



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY

Wednesday 27 March 2019

10:30am – 1:00pm

Kreis Viersen Room, Shire Hall, Cambridge CB3 0AP

AGENDA

Open to Public and Press

Number	Agenda Item	Mayor/ Lead Member/ Chief Officer	Key Decision	Pages
	Part 1 – Governance Items			
1.1	Announcements, Apologies and Declarations of Interests	Mayor	Non-key	oral
1.2	Minutes – 27 February 2019	Mayor	Non-key	5-16
1.3	Petitions	Mayor	Non-key	oral
1.4	Public Questions	Mayor	Non-key	oral
1.5	Forward Plan	Mayor	Non-key	<i>To follow</i>
1.6	Designation of Statutory Officer	Mayor	Non-key	17-18
	Part 2 - Employment Committee Recommendations to the Combined Authority			
2.1	Appointment of Chief Executive and Monitoring Officer	Mayor	Non-Key	19-20

Number	Agenda Item	Mayor/ Lead Member/ Chief Officer	Key Decision	Pages
	Part 3 – Finance			
3.1	Budget Monitor Update	Portfolio Holder for Investment and Finance	Non-Key	21-29
	Part 4 – Combined Authority Matters			
4.1	Housing Development Company	Mayor	Non-Key	30-85
4.2	CAM Metro – Strategic Outline Business Case <i>[Appendix 2 is exempt from publication under Paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972, as amended. If the Board wishes to discuss the exempt appendix it will be necessary to consider whether to exclude the press and public]</i>	Mayor	Key	86-272
4.3	A10 Corridor - Strategic Outline Case and Next Steps	Mayor	Key	273-306
4.4	Bus Reform Task Force – Governance and Subsidies	Mayor	Key	307-311
4.5	Cambridge South Station (Interim Solution)	Mayor	Non-Key	312-323
4.6	Huntingdon Third River Crossing	Mayor	Key	324-329
4.7	A505: Strategic Study	Mayor	Key	330-334
4.8	Adult Education Budget: Delegation of Grant Provision for 2019/20 Academic Year	Portfolio Holder for Skills	Key	335-338
4.9	Monitoring and Evaluation Framework	Mayor	Non-Key	339-398

Number	Agenda Item	Mayor/ Lead Member/ Chief Officer	Key Decision	Pages
	Part 5 – Business Board/ Committee Recommendations to the Combined Authority			
5.1	Growth Deal Project Proposals March 2019	Chair of Business Board/ Portfolio Holder for Economic Growth	Key	399-400
5.2	Local Industrial Strategy	Chair of Business Board/ Portfolio Holder for Economic Growth	Key	401-600
5.3	Growth Programme Update	Chair of Business Board/ Portfolio Holder for Economic Growth	Non-Key	601-602
5.4	Local Assurance Framework <i>(Appendix 1 to follow)</i>	Chair of Business Board/ Portfolio Holder for Economic Growth	Non-Key	603-604
	Part 6 – Motion Submitted under Proceedings of Meetings Rule 14			
6.1	Motion from Councillor Bridget Smith	-	Non-Key	605

Number	Agenda Item	Mayor/ Lead Member/ Chief Officer	Key Decision	Pages
	Part 7 – Date of Next Meeting			
7.1	Wednesday 29 May 2019, Council Chamber, The Grange, Nutholt Lane, Ely, CB7 4EE			

The Combined Authority currently comprises the following members:

Mayor: J Palmer

Councillors: G Bull, S Count, L Herbert, J Holdich, C Roberts, C Seaton and B Smith
Substitute members: Councillors A Bailey, I Bates, W Fitzgerald, R Fuller, D Oliver, A Smith & A Van de Weyer

Chair of the Business Board: Aamir Khalid
Substitute member: Professor Andy Neely

Observers: J Ablewhite (Police and Crime Commissioner), J Bawden (Clinical Commissioning Group) and the Vice Chairman/woman of the Cambridgeshire and Peterborough Fire Authority (Councillor D Over)

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.

