table 6: FDC Local Plan Statutory Housing Targets

Total	District Total	Wisbech	March	Chatteris	Whittlesey	Other Locations
	11,000	3,000 + 550 in KL&WN	4,200	1,600	1,000	1,200

In relation to strategic site allocations, the FDC Local Plan outlines a number of specific policies at key locations for housing and employment development in the years to 2031, each with the potential to act as a trip generator or attractor for the A47. Specific site allocations and broad locations for growth across the study area and wider FDC area identified within the Local Plan are detailed as follows:

- Wisbech (Policy LP8):
 - East Wisbech Urban Extension (900 dwellings + 550 houses in KL&WN);
 - South Wisbech Urban Extension (housing and employment);
 - West Wisbech Urban Extension (approximately 750 dwellings and employment); and
 - Nene Waterfront and Port (approximately 300 dwellings and employment).
- March (Policy LP9):
 - South-East March Urban Extension (600 dwellings);
 - South-West March Urban Extension (500 dwellings);
 - West March Urban Extension (2000 dwellings); and
 - March Trading Estate (employment use).
- Chatteris (Policy LP10):
 - East Chatteris (300 dwellings);
 - South Chatteris (850 dwellings and some employment); and
 - North Chatteris (100 dwellings and employment).
- Whittlesey (Policy LP11):
 - Land North and South of Eastrea Road (mixed use including approximately 500 dwellings).

In relation to employment, the FDC Local Plan expects a net increase of 7,200 jobs over the period 2011 to 2031, representing a significant increase in employment opportunities in line with growth aspirations.

Kings Lynn and West Norfolk Borough Council (KL&WN)

The KL&WN Site Allocations and Development Management Policies Plan (adopted 2016) complements the Local Authority's Core Strategy Document, allocating specific land and site allocations to deliver the requirements of Core Strategy development aspirations. The KL&WN Core Strategy (adopted 2011) sets out the spatial planning framework for the Borough up to 2026 and provides guidance on the location and scale of development.

The Core Strategy provides for 16,500 houses across the borough between 2001 and 2026. Between 2001 and 2013, total completions and outstanding committed development (sites with planning permission) totaled 10,155. The Site allocations and Development Management Policies Plan details site allocations which provide for a total of 6,294 dwellings. The document also expects additional development of approximately 222 dwellings per year across KL&WN based on historical trends from windfall site provision, taking total predicted housing growth of 9,180 dwellings from 2013 to 2026.

In relation to the defined study area and in relation to expected trip generation along the A47, the following developments specifically defined within the KL&WN Site Allocations and Development Management Policies Plan are likely to influence forecast traffic growth along the route:

- Kings Lynn Area, including West Lynn (1426 dwellings); and
- Knights Hill, East of Kings Lynn (up to 650 dwellings).

In addition, the following figures are given for additional development across KL&WN in settlements surrounding Kings Lynn and in rural areas:

- Main settlements and settlements adjacent to Kings Lynn (including the 550 houses located within the East Wisbech Urban Extension) = 5199 dwellings; and
- Rural areas and villages = 1095 dwellings.

Across the three local authorities, significant levels of housing and employment growth are expected up to 2026 and beyond. Should no intervention occur, the resulting impact on the A47 is likely to increase delays and congestion along the route, impacting the public, employers, economic growth and deteriorating the current environmental conditions along the route.

Key Note: *Across the three local authority areas, significant development proposals are planned along the A47 corridor which are likely to exacerbate existing issues and worsen traveller experiences on a carriageway which is currently operating above its DMRB guidance limits.*

Wisbech Access Study

In 2014 the GCGP LEP acquired Growth Deal funding to commission the Wisbech Assess Study, a large scale options assessment of multiple highway and junction interventions around Wisbech. The purpose of the study was to review the capability to cope with and facilitate 3500 additional homes and 2500 employment opportunities as part of the proposed FDC local plan. Phase 1 of the study was published in August 2017 and reviewed a number of potential options for the following locations:

- Cromwell Road;
- Elm High Road;
- Freedom Bridge Roundabout;
- Wisbech Bus Station;
- A New River Nene River Crossing to the south-west of Wisbech;
- A new proposed Western Link Road;
- Wisbech Southern Access Road;
- The A47 East Junction; and
- The A47 South Junction.

As a result of the study, an estimated £10.5m package of intervention options has been put forward including proposed improvements at a number of key junctions.

Wisbech Garden Town (WGT) Proposals

Proposals for WGT have emerged since the adoption of both FDC and KL&WN Local Plans and identified site allocations and broad locations for growth. Proposals for WGT involve a construction of an additional 10,000 to 12,000 dwellings and supporting community and retail facilities, in addition to those proposed in the FDC Local Plan.

It is hoped the high levels of deprivation in the area will be reversed through the provision of housing, access to jobs and training, generated by investment and economic growth. It is expected that significant investment in local and strategic infrastructure, local facilities and flood defence will be required to successfully deliver the full proposals for WGT. This would be in addition to the funding and investment to that proposed by HE and by the Wisbech Access Study. The proposed dualling of the A47 is one such investment that may ensure successful delivery of WGT proposals.

In June 2017, the CPCA provided £6.5 million in funding to progress the WGT to the next stage of its development, which will be used to test the viability of the proposals and investigate feasibility issues surrounding flood risk, land acquisition and transport infrastructure. It is expected that this will take two years to complete.

Key Note: *Improvement of the A47 corridor has the opportunity to significantly improve traveller experience and facilitate regional and national institution policy objectives.*

Intervention Objectives and High level Goals

Introduction

The previous chapter summarises the challenges which establish the need for intervention, and describes how these challenges may perpetuate in the absence of any intervention.

A set of intervention objectives have been identified which form a key element of the appraisal process and the basis for demonstrating the strategic case for each option developed. It also identifies how these objectives address the challenges identified, and demonstrates that the objectives are consistent with the wider policy framework.

Cambridgeshire and Peterborough Combined Authority Objectives

The CPCA has set the following objectives:

- Doubling the size of the local economy;
- Accelerating house building rates to meet local and UK need;
- Delivering outstanding and much needed connectivity in terms of transport and digital links;
- Providing the UK's most technically skilled workforce;
- Transforming public service delivery to be much more seamless and responsive to local need;
- Growing international recognition for our knowledge based economy; and
- Improving the quality of life by tackling areas of deprivation

Transport investment is recognised as playing a critical role in meeting these objectives through:

- Increasing network capacity (both road and rail);
- Improving connectivity, particularly around access to employment and housing;
- Unlocking new developments;
- Improving journey time and/or journey time reliability; and
- Providing greater mode choices such as walking and cycling, private car and public transport

The Combined Authority has subsequently agreed a methodology for prioritising infrastructure investment based on specific criteria which aligns with the key principles of a 5-case Business Case model (Strategic, Economic, Financial, Management) as set out below:

Table 7 – Combined Authority Criteria to Prioritise Infrastructure Investment

Case	Criteria
Strategic	<ul style="list-style-type: none"> • Reduce congestion • Unlock housing and jobs
Economic	<ul style="list-style-type: none"> • Scale of impact • Value for money
Financial	<ul style="list-style-type: none"> • Other funding sources / contributors
Management	<ul style="list-style-type: none"> • Delivery certainty • Project risks • Stakeholder support

The Combined Authority's Strategic Case assessment criteria can be considered the Core Objectives behind delivering infrastructure investment.

Scheme Objectives

A transport scheme can have both primary and secondary objectives. The primary objectives are the fundamental outputs of why the scheme is being promoted and therefore must be achieved whereas secondary objectives are other outputs that are achieved along the way, but are not necessary to the success of the scheme. The secondary objectives tend to be delivered as a consequence of delivering the primary objectives, as a causal chain effect.

The primary objectives therefore represent the transport outcomes required by the scheme:

A47 Primary Objectives

The Primary Objectives of dualling the A47 are:

- **Wider economic benefits:** Provide conditions that encourage inward investment in higher value employment sectors in the north of Cambridgeshire and in Norfolk
- **Improve connectivity:** Improve connectivity between the north of Cambridgeshire and Norfolk to Peterborough, the strategic road and rail networks and to national markets
- **Encourage homes and jobs:** Ensure that the planned employment and housing growth along the A47 corridor is promoted, whilst providing for future travel demand between Kings Lynn, Wisbech and Peterborough
- **Tackle congestion and improve journey time reliability:** Tackle congestion and address journey time reliability on the A47 and on local routes impacted by the traffic and congestion on A47

The table below shows how the comparison between the A47 scheme objectives and the Combined Authorities objectives.

Table 8 – A47 Scheme Objectives compared to Combined Authority Objectives

A47 Scheme Objective	Combined Authority Objective
<ul style="list-style-type: none"> • Improve connectivity 	<ul style="list-style-type: none"> • Improve connectivity
<ul style="list-style-type: none"> • Encourage jobs and homes 	<ul style="list-style-type: none"> • Unlock new developments , particularly around access to employment and housing
<ul style="list-style-type: none"> • Wider economic benefits 	
<ul style="list-style-type: none"> • Tackle congestion and improve journey time reliability 	<ul style="list-style-type: none"> • Increase network capacity • Improving journey time and/or journey time reliability

Secondary Objectives

The Secondary Objectives include:

- **Improve road safety:** Reduce personal injury accidents and improve personal security amongst all travellers
- **Improve community health:** by increasing cycling and walking and reducing transport related pollution
- **Sustainable travel:** Increase opportunities for travel, both local and inter-regional, by sustainable transport modes
- **Protect and enhance the environment:** maintain local distinctiveness and conserve natural resources

- **Promote social inclusion:** by ensuring that members of the community can access facilities

Measures of Success

The outcomes from the A47 scheme can be assessed and monitored in a number of ways against the primary objectives, as identified in the table below:

Table 9 – A47 Dualling: Measures of Success

Objective	Outcome	Method of Assessment
Wider economic benefits	<ul style="list-style-type: none"> • Reduced congestion along the A47 and at key junctions between Peterborough and Kings Lynn and • Continued/ increased level of investment in Peterborough, Cambridgeshire and West Norfolk. 	<ul style="list-style-type: none"> • Traffic and travel surveys along the A47 corridor • Census and journey to work statistics for 2021 and 2031 • Employment and salary statistics • Employment sector surveys
Improve Connectivity	<ul style="list-style-type: none"> • Reduced congestion and delay along the A47 corridor and at key junctions • Improved journey times and journey time reliability along the A47 corridor between Peterborough and Wisbech • Maintain and improve accessibility by all modes to key destinations and local settlements along the A47 corridor between Peterborough and Kings Lynn 	<ul style="list-style-type: none"> • Traffic and travel surveys along the A47 corridor • Residents survey undertaken by the relevant Local Authority • Census and journey to work statistics for 2021 and 2031
Encourage homes and jobs	<ul style="list-style-type: none"> • Ensure successful delivery of committed and statutory development across Peterborough, Cambridgeshire and West Norfolk • Improved job and employment prospects along the A47 corridor and in surrounding areas 	<ul style="list-style-type: none"> • Traffic and travel surveys along the A47 corridor • Local authority housing monitoring reports • Residents survey undertaken by the relevant Local Authority • Census and journey to work statistics for 2021 and 2031 • Employment and salary statistics • Employment sector surveys
Tackle congestion and improve journey time reliability	<ul style="list-style-type: none"> • Reduced congestion and delay along the A47 corridor and at key junctions • Improved journey times and journey time reliability along the A47 corridor between Peterborough and Wisbech 	<ul style="list-style-type: none"> • Traffic and Travel Surveys along the A47 corridor

Summary

This section has outlined the current situation experienced by travelers along the A47 corridor. It has outlined the policy context within which the options appraisal will be undertaken and highlighted the issues to be addressed by the shortlist of schemes to be taken forward.

Furthermore, it has highlighted the expected transport issues in the future, provided details of the expected future developments that will impact the transport network and described the scheme objectives and goals.

Problem

The issues and problems along the A47 corridor within the scheme extent can be summarised as:

- **Communities reliant on the A47:** The A47 is an important trunk road linking Peterborough to Kings Lynn and beyond as well as the communities along its route
- **Poor transport links:** The A47 is a mix of dual and single carriageway standards, with slow overall journey times and reaching capacity in parts. Slow journey times are compounded by slow moving HGV and agricultural vehicles
- **Lack of diversion routes:** The A47 has is a lack of adequate diversion routes, which compounds traffic delay following closures due to incidents
- **Communities:** Some of the communities along the A47 between Peterborough and Kings Lynn are some of the most economically deprived areas within the county, compounded by the isolation caused by poor transport links

Defined A47 Scope

The scope of the project is to dual the remaining sections of the A47 to ensure a continuous dual carriageway between the A1 and Kings Lynn, with the primary objectives of:

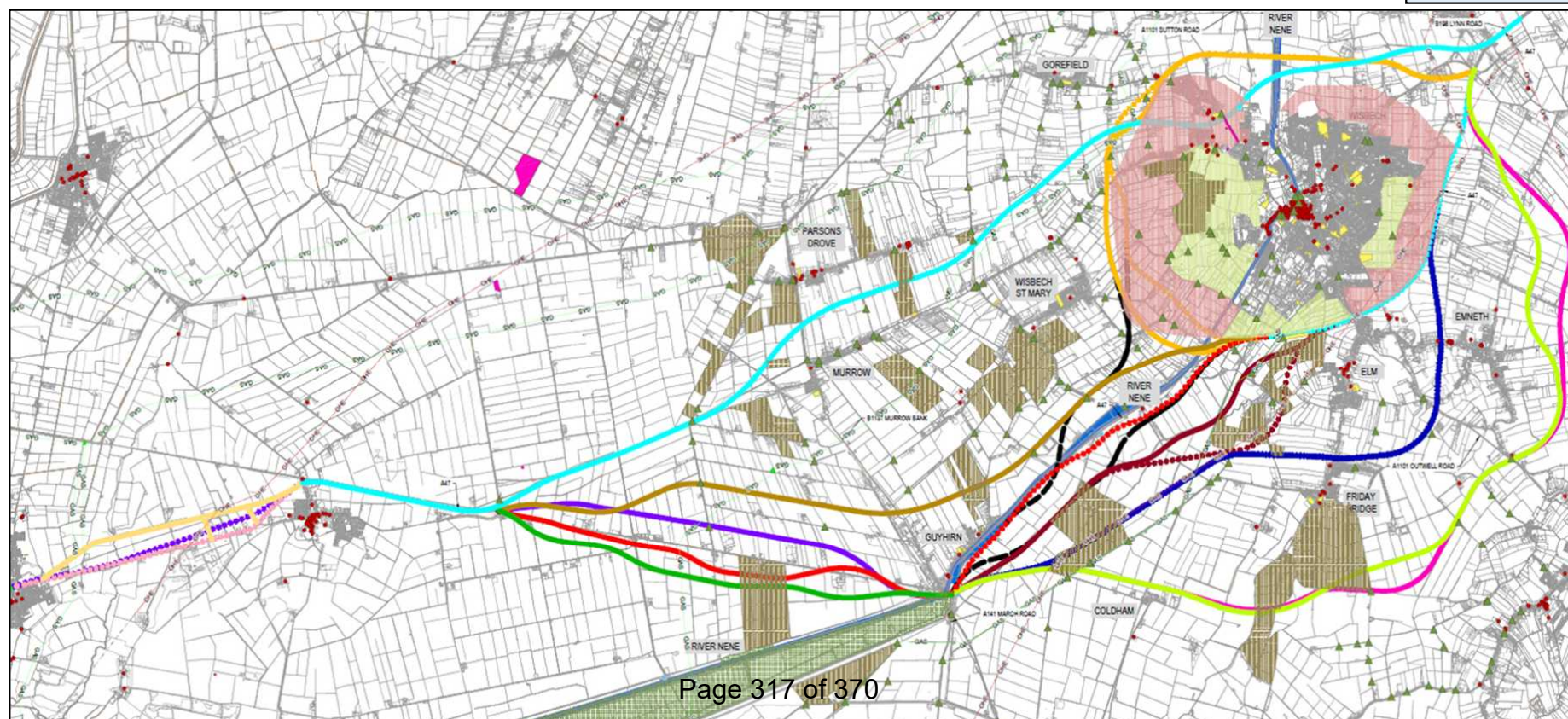
- Increasing wider economic benefits
- Improving connectivity
- Encouraging houses and jobs
- Reducing Traffic delay and congestion

The following section of the report outlines the options developed to mitigate and enhance the corridor, with those expected not to be feasible, or not adequately addressing the issues identified in the above section, being removed from the initial “sift” of options.

This chapter describes the option generation, considerations, assessment and sifting process which has taken place to date, and describes the options which have been identified for further consideration to a second stage

The figure below summarises the evolution of the development of twenty options for intervention, through a series of formal and informal decisions, reports, consultations and internal regular meetings. Detailed constraint and option drawings can be found in Appendix A and H.

Figure 3.1 Twenty Strategic Options



Option Development Strategy

For the purpose of this study and report an approach of splitting the route under consideration in to four sections has been applied. Within the framework we have then developed and assessed options through a three phase approach, these being:

- Phase 1 – An initial options assessment against a series of scheme objectives to identify a shortlist of options to be taken forward for detailed assessment;
- Phase 2 – Detailed assessment of the shortlisted options, including concept highway design, costing, value for money assessment, geotechnical, environmental and flood and;
- Phase 3 – Development of potential route options based on the Phase 2 assessment of section interventions. Route options developed based on synergies of alignment, constraint mitigation, cost and optimized benefits

Phase 1 of the study is based on the DfT's Early Assessment Summary Table (East) and a 'long list' of potential options has been scored against objectives and the following areas:

- Strategic Case;
- Economic Case (Value for Money);
- Management Case (Delivery), and;
- Financial Case.

The Strategic Case drew its objectives from local, regional and national transport policy, whilst objectives for the Economic, Management and Financial Case were taken from the EAST framework were considered appropriate.

This assessment framework was used to score each of the options in a workshop attended by key stakeholders. From this assessment, a short list of options was produced, and these options were taken forward to a more detailed assessment in Phase 2.

Phase 2 of the study developed each of the options progressed from Phase 1 to a concept design level, considered flood risk and construction issues, and calculated a benefit to cost ratio (BCR) for each of the options in isolation.

Similarly Phase 3 of the study develops the short listed options in to Route options providing route corridors between the A16 and Kings Lynn. The routes were initially split in to four sections acknowledges that there may be a concentrated benefits in improving particular sections of the route in a phased approach. Through the development of the section options however the overarching benefits of route intervention have become apparent and therefore three Route Options have been identified and BCR's calculated for consideration.

Phase 1 Initial Option Development and Assessment

Phase 1 Assessment Narrative

The Phase 1 initial option assessment considered a ‘long list’ of potential highway improvements along the route. A series of scheme objectives were identified based on the DfT’s Early Assessment Summary Table (EAST) and review of a local, regional and national policy documents. Each of the options were scored against the scheme objectives in a workshop with technical specialists and built on the previous options study. From this assessment, a ‘short list’ of twelve options was identified for progression to a more detailed assessment in Phase 2 of the study.

Scheme Parameters

Scheme options have been developed based on DMRB core principles with respect to cross-section, link type, horizontal and vertical link design, roundabout, slip road and junction design.

Assessment on junction capacity has shown that the junction strategy for dualling of the A47 at this stage should be that all junctions are at-grade with key junctions formed as roundabouts. Further detailed assessment should be considered to review justification for grade separated junctions, although passive designs may be considered for future-grade separation.

Highway standards departures assessment has not been completed at this stage of scheme development.

Policy Review and Option Identification

Objectives were identified based on the standard Government priorities used within the DfT’s Early Assessment Summary Table (EAST), and which have been categorised based on HM Treasury 5 case business case principles (strategy, economy [value for money], delivery [management], financial and commercial). The commercial case has not been included in this study as it focuses largely on scheme funding which is considered to be speculative for this level of study and scheme development.

Section 1 – A16 to Thorney Bypass

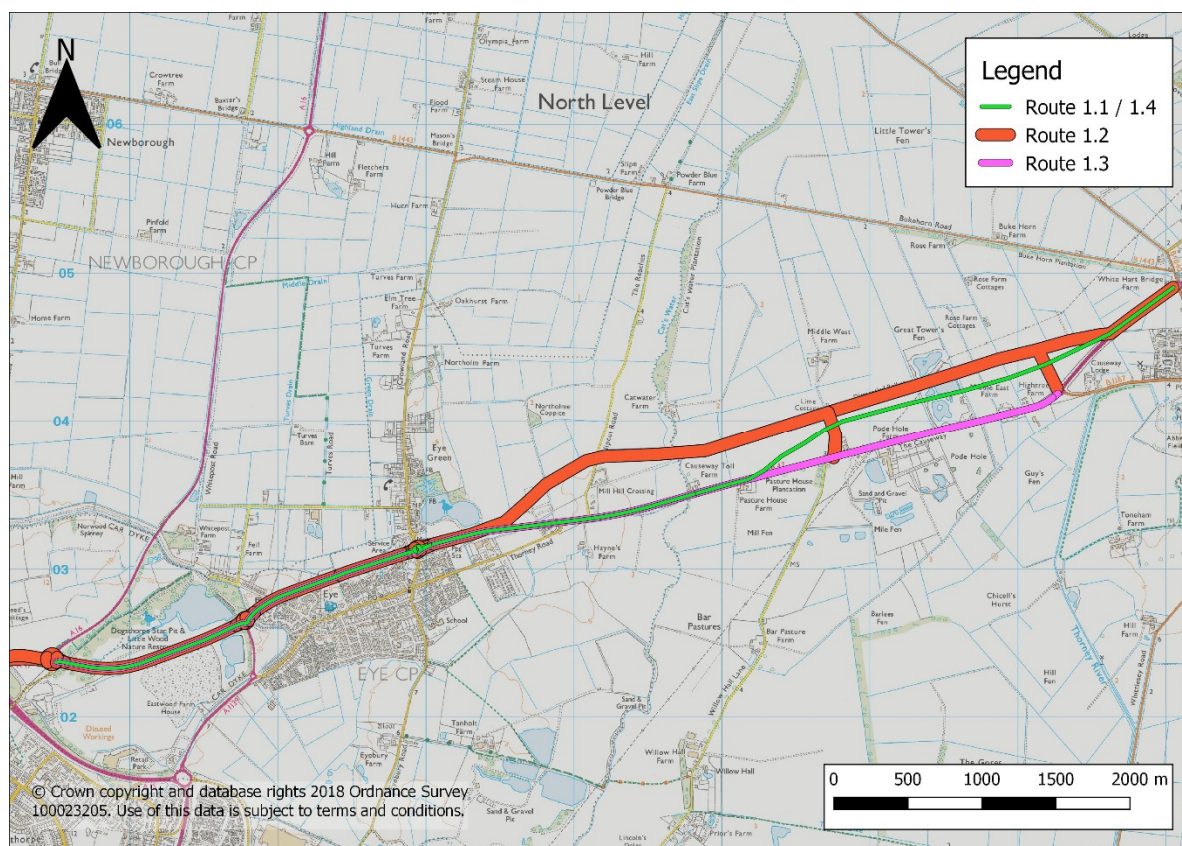
Section 1 runs between the A47 and A16 roundabout at Peterborough in the west and ties into the A47 Thorney Bypass in the east between the roundabouts between the A47/B1167 and A47/B1040. The existing A47 alignment takes an almost straight line between these two locations. There are two existing roundabouts positioned along this route providing access to the village of Eye. In addition, there are a small number of residential and agricultural premises fronting onto the existing highway, as well as Pode Hole Quarry which has direct access onto the A47.

Four sectional route options have been identified:

- **Option 1.1:** Online widening proceeded by dual carriageway construction immediately to the north of the existing A47
- **Option 1.2:** Part online and offline dual carriageway construction to the north of the existing A47 (predominantly following path of disused railway)
- **Option 1.3:** Full online dual carriageway to the north of the existing A47

- **Option 1.4:** As Route 1.1 with one way new build carriageway for eastbound traffic, utilising existing carriageway for westbound traffic

Figure 3.2: Section 1 (A16 to Thorney Bypass)



Sectional Route Option Description			
1.1 (Green D/Carriageway)	1.2 (Red)	1.3 (Pink)	1.4 (Green S/Carriageway)
Length: 8,096m	Length: 7,868m	Length: 7,022m	Length: 8,096m
No of junctions: 6	No of junctions: 5	No of junctions: 4	No of junctions: 6
No of bridges: 2	No of bridges: 2	No of bridges: 2	No of bridges: 2
No of culverts: 15	No of culverts: 7	No of culverts: 5	No of culverts: 15

Section 2 – Thorney Bypass to Guyhirn Junction

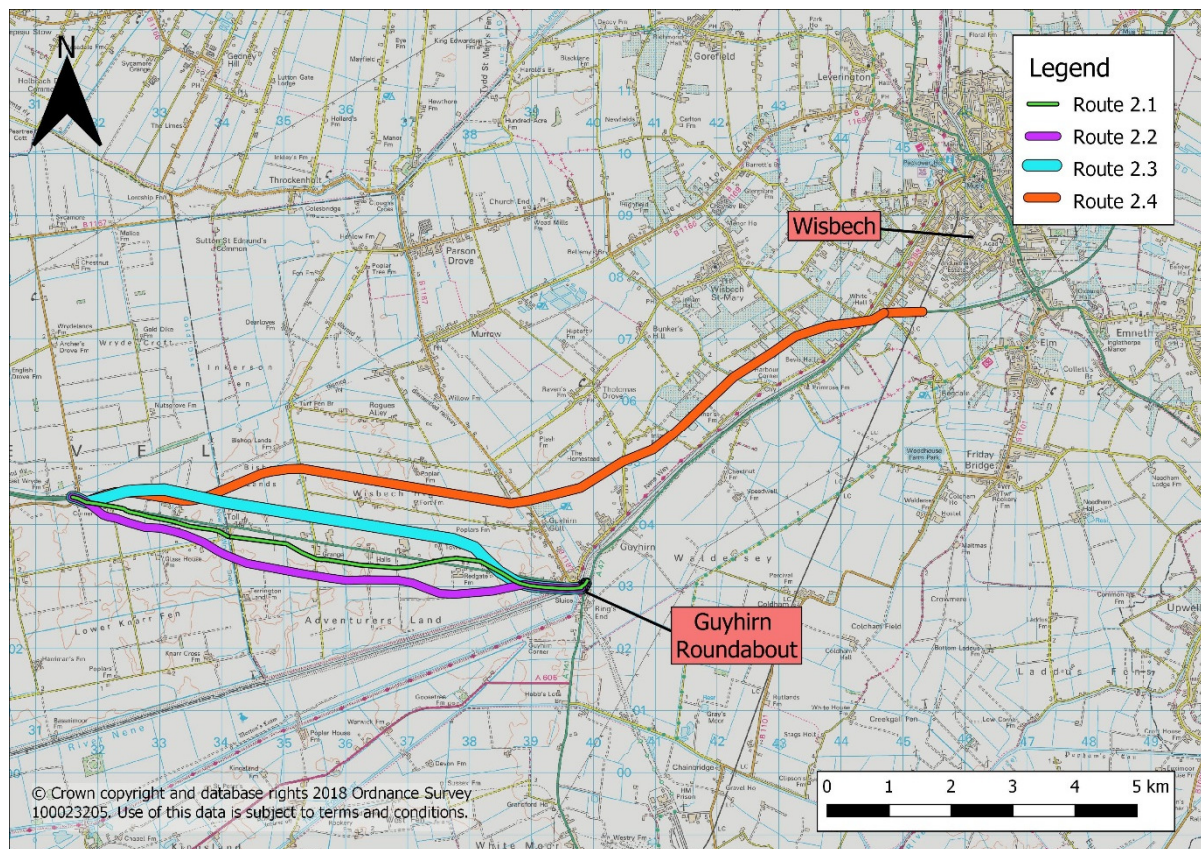
Section 2 runs between the dual carriageway section of A47 at Thorney to the west and Guyhirn roundabout between the A47 and A141 to the east. The existing A47 carriageway takes a direct straight line between these two locations and has a number of residential, agricultural and industrial premises fronting onto the highway. Immediately to the west of Guyhirn roundabout, the A47 crosses the River Nene, and running in a south westerly direction along the River Nene from the roundabout is a SSSI which forms a major constraint. All routes have been designed to avoid encroachment onto this SSSI. Highways England are progressing a scheme to upgrade the existing Guyhirn roundabout to increase capacity. Routes 2.1 - 2.3 in this section are considered to tie into this Highways England

scheme. The whole of section 2 is located within flood zone 3, and the existing carriageway levels along this section should as a minimum be maintained. It is however anticipated that the road levels will need to be increased to satisfy climate change projections.