Public speaking on the agenda items above is encouraged. Speakers must register their wish to speak by making a request in writing to the Interim Monitoring Officer (Patrick Arran) at patrick.arran@cambridgeshirepeterborough-ca.gov.uk. The request must include the name, address and contact details of the person wishing to speak, together with the full text of the question to be asked.

For more information about this meeting, please contact Richenda Greenhill (Democratic Services Officer) at Richenda.Greenhill@cambridgeshire.gov.uk or on 01223 699171.



**CAMBRIDGESHIRE
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COMBINED AUTHORITY

CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY: MINUTES

Date: Wednesday, 27 February 2019

Time: 10.30 am. – 12.25 pm

Venue: Council Chamber, South Cambridgeshire District Council, South Cambridgeshire Hall, Cambourne Business Park, Cambourne, Cambridge, CB23 6EA

Present: J Palmer (Mayor)

A Bailey – East Cambridgeshire District Council, I Bates – Cambridgeshire County Council, G Bull – Huntingdonshire District Council, L Herbert- Cambridge City Council, J Holdich – Peterborough City Council, C Seaton – Fenland District Council and B Smith – South Cambridgeshire District Council.

A Khalid - Chairman of the Business Board

Observers: J Ablewhite (Police and Crime Commissioner) , J Bawden (Clinical Commissioning Group) and D Over(Cambridgeshire Fire Authority)

304. ANNOUNCEMENTS, APOLOGIES AND DECLARATIONS OF INTEREST

The Mayor announced that the Chairman of the Business Board Aamir Khalid had received a letter from James Brokenshire, Secretary of State for Housing, Communities and Local Government, that confirmed that the Business Board was now acknowledged as the Local Enterprise Partnership (LEP) for Cambridgeshire and Peterborough. Government had confirmed that the Combined Authority would therefore receive £16.7m in growth funds over the next two months to benefit the residents of Cambridgeshire and Peterborough. In addition the Combined Authority would receive £250k of core funding and a further £200k to assist with the implementation of the LEP review. The Mayor congratulated Amir Khalid, his colleagues on the Board and officers for the success in establishing the new LEP.

Aamir Khalid, the Chair of the Business Board, welcomed the news and highlighted the good work of the business and skills teams. He explained that he had written a letter outlining the areas the Business Board proposed to fund. He had attended a meeting of the Chairs of all Combined Authority Business Boards with the Prime Minister at the end January 2019 to discuss

the Prosperity Fund and how this could be brought within the control of the LEPs.

Apologies were received from Councillor C Roberts, substituted by Councillor A Bailey and Councillor S Count, substituted by Councillor I Bates.

There were no declarations of interest.

305. MINUTES – 30 January 2019

The minutes of the meeting on 30 January 2019 were agreed as a correct record and signed by the Mayor.

306. PETITIONS

No petitions were received.

307. PUBLIC QUESTIONS

No public questions were received.

308. FORWARD PLAN

It was resolved unanimously to:

note the Forward Plan

309. BUDGET MONITOR UPDATE

The Interim Section 73 Chief Finance Officer presented the Budget Monitor Update report to the Board. Members were informed that the report captured the Combined Authority's income and expenditure for the year to the end of December 2018. Attention was drawn to the year to date position set out in the report which showed a surplus of income over expenditure of £1,506.2k. The outturn forecast predicted a drawdown from reserves of £186.7k. This was an improvement of £257.6k over the budgeted drawdown of £444.3k. Members were informed that the March budget monitoring report would provide more detail on the capital for transport projects and profiling for these budgets. Reporting on the business plan, including performance, would be integrated into the report.

Members were updated on the revenue variances identified in the report which included:

- Staffing Costs - there had been a number of changes in staffing which had resulted in less spend.
- Financing Costs - there had been an uplift due to the gradual improvement of interest rates.
- Economic Strategy - there had been limited expenditure so far on the development of the Market Town Strategies, however work was well

underway and expenditure would increase towards the end of the financial year. Some expenditure would potentially be carried forward to the next financial year.

- Transport and Infrastructure - there had been a £30,000 predicted underspend on the Strategic Bus Review. Some expenditure might potentially be carried forward to the next financial year, but this would be addressed in the March report if applicable.
- Strategic Planning - an underspend of £90,000 had been identified due to the revision of the Non-Statutory Spatial Framework timetable, but this would be required to continue the work in the next financial year.