Four sectional route options have been identified:

- **Option 2.1:** Online dualling of the A47
- **Option 2.2:** Dualling of the A47 south of the existing A47
- **Option 2.3:** Dualling of the A47 north of the existing A47
- **Option 2.4:** Offline dualling Thorney to Wisbech north of Guyhirn village

Figure 3.3: Section 2 (Thorney Bypass to Guyhirn)



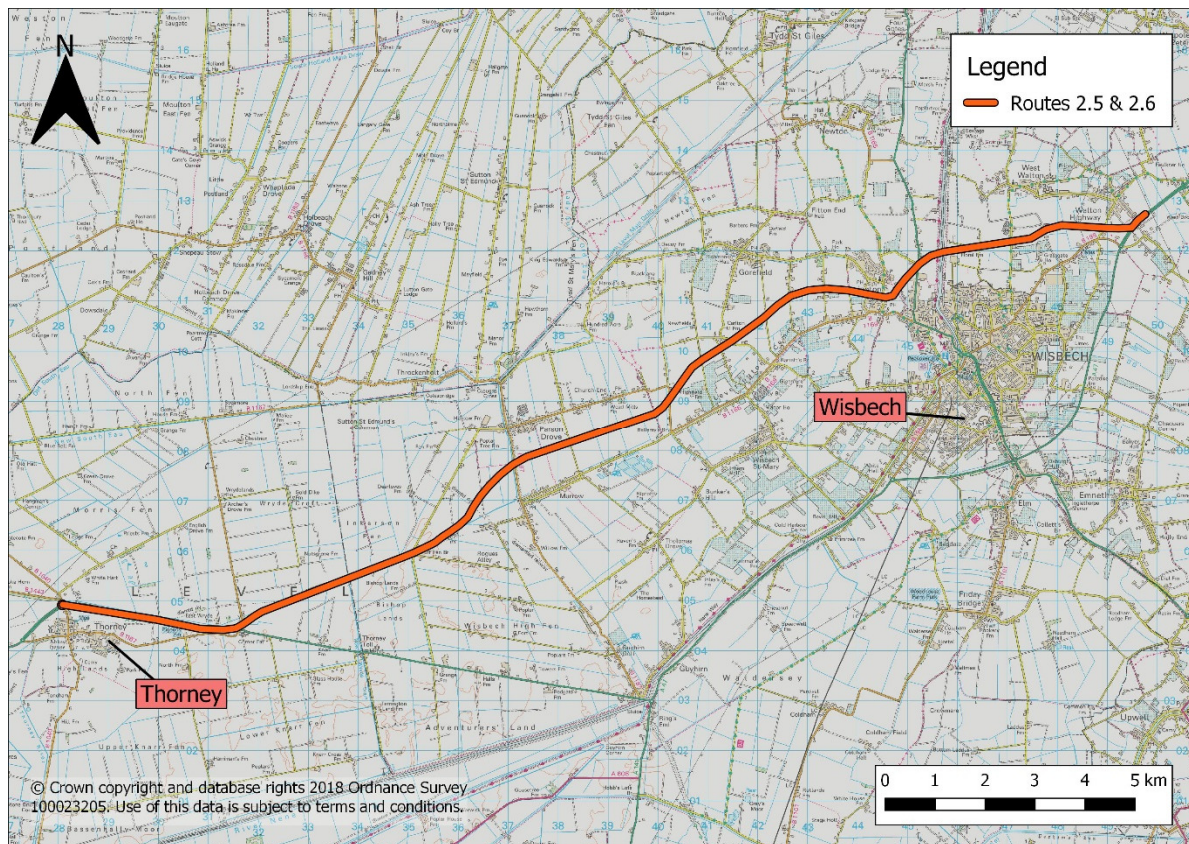
Sectional Route Option Description			
2.1 (Green)	2.2 (Purple)	2.3 (Blue)	2.4 (Orange)
Length: 8,464m	Length: 8,474m	Length: 8,462m	Length: 14,593m
No of junctions: 5	No of junctions: 4	No of junctions: 3	No of junctions: 3
No of bridges: 6	No of bridges: 6	No of bridges: 6	No of bridges: 7
No of culverts: 17	No of culverts: 16	No of culverts: 26	No of culverts: 24

Two further sectional route options have been identified:

- **Option 2.5:** Offline single carriageway Thorney to Walton Highway running to the north of Wisbech

- **Option 2.6:** Offline dualling Thorney to Walton Highway running to the north of Wisbech

Figure 3.4: Section 2 to 4 (Thorney Bypass to Walton Highway)



Sectional Route Option Description	
2.5 (Orange – S/Carriageway)	2.6 (Orange – D/Carriageway)
Length: 21,721m	Length: 21,721m
No of junctions: 5	No of junctions: 5
No of bridges: 14	No of bridges: 14

Section 3 – Guyhirn to Wisbech

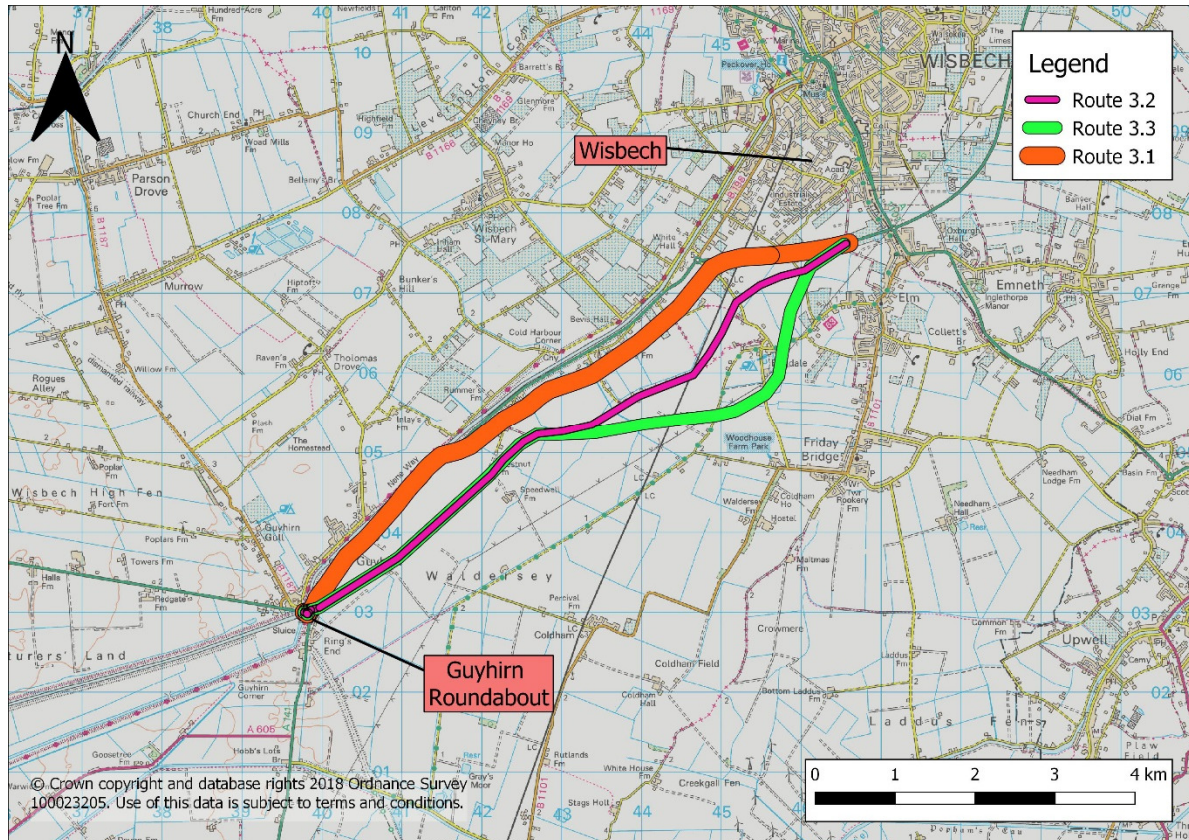
Section 3 runs between the Guyhirn roundabout between the A47 and A141 to the south, and the roundabout between the A47, B198 and Redmore Lane at Wisbech to the north. Highways England are progressing a scheme to upgrade the existing Guyhirn roundabout to increase capacity. All sectional route options within section 3 are considered to tie into the Highways England schemes.

The existing A47 alignment runs parallel to the River Nene between these two locations. There are a number of side roads from the existing alignment serving residential and agricultural premises. There are environmental constraints along the river to the west; therefore all options along this section do not encroach any land to the west of the existing A47 alignment.

Seven sectional route options have been identified and are described and shown below:

- **Option 3.1:** Online dualling of the A47
- **Option 3.2:** Dualling of the A47 south / east of the existing alignment
- **Option 3.3:** Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout

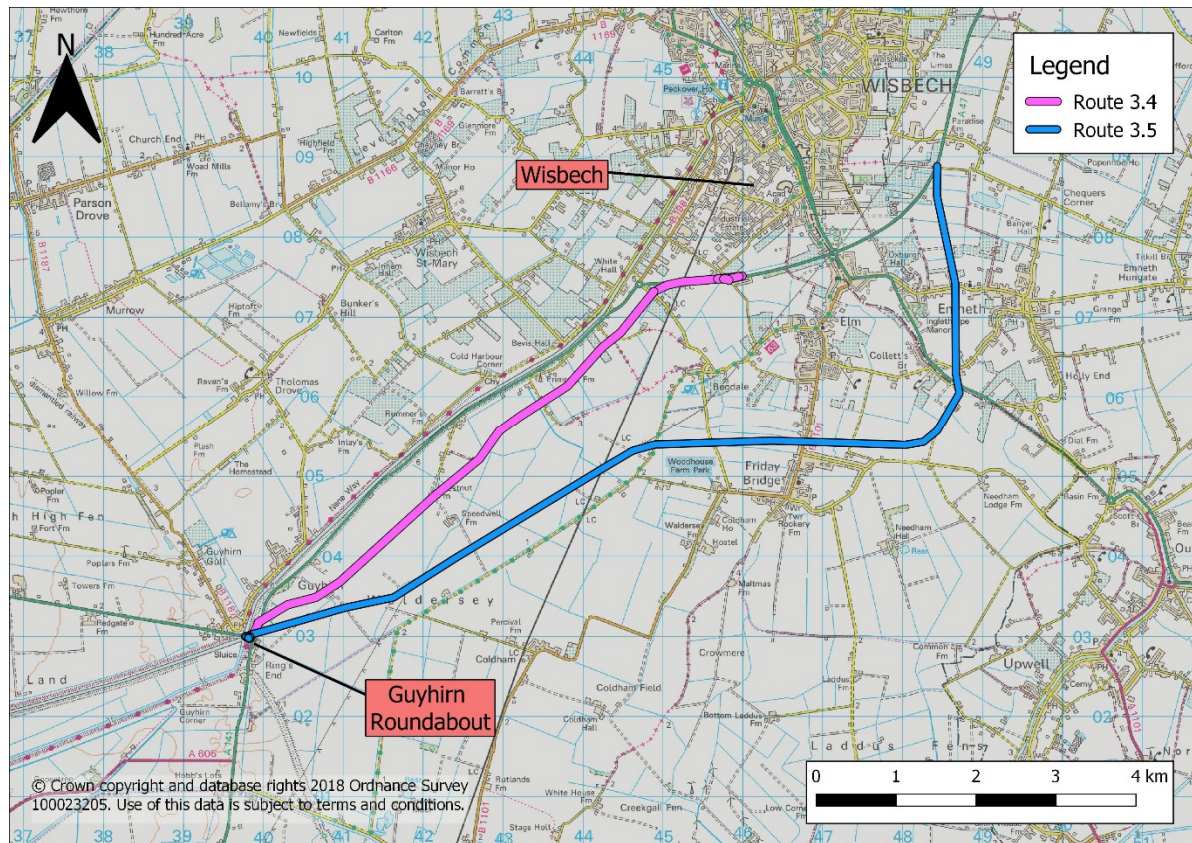
Figure 3.5: Section 3 (Guyhirn to Wisbech)



Sectional Route Option Description		
3.1 (Red)	3.2 (Purple)	3.3 (Green)
Length: 7,545m	Length: 8,587m	Length: 8,915m
No of junctions: 3	No of junctions: 3	No of junctions: 3
No of bridges: 5	No of bridges: 7	No of bridges: 7
No of culverts: 7	No of culverts: 13	No of culverts: 19

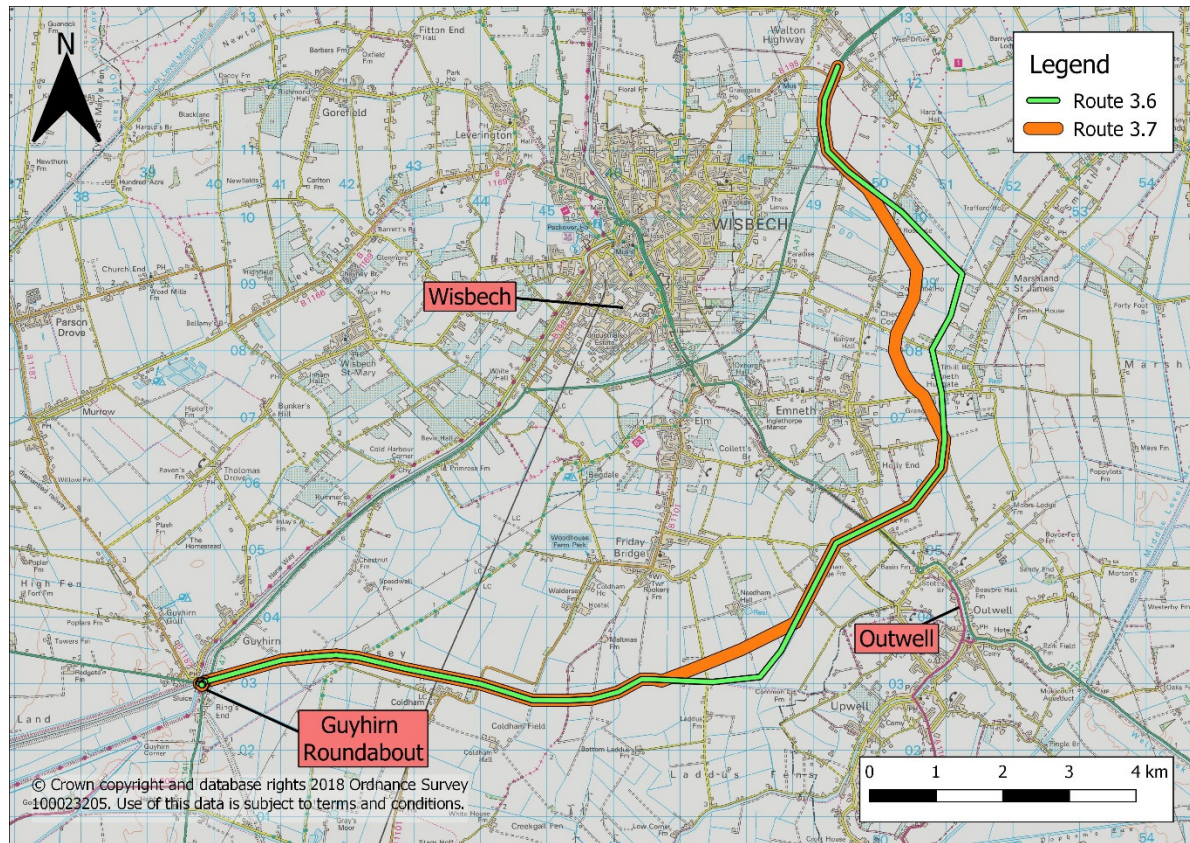
- **Option 3.4:** Hybrid of Routes 3.1, 3.2 and 3.3
- **Option 3.5:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Elm but north of Emneth and Friday Bridge

Figure 3.6: Section 3 (Guyhirn to Wisbech)



Sectional Route Option Description	
3.4 (Purple)	3.5 (Blue)
Length: 7,582m	Length: 13,275m
No of junctions: 3	No of junctions: 3
No of bridges: 4	No of bridges: 5
No of culverts: 18	No of culverts: 24

- **Option 3.6:** Offline dualling of the A47 between Guyhirn and Walton Highway running south of Emneth and Friday Bridge
- **Option 3.7:** Similar to Route 3.6 with minor alignment variations

Figure 3.7: Section 3 (Guyhirn to Wisbech)

Sectional Route Option Description	
3.6 (Green)	3.7 (Orange)
Length: 18,971m	Length: 19,438m
No of junctions: 3	No of junctions: 3
No of bridges: 10	No of bridges: 10
No of culverts: 32	No of culverts: 32

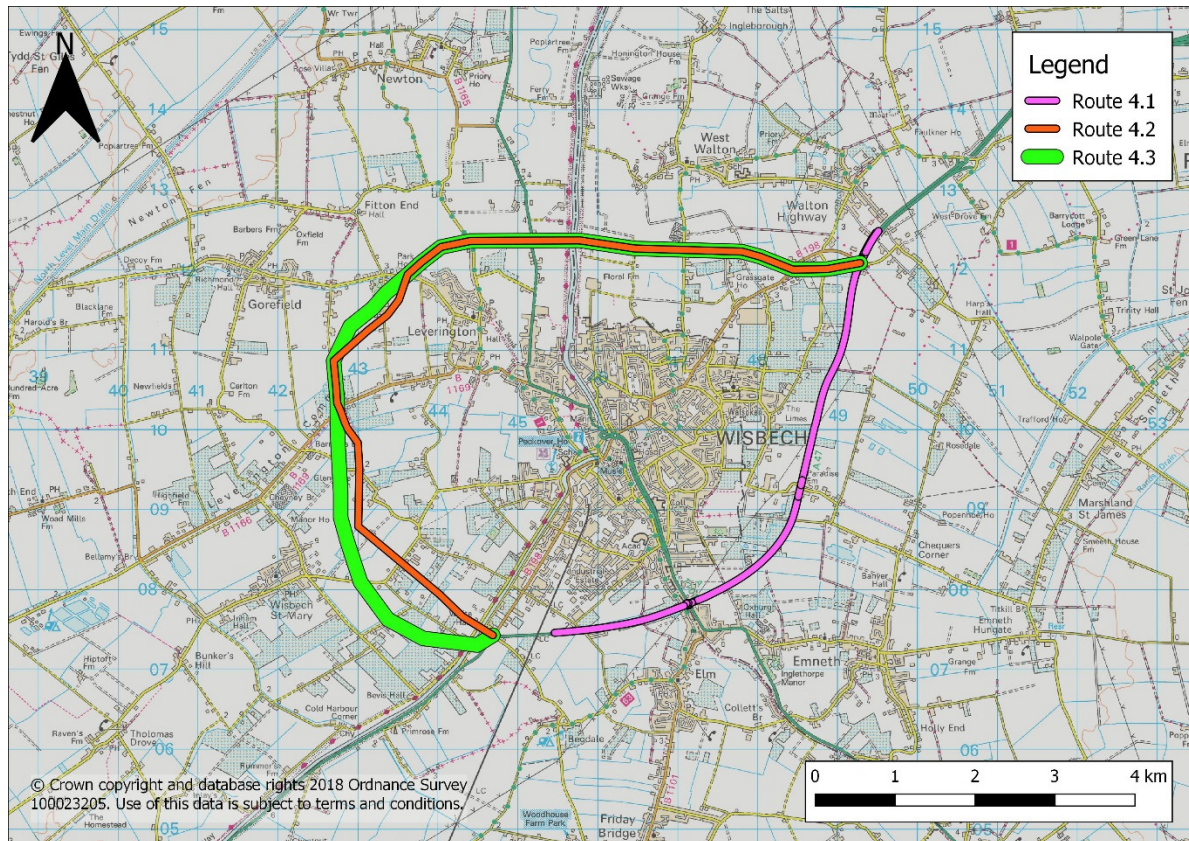
Section 4 – Wisbech Bypass

Section 4 runs between the roundabout between the A47, B198 and Redmore Lane at Wisbech to the south and the roundabout between the A47 and Lynn Road to the north. From this point northwards, the A47 is dual carriageway. The existing A47 runs around the perimeter of the town of Wisbech and within this section are a number of existing and proposed junctions link into the town of Wisbech. All land between the town of Wisbech and the existing A47 alignment has been earmarked for future growth as part of Wisbech Garden Village; this area forms a major constraint through this section. In addition, overhead electric cables supported by pylons cross the existing A47 at three separate locations along this section. Over 50% of this section is located within flood zone 3, and based on recommendations embankments will need to be maintained and potentially increased to account for future climate change projections.

Three sectional route options have been identified and are described below:

- **Option 4.1:** Online dualling of the A47
- **Option 4.2:** Northern Orbital of Wisbech, tying in with the A47 at its junctions with the B198 (Redmoor and Lynn Road junctions)
- **Option 4.3:** Variation on Route 4.2

Figure 3.8: Section 4 (Wisbech Bypass)



Sectional Route Option Description		
4.1 (Pink)	4.2 (Orange)	4.3 (Green)
Length: 6,991m	Length: 11,625m	Length: 12,952m
No of junctions: 5	No of junctions: 4	No of junctions: 4
No of bridges: 1	No of bridges: 9	No of bridges: 10
No of culverts: 5	No of culverts: 18	No of culverts: 29

Sifting Process

An Early Assessment and Sifting Tool (EAST) was undertaken for all initial options in accordance with the following primary categories:

- **Economic;** growth, carbon emissions, social-distributional impacts and regions, local environment, wellbeing, expected value for money category
- **Managerial;** implementation timetable, public acceptability, practical feasibility, quality of the supporting evidence, key risks

- **Financial;** affordability, capital cost, revenue cost, cost profile, overall cost risk, other costs
- **Commercial;** flexibility of option, funding path, income generation

An assessment was also conducted on the initial options based on the Combined Authorities Strategic Case assessment as follows:

- **Strategic;** reduce congestion, unlock housing and jobs
- **Economic;** scale of impact, value for money
- **Financial;** other funding sources / contributors
- **Management;** delivery certainty, project risks, stakeholder support
- Buildability

With the results from the workshop and sifting tools the options have been scored against each of the objectives on a seven-point scale from +3 to -3, as follows:

+3	major benefit at a regional level
+2	major benefit at a more local level or more minor benefit at a regional level
+1	minor benefit at a local level
0 neutral	No impact
-1	minor disbenefit or negative impact at a local level
-2	major disbenefit at a more local level or more minor benefit at a regional level
-3	major disbenefit at a regional level

The results can be viewed below with those choices being shortlisted highlighted in grey:

Route Options	Strategic		Economic		Financial	Management			Buildability	Total	VFM	Comments
	Reduce congestion	Unlock housing and jobs	Scale of impact	Value for money	Other funding sources / contributors	Delivery certainty	Project risks	Stakeholder support	Buildability			
1.1 Yellow	3	3	3	2	2	3	2	2.50	3	23.5	47	
1.2 Purple Dotted	3	3	3	2	2	2	1	-1	1	16	32	Buildability
1.3 Pink Dotted	3	3	3	2	2	1	1	0	0	15	30	
1.4 Yellow & Purple Dotted	3	3	3	1	2	2	1	0	1	16	16	Buildability
2.1 Red	3	3	3	2	2	1	0	-2	0	12	24	Buildability / Stake holder Support
2.2 Green	3	3	3	2	2	2	2	2	3	22	44	
2.3 Purple	3	3	3	2	2	2	1	1	1	18	36	
2.4 Brown	3	3	3	2	1	1	2	2	3	20	40	Can't be readily phased
2.5 Light Blue (Single Carriageway)	3	3	3	2	2	1	2	2	3	21	42	Phased Build
2.6 Light Blue (Dual Carriageway)	3	4	3	2	1	1	2	2	3	21	42	Phased Build
3.1 Red Dotted	3	3	3	2	2	-2	-1	-1	-1	8	16	
3.2 Claret	3	3	3	2	2	2	2	2	3	22	44	
3.3 Claret Dotted	3	3	3	2	2	2	1	1	2	19	38	Doesn't deliver Housing Growth
3.4 Black	3	4	3	2	2	2	2	2	3	23	46	
3.5 Dark Blue	3	1	2	2	1	2	1	-1	2	13	26	Doesn't deliver Housing Growth
3.6 Lime Green	2	1	1	0	1	2	3	0	3	13	0	Doesn't deliver Housing Groth
3.7 Pink	2	1	1	0	1	2	3	0	3	13	0	Doesn't deliver Housing Groth
4.1 Light Blue Dotted	3	3	3	3	2	2	2	1	2	21	63	
4.2 Dotted Orange	1	1	2	1	1	1	0	1	1	9	9	Poor policy fit
4.3 Orange	1	2	2	1	1	1	0	1	1	10	10	Poor policy fit

Benefit Cost Ratio

The table below summarises the analysis of monetised costs and benefits (AMCB). The costs and benefits are calculated based on the following:

- Scheme cost (2018 prices)
- Risk and optimism bias adjusted cost (2018 prices excl. VAT)
- Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 prices
- Discounted Risk and optimism bias adjusted cost in 2010 market prices

User Benefits (PVB) for the initial BCR are based on vehicle user time savings (excluding passenger service vehicles), and include two tests:

- Core test: based on TEMPRO 7.2 Government Forecast
- Sensitivity test: based on 50% increased growth and delay resulting from increased growth aspirations

OPTION	PVC	PVB	NPV	BCR
1.1	£72,747,885	£86,410,917	£13,663,032	1.19
1.2	£65,634,038	£89,697,415	£24,063,377	1.37
1.3	£35,608,742	£102,108,304	£66,499,562	2.87
1.4	£52,111,957	£81,421,090	£29,309,133	1.56
2.1	£128,065,399	£117,773,534	–£10,291,865	0.92
2.2	£127,495,835	£117,733,714	–£9,762,120	0.92
2.3	£134,543,269	£117,693,857	–£16,849,412	0.87
2.4	£173,256,311	£248,979,075	£75,722,764	1.44
2.5	£164,834,152	£316,252,792	£151,418,640	1.92
2.6	£243,973,641	£330,741,099	£86,767,457	1.36
3.1	£79,964,967	£62,881,725	–£17,083,242	0.79
3.2	£99,324,086	£45,414,260	–£53,909,826	0.46
3.3	£95,889,473	£39,915,864	–£55,973,609	0.42
3.4	£90,232,537	£62,261,479	–£27,971,058	0.69
3.5	£127,061,687	£212,931,899	£85,870,212	1.68
3.6	£177,993,176	£123,161,492	–£54,831,685	0.69
3.7	£181,647,783	£115,801,453	–£65,846,329	0.64
4.1	£58,506,564	£125,716,406	£67,209,842	2.15
4.2	£149,520,049	£57,331,978	–£92,188,071	0.38
4.3	£163,988,768	£13,309,609	–£150,679,158	0.08

PVC = Present Value of Costs (2010 Market Prices)

PVB = Present Value of Benefits (2010 Market Prices)

NPV = Net Present Value (2010 Market Value)

BCR – Benefit to Cost Ratio

Table 10 – A47 Dualling Options: Benefit to Cost Ratios (Sensitivity Test)

Qualitative assessment of benefits

The appraisal of the identified options for dualling the A47 indicates a range of BCRs which suggest that the options identified could be shortlisted to include only those options which offer medium or high value for money based on the Department for Transport value for money categories:

- Very High: BCR greater than or equal to 4
- High: BCR between 2 and 4
- Medium: BCR between 1.5 and 2
- Low: BCR between 1 and 1.5
- Poor: BCR between 0 and 1
- Very Poor: BCR less than or equal to 0

It should be noted that BCRs are only one measure of benefit and the strategic importance of the potential routes in providing a corridor unlocking Norfolk and in particular the ports to the midlands and the wider national markets, in addition to improving local links, should also be considered.

Results and Key Themes from Initial Option Assessment

The results show that the bypass options score negatively, largely because they achieved a detrimental score on social and distributional impacts including severance on villages. Although the bypass options provide benefits in terms of offline construction and the potential for unlocking development opportunities, they potentially poor use of the existing infrastructure and have a significant impact on the local environment, including landtake.

The options between Thorney and Wisbech all score positively, largely because of their potential to unlock housing, they have the opportunity to improve gateways to Wisbech, significantly improving access to services and the options are considered to be publicly acceptable with few contentious features.

In summary the results of the assessment show that all the routes would be equally viable except for:

- **Option 1.3:** is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction;
- **Options 2.1 and 3.1:** is unlikely to receive stakeholder support due to its impact on existing properties as well as traffic disruption during its construction;
- **Options 3.5, 3.6 and 3.7:** fail to deliver housing growth around Wisbech, due to their routing to the south of the town; and
- **Options 4.2 and 4.3:** fail to reduce existing congestion on the A47 Wisbech bypass (being a longer and therefore unattractive route) and likely to offer poor value for money.

It should also be noted that:

- **Options 2.4, 2.5 and 2.6** cannot be readily phased. The whole route would have to be built in a single build before significant benefits could be realised, in comparison

with Thorney to Guyhirn as Phase 1 (Option 2.2 or 2.3) and Guyhirn to Wisbech as Phase 2 (Option 3.2, 3.3 or 3.4):

- **Option 2.6** has the biggest potential to unlock Wisbech Garden Town and maximise wider economic benefits

Table 11 – Summary of Sectional Options to be assessed in further detail

Section	Option	Description
Section 1 (A16 to Thorney Bypass)	1.1	Dual carriageway immediately to the north of the existing A47
	1.2	Part online and offline dual carriageway to the north of the existing A47 (predominantly following path of disused railway)
	1.4	As Route 1.1 as a one-way single carriageway for eastbound traffic, utilising existing carriageway for westbound traffic
Section 2 (Thorney Bypass to Guyhirn)	2.2	Dualling of the A47 to the south of the existing A47
	2.3	Dualling of the A47 to the north of the existing A47
	2.4	Offline dualling Thorney to Wisbech north of Guyhirn village
Section 2 to 4 (Thorney Bypass to Walton Highway)	2.5	Offline single carriageway Thorney to Walton Highway running to the north of Wisbech
	2.6	Offline dualling Thorney to Walton Highway running to the north of Wisbech
Section 3 (Guyhirn to Wisbech)	3.2	Dualling of the A47 south / east of the existing alignment
	3.3	Dualling of the A47 south / east of the existing alignment, tying in east of Redmoor Roundabout (B198).
	3.4	Hybrid of Routes 3.2 and 3.3
Section 4 (Wisbech Bypass)	4.1	Online dualling of the A47

Detailed Assessment of Short-listed Options

Introduction

Following the assessment of the initial options, shortlisted options have been developed and assessed against the 'Five Cases Model' criteria, in line with the Government's Transport Appraisal Guidance (WebTAG Unit 2.1.2c) and Highways England business case approach.

Locally specific criteria, including environment and ecology, and land use (impact on farming and local businesses) are also considered given their particular significance in the area.

Ecological and Environmental Assessment

Environmental impacts include those where the physical expression of the option is paramount, that is Landscape, Heritage, Biodiversity and Water Environment, and those where the impact arises from changes in the traffic flows and their characteristics, namely Air Quality, Greenhouse Gases and Noise.

A Routes Ecology Desk Study Summary (EDSS) has been compiled from data provided by Cambridgeshire and Peterborough Environmental Records Centre (CPREC) within a 2km corridor around the various route options and use of the Multi Agency Geographical Information for the Countryside (MAGIC, 2008) for information on UK and European protected sites and important sites, including;

- Sites of Special Scientific Interest (SSSI);
- Special Protection Areas (SPA);
- Special Areas of Conservation (SAC);
- Ramsar sites;
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);
- Areas of Outstanding Natural Beauty (AONB);
- Ancient Semi-natural Woodland (ASNW) and
- Mapped Biodiversity Priority Habitats.
- Establish if any European Protected Species Licenses have been granted within 2km of the scheme corridor
- Review of Local Biodiversity Action Plans.

The above resources and Ordnance Survey maps were studied to locate any ponds or water bodies within 500 metres of the scheme and its options. A search for internationally designated sites within 5km of the scheme footprint was also undertaken.

Existing Ecological Data and Information Summary

The following designated sites are present within the A47 Scheme Corridor search area;

International sites:

- Nene Washes Special Protection Area (SPA)
- Nene Washes Special Area for Conservation (SAC)

- Nene Washes Ramsar

National sites:

- Nene Washes Site of Special Scientific Interest (SSSI)
- Dogsthorpe Star Pit SSSI
- Eye Gravel Pit SSSI
- Eye Green Gravel Pit SSSI
- Rings End Local Nature Reserve (LNR)
- Dogsthorpe Star Pit LNR

Local sites:

- Nene Washes Counter Drain County Wildlife Site (CWS)
- Willock Farm Orchard CWS
- River Nene CWS
- Leverington Gull CWS
- Garners Orchard CWS
- Cat's Water Drain CWS
- Eye Gravel Pit CWS
- Eyebury Road Pits CWS
- Hundreds Farm Drain CWS
- Little Wood CWS and
- Middle Drain CWS

Protected species:

Records for European protected species including otters, bats and great crested newts were returned by CPREC. Similarly records for nationally protected species including water voles, badgers, reptiles and fish were also returned by CPREC.

Over 40 Schedule 1 bird species records were returned by CPREC within the A47 Scheme corridor study area with the following species most likely to be encountered;

- Barn owl
- Kingfisher
- Cetti's Warbler
- Marsh harrier
- Hen Harrier
- Bittern
- Crane
- Bearded Tit
- Bewick swan
- Whooper swan
- Fieldfare
- Redwing

In summary, the Scheme Corridor and Route Options proposed for the A47 improvements comprises numerous habitats and designated sites all of which already support or could support a number of

protected species. Further information through thorough survey is required to identify the location and extent of populations of important faunal species and habitats before a final decision is made on the preferred route option. The likely surveys required are shown below;

- Extended Phase 1 habitat survey;
- Phase 2 surveys which are likely to require surveys for the following species/groups;
- Bats (initial ground level assessments of trees (any time), internal/external surveys of buildings and other suitable structures (any time but best in Jan/Feb for hibernation roosts) and activity surveys May – Sept/Oct);
- Great crested newts (initial Habitat Suitability Assessments with possible follow up surveys March – June);
- Otters (any time but spring is optimum);
- Water voles (April – Sept/Oct);
- Badgers (Any time but best in winter);
- Barn owl (roost and nest site surveys (various timings);
- Breeding birds (April, May, June);
- Wintering birds (Nov, Dec, Jan, Feb);
- Reptiles (April -Sept/Oct);
- Aquatic invertebrates (April – June);
- White-clawed crayfish (July - October depending on method);
- Fish;
- National Vegetation Classification surveys on sites of botanical interest, most likely to be in designated sites (timing dependant on habitats present); and
- Habitats Regulations Assessment (HRA) / Appropriate Assessment (AA)

Geotechnical Assessment

A Routes Geo-Assessment (GA) has been compiled following the typical format for a geotechnical Preliminary Sources Study Report (PSSR). The desk based assessment has sought to determine the likely geological strata present beneath the various proposed Routes for the new A47 dual-carriageway scheme and highlight any potential geotechnical and/or geoenvironmental issues that may arise from them.

The Geo-Assessment identifies areas of known or potential impact by man, such as infilled sand and gravel pits or quarries, which would also impact upon highway design and construction. Where potential geotechnical and/or geoenvironmental hazards have been identified for the proposed Routes, these will support production of a specific Geotechnical Risk Register at a later stage.

General Description

At the time of report production, the land within the A47 Scheme Corridor generally comprises open agricultural arable land used for growing various crops throughout the seasons. The area is typified by large flat and open fields, subdivided by open ditches/dykes and occasionally hedgerows containing mature trees. The field system is connected by a network of farm lanes and minor roads typically known as 'Droves', which regularly run alongside or cross the numerous open ditches and dykes over culverts or small bridges. The western sections of the proposed route options, between the A16/A47 Roundabout and Eye, passes in close proximity to former sand and gravel extraction pits.

The River Nene flows near northeastwards through the area of interest and in the past has been straightened to the southwest of Wisbech to flow in navigable channels with a major bridge crossing at Guyhirn, located near central along the existing A47. Route specific topographical surveys have not been reviewed as a part of this assessment, however, in general the proposed Routes are located within a flat part of the UK with natural elevations along the Routes typically varying between approximately 0m above Ordnance Datum (mOD) and around 3mOD. The western end of the area of interest, rises from the low-lying elevations to between 5mOD at Eye and 12mOD at the A16/A47 roundabout. Elevations vary slightly away from the western end of the routes, where flood or highway embankments are present.

Sources of Information Used

The Geo-Assessment for the A47 Scheme Corridor has been based upon the following information:

- The Coal Authority Interactive Map, online resource;
- BGS Geological Mapping:

I, Map Sheet 158 'Peterborough', dated 1984, published at 1:50,000 scale;

II, Map Sheet 159 'Wisbech', dated 1995, published at 1:50,000 scale; and

III, Digital Geological Map of Great Britain (DiGMapGB-50); available as a Web Map Service.

- Historical Maps from <https://www.old-maps.co.uk> and <http://maps.nls.uk>
- Google Earth satellite imagery and ground level streetview, dated 2000 to present day.

Geology

The BGS geological map data indicates that the majority of the Scheme Corridor is covered by the superficial deposits of the Terrington Beds and/or Barroway Drove Beds. These recent deposits extend from Wisbech in the east to approximately 1.5km west of Thorney village centre, on the existing A47 route. Typically, the Terrington Beds comprise firm and stiff silty clay/clayey silts and loose to medium dense fine sands, forming a 'firm crust' over the very soft and soft organic clays and silts of the Barroway Drove Beds. The Barroway Drove Beds contains laterally impersistent lenses, seams and more substantial layers of peat (known as the Nordelph Peat) within it, which can vary in thickness from 1mm to 3m and generally appear as a dark brown and black fibrous peat with remnant intact reeds. These deposits are shown to have been cut through by numerous more recent former, eastwards and northwards draining, water channels, known locally as 'Roddons', which have become infilled with silt and fine sand over time.

The underlying solid geology strata are shown to be of the Oxford Clay Formation in the west of the Scheme Corridor and the West Walton Formation/Amphill Clay (undifferentiated) in the eastern part, with the boundary falling approximately below the village of Guyhirn. All of the solid geology strata typically consist of stiff to hard fissured clay with occasional concretionary limestone nodules, known locally as 'Doggers', and intermittent competent limestone bands.

The BGS mapping does not indicate the presence of any significant geological faulting within the majority of the Scheme Corridor. A single near east to west trending fault (the Tinwell-Marholm Fault) is shown running through the western extent, from approximately 500m north of Thorney village centre to around 800m north of the A16/A47 roundabout. The main fault is downthrown to the north

with an approximate displacement of 35m, with the secondary fault downthrown to the south with a displacement of about 25m.

BGS Exploratory Hole Records

The BGS hold historical exploratory hole records indicate that the superficial stratum ground profile is varied in both composition and distribution (laterally and with depth) reflecting the changeable ground conditions.

Coal Authority Records, Other Man-Made and Natural Cavities

The A47 improvement Route options and their immediate surrounds have been reviewed using the Coal Authority (CA) Interactive Map, which indicates that the Scheme Corridor is not located within an area of coal reserves or former coal mining activities. Therefore, the risk posed to the area of interest from either surface or below ground coal mining activities is considered to be negligible.

Existing Data and Information Summary

In summary, the area of interest for the proposed A47 Routes is typified by a cover of superficial deposits, which are very variable in composition and distribution, both laterally and with depth. These deposits include very soft organic clays, compressible peat and very loose and loose silts and sands, which are formed in narrow channels and more open depositional features, and therefore ground conditions can change significantly in relatively short distances, especially where deposits are cut by Roddons. The western end of the proposed Routes around Eye and west of Thorney, has a localised cover of River Terrace Deposits and March Gravels Member, which have been worked locally in the past. The whole of the Scheme Corridor is shown to be underlain at varying depth by Jurassic clays of the Oxford Clays, West Walton Formation and Ampthill Clay.

Historically the western part of the Scheme Corridor has been worked locally for sand and gravel (aggregate) deposits and clay for brick making with associated buildings, mineral railways and elevated ropeways. Further mainline railway lines, with associated stations, sidings and bridges were present, but have since been dismantled, and the current A47 alignment follows the historical railway lines in places.

Geo-Assessment of Route Options

For each Route alignment the published BGS geological records have been consulted and reviewed with the BGS database of historical exploratory whole records consulted. Each proposed A47 route alignments, generally passing from west to east has been assessed in turn for the likely geological conditions present, which will inform a Route option specific Geotechnical Risk Register at a later stage.

Shortlisted Options and Detailed Assessment

Section 1 – A16 to Thorney Bypass Description

In addition to the constraints described and accounted for in the initial option assessment, overhead electric cables supported by pylons cross the existing A47 at one location within this section. Most of this section lies outside of the flood zone with only a short length of the A47 at the eastern extent lying within. Due to the proximity of the area to flood zone 3, it is anticipated that road levels will need to be maintained and possibly raised to account for future climate change projections.

All options within this section involve upgrading the westernmost 2.5km of existing carriageway from single to dual carriageway, between the A47/A16 roundabout at Peterborough and the A47/Crowland Road roundabout at Eye. There are no existing premises along this section, meaning that construction will require little demolition. There is however an existing pedestrian overbridge within which will need to be replaced as the current span is not sufficient to accommodate a 4-lane dual carriageway.

Option 1.1

Option 1.1 takes an alignment that runs neatly along field boundaries to the north, taking the A47 away from properties fronting directly onto the existing highway, however the alignment does run close to agricultural premises set back from the A47. The route ties in along Thorney bypass to the north of the A47/B1167 roundabout. Route 1.1 is considered as a dual carriageway arrangement. The proposal also offers two links back to the existing alignment, one serving Pode Hole Quarry, and the other back to the B1167 roundabout.

With the route being predominantly offline, the buildability is considered good however there is an area of pond land that the route passes close to, so environmental constraints and localised issues with construction may be encountered.

Land Ownership

The wide existing carriageway and wide verges suggest that the online section of the route could be largely constructed within existing highway land. There is a pinch-point at the roundabout with Crowland road where the highway land narrows, and land acquisition may be required. The offline section of the route runs generally along existing field boundaries to reduce land severance.

Utilities

A major strategic gas main crosses under the proposed alignment at chainage 3800. At this stage the depth is unknown, but the main runs beneath the existing carriageway. Levels may need to be raised slightly in this area to deal with flood risk so risk of diversionary work required to main is considered to be low. Further clarification from gas undertaker required.

The alignment runs beneath overhead power cables and between steel pylons at chainage 6300. Proximity to pylons and cables will need to be considered when designing the detailed alignment at this location. Risk of diversionary required to power is considered low. There are also two lines of overhead power cables supported by wooden masts that the route crosses where local diversionary works may be required at these locations.

Listed Buildings and other considerations

There are a number of listed buildings located within the nearby villages of Eye and Thorney that will not impact the route. There is a listed building located north of the A47/B1040 roundabout, however it is unlikely that this will be impacted as only minor works will be required to this roundabout.

At the pinch-point at the roundabout with Crowland road, a cemetery to the south forms a boundary with the highway which will required detailed consideration at further stages. Similar consideration will also be required for the area of pondland at approximate chainage 6400.

Buildability/Flexibility/Phasing

The first 3km of this route is to be constructed on-line, which will have a negative effect on buildability where extensive traffic management will be required, being difficult to implement and will impact programme. Diversionary routes are possible to bypass this section, but will take traffic through the village of Eye which will have a severe impact on journey times and cause congestion in the village. Night time closures may be an option. The remaining route is to be built off line which will enable easier buildability.

The online section of the route has the potential to be phased however this is not possible with the offline section as there are no intermediate checkpoints.

Timescale for Delivery

The route is the longest within Section 1 and therefore the largest in terms of construction effort. The offline section will be able to be built efficiently as there are no significant constraints on this element of the build. However, the traffic management constraints on the 3km on-line section will have an impact on the timescale

Ecology and Environment

A number of species of flora, fauna are evident along the route with specifically a SSSI located to the north of the A47 along the first 1.3km of the route. Widening along this section will need to be to the south of the existing alignment to avoid encroaching on the SSSI.

Flood Risk

Most of the alignment within this section lies within flood zone 1, and therefore will require little to no action. The final 2km of the alignment option lies partly within flood zone 2, but predominantly flood zone 3. As a minimum, the existing carriageway levels will need to be maintained through this section, and it is anticipated that the embankment heights may require raising to ensure that climate change projections are met.

Affordability

This option demonstrates a higher cost option through section 1 when compared with the other two options (£46.1M versus £41.5M and 33.3M respectively). This is due to only part of the route remaining on line, and not widening the entire length of existing A47. Additional junctions are required to link back to the quarry and the roundabout with the B1167, The Causeway which adds cost to the scheme.

Key Option Challenges

- Flood risk impact on the required road levels and excessive embankments required at the eastern end. Considered low risk at this stage.
- Overhead power cables require diversionary works. Considered low risk at this stage.
- Gas main may require diversionary works. Considered low risk at this stage.
- Land acquisition impacting cost and programme. Considered medium risk at this stage.

Option 1.2

Option 1.2 involves widening an additional 1km of the existing A47 from the A47/Crowland Road roundabout, moving eastwards. The remainder of the alignment then involves constructing a new dual carriageway to the north of the existing alignment and south of Option 1.1, tying in along Thorney Bypass to the north of the A47/B1167 roundabout. Again, the route takes the A47 away from properties fronting directly onto the existing highway, whilst the existing road can remain open to provide access. However, this option will have greater impact on agricultural premises that are set-back from the existing alignment and will cause land severance, leading to potentially lower stakeholder support.

The alignment also crosses through an area of pond land to the north of the existing route which may impose environmental constraints, as well as pose difficulties during construction.

Land Ownership

The wide existing carriageway and wide verges along the first 3km of the alignment suggest that this section of the route can be largely constructed within existing highway land. The carriageway and verges are much narrower along the remainder of the alignment, and land acquisition may be required for widening the rest of the route.

Utilities

A major strategic gas main crosses under the proposed alignment at chainage 3800 and requires further detailed assessment as noted for Option 1.1. The alignment runs beneath overhead power cables and between steel pylons at chainage 5790 where the carriageway may need to be widened to the north at this location to avoid clashing with the steel pylon to the south. Risk of diversionary works being required considered low at this stage.

There is one line of overhead power cables supported by wooden masts that crosses the alignment. The carriageway will need to be widened to the north at this location to avoid clashing with the wooden mast to the south of the carriageway. Local diversionary works may be required at this location.

The alignment also runs beneath overhead power cables and between steel pylons at chainage 6300. The proximity to pylons and cables will need to be considered when designing the detailed alignment at this location. The risk of diversionary required to power is considered low at this stage.

Listed Buildings and other considerations

There are a number of listed buildings located within the nearby villages of Eye and Thorney that are considered not to be impacted at this stage. There is however a pinch-point at the roundabout with Crowland road where a cemetery to the south forms a boundary with the highway and will need consideration at later stages.

To the west of the roundabout between the A47 and The Causeway at Thorney, there are properties fronting onto the A47 on both sides of the carriageway. Land acquisition may be required but the properties themselves can be avoided. New accesses will need to be provided that link back to the roundabout to the east. Similarly Pod Hole Quarry fronts onto the existing A47 along the alignment and access will need to be provided.

Buildability/Flexibility/Phasing

The entire alignment is to be constructed on-line, which will have a potential negative effect on buildability. The existing A47 is the main route between Peterborough and locations in the east with principal diversionary routes generally significant detours in geography and distance on lower classification of roads. Traffic management will be difficult along this route and will impact on the programme by extended the potential build period.

Despite the buildability issues, the online nature of the alignment lends itself better to potentially phase construction. Depending on the requirements, the alignment could be phased in a number of ways due to the number of checkpoints and interfaces along the section.

Timescale for Delivery

The route is shorter than Option 1.1, and therefore less work is required to complete construction. However, as the route is entirely online, the traffic management and space constraints will have a severe impact on programme. Night time working may be an option that could be explored to help accelerate the programme.

Ecology and Environment

A number of species of flora, fauna are evident along the route with specifically a SSSI located to the north of the A47 along the first 1.3km of the route. Widening along this section will need to be to the south of the existing alignment to avoid encroaching on the SSSI.

Flood Risk

Most of the route lies within flood zone 1, and therefore will require little to no intervention. The final 1km of the alignment however lies partly within flood zone 2, but predominantly flood zone 3. As a minimum, the existing carriageway levels will need to be maintained through this section, and it is anticipated that the embankment heights may require raising to ensure that climate change projections are met.

Affordability

This option demonstrates a lower cost option through section 1 when compared with Option 1.1. The reduced cost of £41.5M is due to the route remaining on line, and not widening the entire length of existing A47. This option also makes use of the existing dual carriageway section between the B1167 and the B1040 which means that the total length of this option is less than Option 1.1.

Key Option Challenges

- Flood risk impact on the required road levels and excessive embankments required at the eastern end. Considered low risk at this stage.
- Overhead power cables require diversionary works. Considered low risk at this stage.
- Gas main may require diversionary works. Considered low risk at this stage.
- Land acquisition impacting cost and programme. Considered medium risk at this stage.

Option 1.4

Option 1.4 follows the same alignment predominantly as Option 1.1 and has similar constraints and considerations. The alignment ties in along Thorney bypass to the north of the A47/B1167 roundabout. Route 1.1 is considered as a dual carriageway arrangement, whilst route 1.4 is considered as a single carriageway when compared to the dual carriageway specification of Option 1.1. The carriageways are based on single direction traffic using the existing and proposed carriageways independently

Overall the construction extent and value is lower than Options 1.1 and 1.2 and the impact on the constraints, adjacent properties and land is less. Works to utilities and the impacts on flora and fauna will still be required but the impacts are seen as low consideration at this stage.

With the route being predominantly offline, the buildability is good. There is an area of pond land that the route passes close to, so environmental constraints and localised issues with construction may be encountered.

Affordability

This option demonstrates a lower cost option through section 1 when compared with Option 1.1 and 1.2. The reduced cost of £33.3M is due to the route utilizing the existing A47 carriageway for one direction over a substantial length of the alignment. This does however have the disbenefit of works being required to the majority of the existing A47 within Section 1 which may impact programme, congestion and delays for a period.

Key Option Challenges

- Flood risk impact on the required road levels and excessive embankments required at the eastern end. Considered low risk at this stage.
- Overhead power cables require diversionary works. Considered low risk at this stage.
- Gas main may require diversionary works. Considered low risk at this stage.
- Minimised land acquisition impacting cost and programme. Considered medium risk at this stage.
- Programme and delivery hybrid with online and offline construction activities.

Section 2

Section 2 runs between Thorney Bypass (existing dual carriageway) to the west and Guyhirn roundabout between the A47 and A141 to the east. The existing A47 carriageway takes a direct straight line between these two locations and has a number of residential, agricultural and industrial premises fronting onto the highway, particularly around Thorney Toll located approximately half way along Section 2.

Immediately to the west of Guyhirn roundabout, the A47 crosses the River Nene. A SSSI runs in a south westerly direction along the River Nene to the south of the existing A47 carriageway, forming a major constraint on sectional options in this location. All routes have been designed to avoid encroachment onto this SSSI. Highways England have developed a scheme to upgrade the existing

Guyhirn roundabout to increase capacity⁹. All proposed route options in this section have been considered to tie into the Highways England scheme.

The whole of Section 2 is located within flood zone 3, and based on assessment the existing carriageway levels along this section should as a minimum be maintained. It is however anticipated that the road levels will need to be increased to satisfy climate change projections and standards.

Option 2.2

Option 2.2 is located south of the existing A47 alignment and utilises a small degree of the existing carriageway, imposing less impact on existing properties along the existing route, whilst the option also runs neatly along existing field boundaries, reducing land severance. A number of accommodation bridges are required to provide access to isolated properties to the south, where access is currently only provided from the existing A47. This option doesn't offer much opportunity to utilise significant amounts of the existing carriageway and consequentially has a slightly higher cost however, due to the location away from existing residential, agricultural and industrial premises improves buildability and should receive better stakeholder support. The alignment running to the south of the A47 will also have low communal severance between the existing alignment and population centres located to the north.

Land Ownership

The alignment lies entirely outside of the existing highway boundary loosely following field boundaries to the south of the existing A47. Unfortunately this is not possible along the entire route and land severance is unavoidable. Due to the nature of the option, land will need to be acquired for the entire footprint of the option

Utilities

A major strategic gas main crosses under the proposed alignment at chainage 3700. The depth is currently unknown but the main runs beneath the existing A47 carriageway. The risk of diversionary work required to main is considered medium at this stage and the levels can be built up locally in this area if required. Further clarification from gas undertaker will be required if the option or alignment is progressed.

Listed Buildings and other considerations

There are a number of properties to the south of the existing A47, including a pumping station, that are only accessible from the existing A47. As the alignment crosses these access points, new means of access will need to be provided in the form of either an at grade access of the new carriageway, or an accommodation bridge over the new carriageway.

The route will tie into the existing A47 at the River Nene crossing and the proposed works to upgrade the existing A47/A141 roundabout at Guyhirn.

Buildability/Flexibility/Phasing

The route is predominantly offline, which makes for favourable buildability with little to no direct impact to the existing A47. The existing carriageway can remain open during the majority of the

⁹ <https://highwaysengland.citizenspace.com/he/a47-guyhirn-junction-improvement/>

construction work. Due to the nature of the alignment being offline it is not suited to being phased as there are no intermediate checkpoints along this route which are viable for use.

Timescale for Delivery

The Option is similar to Option 2.3 in length and being offline will be able to be built efficiently as there are no significant constraints on this element of the build. However, the traffic management constraints at the tie-ins will have an impact on the timescale.

Ecology and Environment

A SSSI is located to the south of the River Nene close to the proposed route at the eastern tie-in at Guyhirn. The proposal remains outside of the SSSI and therefore is expected to have minimal impact however detailed assessment will be required.

Flood Risk

The entire alignment option lies within flood zone 3, and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained and matched by the new carriageway through this section. It is also anticipated that the embankment heights may require raising to ensure that climate change projections are met.

Affordability

This option demonstrates a lower cost option through section 2 when compared with the other two options (£81.5.1M versus £86M and £110.3M respectively). This is due to the option being the shortest within Section 2 and the majority of the option being new offline construction.

Key Option Challenges

- Flood risk impact on the required road levels and excessive embankments required at the eastern end. Considered low risk at this stage.
- A major Gas main may require diversionary works. Considered medium risk at this stage.
- Land acquisition impacting cost and programme. Considered medium risk at this stage.
- Potential SSSI impact on proposals and mitigation measures. Considered low risk at this stage pending further surveys and alignment design.

Option 2.3

Option 2.3 has been considered as an option running to the north of the existing A47 alignment. This option utilises initially of the existing carriageway, which will remain open to provide access to properties along the existing A47 and isolated properties to the south. The Option is able to follow the field boundaries along the alignment, reducing land severance. The alignment does however impact on residential, agricultural and industrial premises to the north of the A47, whilst also impacting on the wider highway network. For these reasons, the stakeholder support may not be as high with this route when compared to Option 2.2. In addition, the proposed alignment will segregate properties along the existing A47 from villages to the north. Due to the impact on the wider highway network and the proximity to residents, phasing potential and general buildability is not seen to be as good as Option 2.2.

Land Ownership

The route is predominantly offline following an initial section after Thorney Bypass junction, and therefore land acquisition for the first part of the alignment will be limited as some of the construction can be carried out within highways land. The route stays close to the existing A47 and runs close to the back of properties that currently front onto the existing A47. Therefore, the alignment runs through the middle of adjacent fields and land severance is a consequence of this.

Utilities

Existing overhead power cables supported by wooden masts run parallel along the existing A47, and cross the carriageway in places along the alignment. Localised diversionary works may be required at various locations along the route however the risk is considered low due to the nature of the masts and level of supply estimated at this stage of scheme development.

Listed Buildings and other considerations

An abandoned pumping station is accessed from the existing A47 and is a listed building. The Option runs behind this building and is considered not to impact. The Option also crosses the abandoned rail line at the north tie in with the existing A47, where provision for the structure over the rail line is to support the plans to reopen the rail line has been included in the considerations.

The route will tie into the Highways England proposed scheme to upgrade the A47/A141 Guyhirn roundabout in the south.

Buildability/Flexibility/Phasing

The first 3km of the alignment can be built on line which will have an impact on buildability. Traffic flow will need to be predominantly maintained as diversionary routes in this area are excessive and take traffic significantly away from the desire line involving lower classifications of road with a smaller cross section and may therefore be unfit for HGVs. Night time working could be explored but may not be possible depending on the ecological constraints associated with the land around the River Nene.

The offline section can be constructed easily without interrupting the traffic on the existing A47 and the existing A47/B198 roundabout can remain unaffected throughout the majority of construction.

There is limited scope to phase this Option as there are limited intermediate checkpoints and there is the potential delay to the construction of the proposed rail bridge depending on timescales of the project to reopen the rail line. There are also options being considered to terminate the rail line to the south of the proposed alignment, and therefore no structure will be required.

Timescale for Delivery

Similar to Option 2.2 at 8.4Km in length and being predominantly offline will this option should be able to be built efficiently as there are no significant constraints on this element of the build. However, the traffic management constraints at the tie-ins and the initial online section will have an impact on the timescale.

Ecology and Environment

A number of ecologically sensitive areas are located between the existing A47 and the River Nene. The proposed route does not encroach substantially into this area and is therefore expected to have minimal impact.

Flood Risk

The majority of the Option lies within flood zone 3 with some small areas lying within flood zone 2, and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section, and it is anticipated that the embankment heights may require raising to ensure that climate change projections are met. Flood risk advises that breach modelling should be completed to determine embankment heights.

The existing A47 is generally built on embankment through this area, and the land around the A47 is lower therefore the carriageway through this section will need to be built on embankment.

Affordability

This option is similar to Option 2.2 demonstrates a lower cost option through section 2 when compared with Option 2.4 (£86M versus £110.3M respectively). This is due to the option being of a similar length to Option 2.2 and the majority of the option being new offline construction with an initial online section at Thorney Bypass.

Key Option Challenges

- Impacts of the potential rail project on requirements for a structure over rail line. This is considered a medium risk at this stage.
- Ecological and environmental constraints associated with the sites adjacent to the River Nene. Considered to be low risk at this stage.
- Flood risk having an impact on the required road levels with large embankments and significant imported fill being required for construction. Considered to be high risk.
- Land acquisition impacting cost and programme/public objection to land severance. Considered to be medium risk at this stage.

Option 2.4

Option 2.4 includes sections 2 and part of section 3, tying into the A47/B1167 roundabout to the west, and the A47/B198 roundabout to the east. This option takes a more direct route between these two locations, when compared with the existing A47 alignment. The alignment runs through the north end of Guyhirn village, and remains to the west of the River Nene. A new structure over the Nene is required where the route crosses adjacent to the A47/B198 roundabout tie in, west of Elm. As the route bypasses the Guyhirn roundabout, a junction is proposed with the B1187 at Guyhirn which would provide a link through to the A141 road to March, whilst the existing A47 remaining open will also provide a link.

Due to the isolated nature of much of the route, the buildability is seen as good, however there is limited scope to phase the construction. In addition, much of the alignment avoids impacting on existing properties. The alignment were possible west of Guyhirn runs along field boundaries, avoiding land severance. However, the alignment does cut through the north end of Guyhirn which

will result in communal severance. Due to the offline nature and the new river crossing, this Option is seen as an expensive alternative within the section.

Land Ownership

The route is predominantly offline following an initial section after Thorney Bypass junction however enters into a more urban and constrained environment approaching Guyhirn Junction. Land acquisition for the first part of the alignment will be limited however a wider footprint around the River Nene crossing and on approach to Guyhirn is potentially required. The majority of construction can be completed offline reducing land take for the core section of the alignment. The alignment dissects a number of fields to be north of the existing A47 and runs close to the back of properties that currently front onto the existing A47 therefore land severance is a consequence of this.

Utilities

A number of smaller utilities are impacted along the alignment however at the western end there is potential for impact to the existing overhead power cables close to Guyhirn junction. Consideration is required as to the detailed alignment, river crossing and Guyhirn junction interface as the power cables are a major supply and substantial cost to divert. Localised diversionary works may be required at various locations along the alignment however the risk is considered low however at the western end of the section the risk is considered high for impact to the major power lines.

Listed Buildings and other considerations

A number of what can be considered medium considerations are required in the viability of this Option and its alignment with respect to listed buildings and potential impacts. The intermediate section west of the River Nene will require further detailed consideration.

Buildability/Flexibility/Phasing

From Guyhirn roundabout the alignment can be built offline for the majority of its length which will have a positive impact on buildability. Traffic flows can be maintained on the existing A47 however a number of side road and adjoining road link diversions will be required.. Night time working will be required at the interfaces and junction tie ins. Construction over the River Nene will need to be coordinated with ecological constraints and also any impact on the major power lines in the proximity to the eastern end of the section will also need detailed consideration.

There is limited scope to phase this Option as there are limited intermediate checkpoints and there is the potential delay to the construction.

Timescale for Delivery

At 14.9km and the longest option for Section 2 of 2.1 to 2.4 length the option does benefit from being predominantly offline until the tie in west of Elm, this option should be able to be built efficiently. There is added complication with the construction of the major river crossing however this may be mitigated by the type of structure and form of construction proposed i.e. built offline and launched in to place. However, the traffic management constraints along the side roads for local and farm access will be significant.

Ecology and Environment

A number of ecologically sensitive areas are located between the existing A47 and the River Nene. The proposed route encroaches into these area's and will have a direct impact on and over the river therefore the impact is expected to be moderate to significant.

Flood Risk

The majority of the Option lies within flood zone 3 with some small areas lying within flood zone 2, and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section, and it is anticipated that the embankment heights may require raising to ensure that climate change projections are met. Flood risk advises that breach modelling should be completed to determine embankment heights

Special consideration will need to be given to construction adjacent to, and in the locality to the main bridge crossing this will include construction form, maintenance, access and impact on the current flood characteristics in the area.

Affordability

This option is the most expensive of options 2.1 to 2.4 due to its length and significant structure required. It is seen as a higher cost option for this section when compared to the other options (£86M versus £110.3M respectively). Benefits are seen by the option being offline and having minimal impact on existing A47 traffic prior during construction and on opening.

Key Option Challenges

- Impacts due to working in proximity to, and construction of a significant structure over, the River Nene. This is considered a medium risk at this stage.
- Ecological, environmental and flood constraints associated with the sites adjacent to the River Nene. Considered to be medium risk at this stage.
- Affordability due to its length and structural requirements and therefore impact on the cost benefit ratio.
- Land acquisition impacting cost and programme/public objection to land severance. Considered to be medium risk at this stage.

Section 3

Option 3.2

Section Option 3.2 has been considered as alternative option to 3.1 and is located further east of the existing A47 alignment. The alignment runs along field boundaries and existing watercourses along the first half of the route, minimising land severance. A number of accommodation bridges will however be required.

The alignment proceeds to bypass the village of Begdale, remaining west of the village, and is consequentially able to form a junction linking to Wisbech in closer proximity to the existing A47/B198 roundabout. However, to maintain standard horizontal geometry, the route requires a skew structure over the abandoned rail line. The alignment requires consideration the existing pylons which has an impact on the buildability.

Land Ownership

The route is predominantly offline following an initial section after Guyhirn junction, and therefore land acquisition for the first part of the alignment will be limited as some of the construction can be carried out within highways land. The route stays close to field boundaries and the existing A47 to mitigate where possible land severance.

Utilities

Existing overhead power cables and pylons are in close proximity to the alignment and cross the carriageway in places along the alignment. Localised diversionary works may be required at various locations along the route however the risk is considered low due to the nature of the proximity of the pylons to the main alignment. Detailed assessment and discussion at the next stage of development will be key.

Listed Buildings and other considerations

Due to its alignment the option does not directly impact any specific listed buildings and runs in proximity to the abandoned rail line at the north tie in with the existing A47, where provision for the structures over or adjacent to the rail line may need to be considered if plans to reopen the rail line progress.

Buildability/Flexibility/Phasing

The alignment is predominantly offline and therefore can be built with minimized impact on the existing A47 traffic flow. The existing flows will need to be predominantly maintained as diversionary routes in this area will generally involve mitigation for lower classifications of road with a smaller cross section. Night time working could be explored at these locations but may not be possible depending on the ecological constraints and properties near Begdale.

There is limited scope to phase this Option as there are no significant intermediate checkpoint. The alignment offer good buildability, however it does represent a more expensive options when compared with option 3.1 due to being unable to utilise significant lengths of the existing carriageway.

Timescale for Delivery

Similar to Option 3.3 at 8.6Km in length and being split between online and offline construction will constrain construction for the online section requiring traffic management and diversions. Were offline, the alignment will be easier to construct in the northern extent of the section. However, the traffic management constraints at the tie-ins and the initial online section will have an substantial impact on the timescale.

Ecology and Environment

A number of ecologically sensitive areas are located between the existing A47 and the River Nene. The proposed route does not encroach substantially into this area and is therefore expected to have minimal impact.

Flood Risk

The Option lies within both flood zone 1 and 3 and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section and it is in an area

benefitting from flood defences. Despite the area benefitting from flood defences, breach and overtopping will require mitigation. As a minimum, the existing carriageway levels will need to be maintained through this section, and the embankment heights may require raising to ensure that climate change projections are met

Affordability

This option is the most expensive of the Options in Section 3 taken forward at this stage at £63M when compared with Options 3.3 and 3.4 respectively (£61m and £57.5m). This is due to the option being longer and some of the option being online with difficult tie-ins at both extents. Also flood defenses and mitigation is significant for this option.

Key Option Challenges

- Ecological and environmental constraints associated with the option in proximity to the River Nene. Considered to be low risk at this stage.
- Flood risk having a significant impact on the required road levels with large embankments and significant imported fill being required for construction. Considered to be high risk.
- Land acquisition impacting cost and programme/public objection to land severance. Considered to be medium risk at this stage due to the option being offline through its core length.

Option 3.3

Section Option 3.3 has been considered as alternative option to 3.2 and is located further east to Option 3.2 and existing A47 alignment. The alignment dissects field boundaries and existing watercourses impacting land severance. A number of accommodation bridges and side road diversions will be required.

The alignment proceeds to cut through the village of Begdale, east of the village, and forms a junction on the outskirts of Elm in proximity to the existing A47/B198 roundabout. The alignment requires a skew structure over the abandoned rail line. The alignment has consideration for the existing pylons with a minimum of two crossings which has an impact on the buildability.

Land Ownership

The route is predominantly offline and therefore land acquisition for the first part of the alignment will be limited as some of the construction can be carried out within highways land. The route dissects a large number of field boundaries and the existing impacting land severance and conflicts with a number of properties in the village of Begdale.

Utilities

Existing overhead power cables and pylons are in close proximity to the alignment and cross the carriageway in places along the northern extent of the alignment. Localised diversionary works may be required at various locations along the route with the risk considered medium due to the nature of the proximity of the pylons to the main alignment. Detailed assessment and discussion at the next stage of development will be key.

Listed Buildings and other considerations

Due to its alignment the option does not directly impact any specific listed buildings and runs in proximity to the abandoned rail line at the north tie in with the existing A47, where provision for the structures over or adjacent to the rail line may need to be considered if plans to reopen the rail line progress.

Buildability/Flexibility/Phasing

The alignment is predominantly offline and therefore can be built with minimized impact on the existing A47 traffic flow. The existing flows will need to be predominantly maintained as diversionary routes in this area will generally involve mitigation for lower classifications of roads which are impacted near Chestnut Farm and Begdale. Night time working could be explored at these locations but may not be possible depending on the ecological constraints and properties near Begdale.

There is limited scope to phase this Option as there are no significant intermediate checkpoints. The alignment offers medium buildability as considerations are required around the populated areas of Begdale. It does represent a more expensive option when compared with option 3.1 due to being unable to utilise significant lengths of the existing carriageway.

Timescale for Delivery

Similar to Option 3.2, Option 3.3 is 8.9Km in length and the longest section option in this section with minimum length utilizing the existing carriageway. Construction at the tie-ins and extent of existing carriageway will be constrained requiring traffic management and diversions. Additional traffic management will be required around the village of Begdale and may lead to delay in accommodation works and mitigation during construction over and above that required for Options 3.2 and 3.4.

Ecology and Environment

A number of ecologically sensitive areas are located between the existing A47 and the River Nene. The proposed route does not encroach substantially into this area and is therefore expected to have minimal impact.

Flood Risk

The Option lies within both flood zone 1 and 3 similar to Option 3.2 and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section and it is in an area benefitting from flood defences. Despite the area benefitting from flood defences, breach and overtopping will require mitigation. As a minimum, the existing carriageway levels will need to be maintained through this section, and the embankment heights may require raising to ensure that climate change projections are met

Affordability

This option is the mid-range cost Option within this section at £61M when compared with Options 3.2 and 3.4 respectively (£63.2m and £57.5m). This is due to the option being mid length however impacting Begdale significantly. Flood defenses and mitigation similar to Option 3.2 are significant for this option.

Key Option Challenges

- Ecological and environmental constraints associated with the option in proximity to the River Nene. Considered to be low risk at this stage.
- Flood risk having a significant impact on the required road levels with large embankments and significant imported fill being required for construction. Considered to be high risk.
- Land acquisition impacting cost and programme/public objection to land severance. Considered to be high risk at this stage due to the option being offline through its core length and dissecting Begdale village.

Option 3.4

Section Option 3.4 can be seen as a hybrid of Options 3.1, 3.2 and 3.3 with very close alignment to all three Options being fully offline. The alignment crosses a number of field boundaries however has low impact on the general constraints in Section 3 other than farms, land and to a small degree properties at the northern extent and tie in. A small number of accommodation bridges and side road diversions will be required.

The alignment requires a skew structure over the abandoned rail line and ties in to the existing carriageway in proximity to the existing Industrial Estate on the outskirts of Wisbech. The alignment has consideration for the existing pylons with minimum crossings which has an impact on the buildability.

Land Ownership

The route is predominantly offline and therefore land acquisition will be substantial with little construction can be carried out within highways land. The route dissects a large number of field boundaries and impacts Speedwell, Chestnut and Primpton farms with land severance and conflicts with a number of properties at the northern extent.

Utilities

Existing overhead power cables and pylons are in close proximity to the alignment however are not seen to have a significant impact. Localised diversionary works may be required at a small number of locations along the route with the risk considered low due to the proximity of the pylons to the main alignment. Detailed assessment and discussion at the next stage of development will however be key.

Listed Buildings and other considerations

Due to its alignment the option does not directly impact any specific listed buildings and runs in proximity to the abandoned rail line at the north tie in with the existing A47.

Buildability/Flexibility/Phasing

The alignment is predominantly offline and therefore can be built with minimized impact on the existing A47 traffic flow. The existing flows will be predominantly maintained. Minor diversionary will be required involving mitigation for lower classifications of roads which are impacted near Chestnut Farm and Begdale. Night time working could be explored at these locations and also in proximity to

the Industrial Estate at the northern extent but may not be possible depending on the ecological constraints and farming properties along the alignment.

There is limited scope to phase this Option as there are no significant intermediate checkpoints. The alignment offers medium buildability as considerations are required around the populated areas of Begdale. It does represent a cheaper option when compared with option 3.2 and 3.3 due to shortest in length and minimised traffic impact on the existing A47.

Timescale for Delivery

Similar to Options 3.2 and 3.3, Option 3.4 is 7.5Km in length and the shortest section option in this section being fully offline. Construction at the tie-ins and extent of existing carriageway will be constrained requiring traffic management and diversions. Additional traffic management will be required around the Wisbech southern tie in and may lead to delay in accommodation works and mitigation during construction over and above that required for Options 3.4

Ecology and Environment

A number of ecologically sensitive areas are located between the existing A47 and the River Nene. The proposed route is closer to these areas than Options 3.2 and 3.3 with a medium encroachment and therefore a medium risk impact is expected.

Flood Risk

The Option lies within both flood zone 1 and 3 similar to Option 3.2 and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section and it is in an area benefitting from flood defences. Despite the area benefitting from flood defences, breach and overtopping will require mitigation. As a minimum, the existing carriageway levels will need to be maintained through this section, and the embankment heights may require raising to ensure that climate change projections are met

Affordability

This option is the cheapest cost Option within this section at £57.5M when compared with Options 3.2 and 3.3 respectively (£63.2M and £61M). This is due to the option being shortest length however with little impact to a number of constraints. Flood defenses and mitigation similar to Option 3.2 are however significant for this option.

Key Option Challenges

- Ecological and environmental constraints associated with the option in proximity to the River Nene. Considered to be low risk at this stage.
- Flood risk having a significant impact on the required road levels with large embankments and significant imported fill being required for construction. Considered to be high risk.
- Working and impacts close to the Wisbech Industrial Estate. Considered medium at this stage.
- Land acquisition impacting cost and programme/public objection to land severance. Considered to be high risk at this stage due to the option being offline through its core length.

Section 4

Option 4.1

Section Option 4.1 is the online dualling of the A47 round the south eastern orbital of Wisbech. The Option utilizes the existing carriageway with a mix of widening to one side and both sides dependent on the corridor constraints. New and improved junctions are formed along the route to maximize access. The alignment minimizes land severance.

The alignment proceeds to tie in at Walton and forms an improved junction at its northern extent. Buildability is a key concern with the high traffic volumes on the existing highway which will impact programme, buildability and cost.

Land Ownership

The route is predominantly online therefore land acquisition should be minimal however detailed assessment at the junctions and tie-ins will be required as additional land may be required or require junction design departures to be developed. Widening of the existing route will impact traffic flow and additional temporary land may be required and needs to be considered.

Utilities

Existing utility impacts will be maintained however with online widening of the existing carriageway additional works for bridging or existing protection and diversionary works may be required. Detailed assessment will be needed. A major strategic gas main crosses under the proposed alignment at approx. chainage 15,000. The depth is currently unknown, but the main runs below ground. The risk of diversionary work required to main is low, but road levels can be raised locally to avoid clashing with any gas infrastructure. Further clarification from the gas undertaker will be required as soon as practical.

Listed Buildings and other considerations

Due to its alignment the option does not directly impact any specific listed buildings however it does runs close to listed buildings at between Gorefield and Leverington. The developed design will need to account for this, and risk of impacting the buildings are low.

Buildability/Flexibility/Phasing

The alignment is online and therefore benefits from using the existing carriageway however will directly impact the existing A47 traffic flow. The existing flows will need to be maintained with significant traffic management and diversions generally involving lower classifications of roads. Night time working will need to be explored along the alignment.

There is limited scope to phase this Option due to the nature of using the existing carriageway and impact in terms of traffic management. It does represent a cost effective Option in terms of pure new build construction but this is balanced with the traffic management costs.

Timescale for Delivery

Option 4.1 is 4 to 5Km shorter in length than Options 4.2 and 4.3 respectively and does not require new structures over the River Nene however does impact the existing A47 therefore the online construction benefits are balanced against extensive traffic management and disruption.

Ecology and Environment

A number of ecologically sensitive areas are located in proximity however due to its online nature the impacts are not seen as a significant risk at this stage.

Flood Risk

The Option lies within both flood zone 1 and 3 and is therefore at high risk of flooding. As a minimum, the existing carriageway levels will need to be maintained through this section and it is in an area benefitting from flood defences. As a minimum, the existing carriageway levels will need to be maintained through this section, and widened embankment height may require raising to ensure that climate change projections are met.

Affordability

This option is the cheapest of the Section 4 Options at £37.5M due to the Option using the existing carriageway and being of shorter length. Flood defenses and traffic flow and traffic management will be significant for this option.

Key Option Challenges

- Ecological and environmental constraints associated with the option are considered to be low risk at this stage.
- Flood risk having a significant impact on the required widened road levels with large embankments and significant imported fill being required for construction. Considered to be medium risk.
- Land acquisition is seen as minimal risk at this stage due to the option being online.
- Traffic management, flow and disruption is seen as potentially high risk for this option but balanced against the land costs and severance impacts of the other Section 4 options.

Route Options

A number of section intervention options for the A47 corridor between Peterborough and Walton Highway have been proposed which have been sifted and reviewed over a 2 stage process as describing in the earlier sections of this report. Upon review during the sift process, to optimize potential benefits for the corridor, the surrounding road network and key destinations such as Kings Lynn and Norfolk the individual section options across different sections have been compiled into three overall interventions options for the whole A47 corridor. These are summarised as follows:

- Route A: Route 1.2 + Route 2.6;
- Route B: Route 1.2 + Route 2.4 + Route 4.1; and
- Route C: Route 1.2 + Route 2.2 + Route 3.4 + Route 4.1.

Each of the three route options has been developed based on assessment of the key parameters, benefits and dis benefits below:

- Land Ownership;
- Utility Impact;
- Flood Risk;
- Listed Buildings and other considerations
- Timescales for Delivery;
- Ecology and Environment;
- Buildability and Phasing;
- Affordability; and
- Key Challenges

Each route has then been assessed relative to the do minimum scenario for both the 2026 and 2041 future forecast years. The relative user benefits of each option has then been assessed using the DfTs Transport User Benefit Analysis (TUBA) software with forecasts across a 60-year appraisal period. User benefits from journey time savings and forecast reductions in delay have been monetised similar to the section option detailed analysis and compared against estimated scheme costs to give a route BCR.

Economic appraisal of each route option, including the estimation of scheme costs and the monetisation of the forecast benefits, has been conducted in line with WebTAG.

The appraisal results listed in Table overleaf detail the relative BCR values for each of the three proposed route options, as well as the Present Value of Benefits (PVB). As detailed in WebTAG guidance, all prices are discounted to the department's base year. These are presented for the core, high and low growth scenarios and also show the BCRs for both alternative growth sensitivity tests which consider the development of an additional 10,000 and 30,000 dwellings around Wisbech and along the A47 corridor.

The analysis indicates all options to have a BCR value of above 1.5 in the core scenario, with Route B indicating the greatest value for money. Alternative Growth Sensitivity Test One, which considers the development of an additional 10,000 dwellings for WGT, increases the BCRs across each route to above 2.0, with increased number of users benefiting from journey time savings along dual carriageway sections of the A47.

A significant increase in BCR values can be seen for Alternative Growth Sensitivity Test Two across each do something route option. This is a consequence of significant congestion arising within the do minimum model.

The predicted rises in delay are unlikely to occur to the scale predicted and the scheme benefits would not be so significant. The results of Alternative Growth Sensitivity Test Two do however indicate that significant transport infrastructure improvements would be required to support the levels of growth applied with Option A generating the best BCR in both Alternative Growth Scenarios.

Table 12 – Summary of Route Option Analysis

Value	Intervention Route Options (values in £'000)		
	Low Growth Scenario		
	Route Option A	Route Option B	Route Option C
PVB	£279,445	£286,787	£295,896
BCR	1.30	1.44	1.25
	Core Growth Scenario		
	Route Option A	Route Option B	Route Option C
PVB	£345,537	£352,081	£362,775
BCR	1.61	1.77	1.53
	High Growth Scenario		
	Route Option A	Route Option B	Route Option C
PVB	£400,288	£403,352	£414,258
BCR	1.87	2.03	1.75
	Alternative Growth Sensitivity Test One (Core + WGT)		
	Route Option A	Route Option B	Route Option C
PVB	£485,848	£464,991	£480,450
BCR	2.27	2.34	2.03
	Alternative Growth Sensitivity Test Two (Core + WGT + 20k Additional)		
	Route Option A	Route Option B	Route Option C
PVB	£4,550,932	£3,353,217	£4,094,752
BCR	21.25	16.84	17.28

Route Summary Assessment

Introduction

An assessment of the three Route Options against the ‘Five Cases Model’ criteria (see Table 13 below), in line with the Government’s Transport Appraisal Guidance has been completed. The summary assessment presents supporting commentary and highlights the factors and potential impacts across the routes.

Case	Description
Strategic Case	The extent to which the option aligns with national and local policies, as well as the intervention-specific objectives.
Value for Money Case	The option’s impact on public accounts and indicative benefit cost ratio, plus the option’s suitability against economy, environment, and social impacts (as set out in the Department for Transport’s Appraisal Summary Table).
Financial Case	Consideration of issues relating to implementation cost, maintenance and operating costs, and funding assumptions.
Delivery Case	Complexity of scheme delivery, public and stakeholder support and acceptability.
Commercial Case	Funding, procurement routes, level of market interest.

A full description and detail of each of the Case and supporting Appraisal Summary tables is included in Appendix M.

Appendices

Appendix A – Initial Constraints
Appendix B – Initial Route Options
Appendix C – Initial Alignment Corridor Options Section 1
Appendix D – Initial Alignment Corridor Options Section 2
Appendix E – Initial Alignment Corridor Options Section 3
Appendix F - Initial Alignment Corridor Options Section 4
Appendix G – Detailed Constraints
Appendix H – Detailed Route Options
Appendix I – Detailed Junction Visuals
Appendix J – Socio Demographic Assessment
Appendix K – Environment and Ecological Assessment
Appendix L – Geotechnical Assessment & Risk
Appendix M – Business Case Route Assessment Tables



TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.8
04 NOVEMBER 2020	PUBLIC REPORT

COLDHAMS LANE ROUNDABOUT PROGRESS REPORT

1.0 PURPOSE

- 1.1. This report summarises the assessment of partner funding and the outcome of the independent review of the construction costs since 29 April 2020 Transport and Infrastructure Committee (T&IC).

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Director of Delivery & Strategy
Forward Plan Ref: n/a	Key Decision: No
The Transport and Infrastructure Committee is recommended to: a) Note this progress update on the potential for additional contributions from partners other than the Combined Authority b) Authorise pausing the project until the Comprehensive Spending Review has been concluded and the value for money report is reviewed as part of the Combined Authority's assurance processes.	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1. Coldhams Lane Roundabout was approved for inclusion in the Transport Programme at the October 2017 Combined Authority Board and then again at the March 2018 Combined Authority Board. Cambridgeshire County Council took forward the study to establish the issues and find a solution.

- 2.2. The study location is a roundabout of significance in North-west Cambridge, connecting Coldhams Lane, Brooks Road and Barnwell Road. A number of challenges create congestion and safety concerns.
- 2.3. The main drivers for the project are:
- (a) to improve safety for all road users;
 - (b) to provide an improved environment for pedestrians / cyclists; and
 - (c) without having an adverse effect on traffic flows.

3.0 PROGRESS TO DATE

- 3.1. At the April 2020 Transport and Infrastructure Committee it was requested that an assessment was made on what partner funding contribution opportunities were available from Cambridgeshire County Council, Cambridge City Council, South Cambridgeshire District Council and the Greater Cambridge Partnership in support of greater enhancements at Coldhams Lane Roundabout. These discussions have now concluded, and no further funding is currently forthcoming.
- 3.2. In addition, an independent review of the costs for each of the options has been completed, commissioned by Cambridgeshire County Council. The review challenged the cost and allocation of risk for this stage of the project and this indicated that the cost estimates provided are robust for this stage of the project. The review also indicated that 30% risk was the correct level to be included at this stage of project
- 3.3. Transport Modelling has also been undertaken for each option. A value for money report has been produced which provides an assessment of the likely health, journey quality, mode shift and accident benefits, environmental improvements, and travel time benefits.
- 3.4. As part of the Treasury Green Book proposals are judged on whether they offer poor, low, medium, high and very high value for money based on the benefit cost ratio. These categories include:
- Poor VfM if BCR is below 1.0
 - Low VfM if the BCR is between 1.0 and 1.5
 - Medium VfM if the BCR is between 1.5 and 2.0
 - High VfM if the BCR is between 2.0 and 4.0
 - Very High VfM if the BCR is greater than 4.0
- 3.5. The cost and indicative value for money category for each option are presented in **Table 1**.

Table 1: Expected Costs and indicative value for money category

Option	Cost	Value for Money Category
Option A1	£2.5m	Poor
Option A2	£3.2m	High
Option B	£6.5m	Poor
Option C	£6.2m	Low
Option D	£5.8m	High

- 3.6. It has been identified through the work completed by Cambridgeshire County Council that all options are significantly above the £2.4 million budget still available for construction. It is clear from the work completed that the emerging options that deliver the highest benefits are Option A2 and Option D. Option A2 develops the existing roundabout to include segregated walking and cycling facilities. Option D is a smaller sized 'Dutch Style' roundabout with segregated walking and cycling facilities. However, there remains a deficit of approximately £3.4 million for Option D and £800,000 for Option A2.

4.0 Next Steps

- 4.1. Now the independent review of costs has been completed, and in the absence of additional funding, the proposal is to pause the project until the Comprehensive Spending Review is concluded. A view will then be taken on affordability.
- 4.2. In addition, the value for money report will need to be reviewed as part of the Combined Authority's assurance process. That will be undertaken during this pause.

5.0 FINANCIAL IMPLICATIONS

- 5.1. The recommendation would postpone the requirement to spend the budget allocated to this project.

6.0 LEGAL IMPLICATIONS

- 6.1. CPCA has entered into a grant funding agreement with Cambridgeshire County Council dated 6th October 2020 for the delivery of the project. The terms of the grant funding agreement do not permit CPCA to suspend payments to Cambridgeshire County Council as Applicant in the absence of breach but may only be made in this situation with the formal agreement of Cambridgeshire County Council.
- 6.2. The recommendations accord with CPCA's powers under Part 3 of the Cambridgeshire and Peterborough Combined Authority Order 2017 (SI 2017/251)".

- 6.3. This Transport and Infrastructure Committee meeting shall be conducted in accordance with Parts 2 and 3 of the Local Authorities and Police and Crime Panels (Coronavirus)(Flexibility of Local Authority and Police and Crime Panel Meetings)(England and Wales) Regulations 2020 (SI 2020 No.392).

7.0 OTHER SIGNIFICANT IMPLICATIONS

- 7.1. As additional work is required to achieve a solution that is acceptable, it is likely that the existing programme, which involves completing construction by mid-2021, will be achieved.

<u>Background Documents</u>	<u>Location</u>
1: March 2018 Combined Authority Board Paper 2: 09 January 2020 Transport Infrastructure Committee Report 3. 29 April 2020 Transport Infrastructure Committee Report	1: CA Board Report March 2018 2: CA Transport and Infrastructure Committee Report – January 2020 3: CA Transport and Infrastructure Committee Report – April 2020



TRANSPORT AND INFRASTRUCTURE COMMITTEE	AGENDA ITEM No: 2.9
04 NOVEMBER 2020	PUBLIC REPORT

NEW PETERBOROUGH BUS SERVICE AND OTHER BUS PROJECTS

1.0 PURPOSE

- 1.1. This paper describes a proposed new bus route for Peterborough funded by Department for Transport (DfT) grant and updates the Committee on the initial bus trials to be funded through the Combined Authority's bus reform budget.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Paul Raynes, Director of Delivery & Strategy
Forward Plan Ref: N/A	Key Decision: No
The Transport and Infrastructure Committee is recommended to: a) Note and comment on the proposed Mayoral decision to fund a new bus service in Peterborough b) Note and comment on the proposed Mayoral decisions on trialling new ways to achieve public transport integration.	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1. The Combined Authority has been allocated funding under the DfT's Better Deal for Buses scheme. On 9 September 2020, the Committee recommended to the Board that up to £1.2million of bus reform funding should be released for bus trial schemes over the next year. This paper sets out proposed allocations

of those funds.

Trial orbital bus service in Peterborough

- 2.2. Talks with Peterborough City Council's (PCC's) Transport Committee have established the wish for more orbital buses to reduce travel into and back out of Peterborough city centre. To explore and quantify the need, it is proposed to commission an orbital bus route linking parts of Orton and Hampton north direct to the City Hospital using the Parkway network to cut travel times; and south to the Serpentine Green shopping centre and superstore. It is thus routed to useful passenger destinations at both ends. If required, the bus can run via the unused Orton Southgate bus gate and extend to new developments in the Hampton area.
- 2.3. CPCA intends tendering this bus service, provisionally called route number 29. The service is intended to start trials as an hourly route running between the morning and afternoon school times, on five or six days a week.

Alternative options and why discarded

- 2.4. The choice of this service reflects consultations with a Peterborough City Council cross-party working group and the Portfolio Holder. Discussions with PCC rejected a bus service for Manor Drive Estate due to the lack of a bus turning circle; and rejected an off-peak Peterborough – Orton service as it is unlikely to carry many passengers. Discussions with residents suggest that using the Orton Southgate busgate would be unpopular – it was built 15 years ago and has never opened.

The estimated cost of supporting the service (after tendering)

- 2.5. Cost is estimated at £30-40,000 per annum. This is a tender for 5 (or 6) return journeys a day, on 5 (or 6) days a week.
- 2.6. The number of passengers expected to benefit Peterborough's population has grown rapidly in recent years and is now around 200,000. Once the 29 bus service builds up, it is expected to carry 6400 passengers a year.

The suggested cost of support per passenger

- 2.7. If the service costs around £40,000 per annum to run (based on 5 trips, 5 days per week) the support cost will be around £33,000. This works out at £5.15 per passenger.

Value for Money

- 2.8. £5.15 per head would be very close to the average subsidy per head for all CCC supported bus services, and therefore represents acceptable value for money.

- 2.9. Members are asked to note and comment on this new bus route in advance of the Mayoral decision to proceed.

3.0 Ticket machines

- 3.1. Some bus operators in our area use very basic ticket machines which lack a lot of modern functionality. Without this technology, it is hard to evaluate the value for money provided by public subsidy and to deliver better data-based services to passengers. Proper ticketing data is a prerequisite for making progress to more effective ways of allocating public subsidy, such as quality partnerships or franchising. Good quality data delivers the following positive advantages:

- Accurate GPS data for bus passenger mobile phone apps
- Accurate GPS data for roadside/bus shelter “Next bus” sign
- Contactless card use available on all buses
- Auditability of concessionary pass use (ENCTS)
- Accurate measure of passenger numbers, punctuality, and reliability for small bus operators
- Through ticketing for integrated journeys
- Lower costs of data integration

- 3.2. If the Combined Authority simply required the use of this technology, however, we would be imposing a cost and a competitive disadvantage on smaller operators. The larger providers - Stagecoach, First, Whippet and Delaines - already use compliant ticket machines and represent 97% of the bus market. We therefore propose that the CA should buy ticket machines and rent them out to all operators who have not already obtained such machines. We would only purchase these on a call-off basis, against contracts, to minimise risk.

- 3.3. A business case is being written for this decision. Members are asked to note this work stream which will then proceed under Mayoral Decision within the delegation given by the Board in September 2020.

4.0 Demand Responsive Transport (DRT)

- 4.1. There is a rapidly-developing market of digital platforms for plotting and running Demand Responsive Transport services. DRT is an extension of traditional ‘Dialaride’, but capacity is provided within minutes by diverting journeys already running to pick up intending passengers.
- 4.2. CPCA envisage that DRT might be combined with improved strategic trunk services like the new 905 at key transport hubs, to increase connectivity and give the travelling public far more choices about how they can travel by public transport. Given the new technology, this model needs trialling.
- 4.3. We are in talks with two providers to establish costs prior to potentially making a direct award for a pilot project – a normal procurement process would follow if aspects of the pilot were extended. This trial would run in part of Huntingdonshire for at least six months. Huntingdonshire has been selected

because it has a significant number of minimum cost contract services, currently tendered by CCC and from next April by CPCA, where the Authority bears the revenue risk. In other areas, where services are mainly fully commercial, there would be risk that DRT simply cannibalised commercial revenues and disadvantaged operators, with a risk of disputes and compensation claims. Therefore, we need to trial where there are fewer commercial buses and many supported services to provide a trial customer base. For the period of the trial, the DRT would be an overlay – the existing bus services would continue to run unaffected – although in the longer term, if we find passengers prefer DRT then some traditional supported bus services could be subsumed into DRT.

- 4.4. A detailed business case is being developed. Members are asked to note and comment on this proposal in advance of a Mayoral decision within the delegation given by the Board in September 2020.

5.0 Other trials

- 5.1. CPCA is considering further service developments in other parts of the Authority area and the Committee will be updated on these as they become ready.

6.0 FINANCIAL IMPLICATIONS

- 6.1. There are no financial implications. The budget for the new Peterborough bus route is provided by the government's Better Buses Fund grant. The budget for trials was approved by the Board in September 2020.

7.0 LEGAL IMPLICATIONS

- 7.1. The services and products described in this paper will be procured under our standard tendering rules.

8.0 OTHER SIGNIFICANT IMPLICATIONS

- 8.1. There are no other significant implications.

9.0 APPENDICES

- 9.1 None.

<u>Background Papers</u>	<u>Location</u>
Draft minutes of Transport & Infrastructure Committee, 9 th September 2020.	<u>Draft minutes of Transport & Infrastructure Committee, 9th September 2020.</u>
Transport & Infrastructure Committee paper, 9 th September 2020.	<u>September Committee paper</u>

CA Board paper, 30 th September 2020.	CA Board paper
Better Buses Fund Grant Letter	Better Buses Fund Grant Letter