Attention was drawn to the Capital position of the Combined Authority Budget. The Interim Section 73 Officer clarified that underspend in Capital budgets had been mainly due to suppliers not yet having charged for services provided. In relation to the Transport element of the budget, he explained that it was anticipated that the Growth Funding monies for the Kings Dyke project would be transferred to Cambridgeshire County Council by March 2019.

In discussing the Housing element of the Capital budget, the Interim Section 73 Officer explained that work was ongoing to look at the re-profiling of the Cambridge City Housing Programme. There had also been a lapse in spend on the Housing Investment Fund, due to the inability to pay registered providers for affordable rent. The Combined Authority were working with Homes England to resolve this issue and clear plans were in place to bring this back on track.

Commenting on the report, Councillor Herbert raised concerns about operational delivery as budgets were not being spent. He sought clarification on the percentages of all funds that would be carried forward to the next financial year. The Deputy Chief Executive John Hill stated that the Interim Section 73 Officer had given a clear overview of how this would be addressed in the March budget monitoring report. The Mayor stated that many of the Combined Authority projects were significant and they would take time to deliver. The Combined Authority had clear timelines for these projects and spend would be dealt with correctly within the set timelines.

Councillor Bates welcomed the improved financial reporting and the anticipated additional improvements for the March Budget Monitor report. He commented that the A505 was one of the busiest roads in Cambridge and with further development taking place along that corridor he would like to see this project progressed accordingly. He welcomed the engagement with officers on the Local Transport Plan and commented that this was progressing well. He was happy with the report that the Interim Section 73 Officer had given on this.

Councillor Smith queried the Treasury Management approach in relation to the recycling of funds, rather than the payment of grants. She sought further detail on the origins of this money. The Interim Section 73 Officer stated that the Audit and Governance Committee received a regular Treasury

Management report, and this would be reviewed at the Committee's next meeting in March. He would be happy to cover that element in his report.

Councillor Herbert commented on the need for the Combined Authority to be delivery-focused. He sought clarification on the status of the East Cambridgeshire Housing Loan. The Interim Section 73 Officer stated that the loan had not yet been paid over and clarified that the loan would be drawn down in two phases. A payment of £6.5 million was scheduled for April and a payment of £24 million for the Ministry of Defence site had also been scheduled in April. The money would not be released until due diligence had been carried out. Councillor Bailey clarified that the Haddenham loan was due to extensive archaeology work that had been required on site.

Councillor Holdich welcomed the improvement in reporting which he found to be the most comprehensive to date. In future reports he suggested it would be helpful to make clear what expenditure had been committed in relation to the University of Peterborough project to provide additional clarity.

It was resolved by a majority to:

note the financial position of the Combined Authority for the year to date.

310. £100M AFFORDABLE HOUSING PROGRAMME – SCHEME APPROVAL, SPRINGFIELD AVENUE, MARCH

The Director of Housing and Development presented a report requesting a commitment of £444,000 grant funding from the £100 million Affordable Housing programme to support the delivery of new affordable housing on a scheme at Springfield Avenue, March. The site would deliver 40 affordable housing units.

Councillor Smith sought clarification on the funding of the shared ownership units within the scheme. The Director of Housing clarified that Clarion already had the funding for these units from Homes England. Councillor Smith queried why the Combined Authority was not hitting its target of an average of £30,000 per unit and queried whether the target added value or whether each development should be reviewed on a case by case basis. The Director of Housing explained that there was a cross subsidy effect and that development at Northstowe had brought the average down considerably. He stated that the target had been agreed by the Board when they approved the Housing Strategy in September 2018. In his view it was good discipline to have a target, but officers were open to further direction from the Board. He explained that the aim was to overachieve on the target set by Government of 2500 units and that this had been reported through Housing and Communities Committee and the Overview and Scrutiny Committee. Councillor Smith sought clarity on the timeframe for the resolution of the issue regarding the Combined Authority's ability to offer and pay grant on affordable units. The Director of Housing explained that Government was looking to review the secondary legislation required at the beginning of April 2019. It was

anticipated that this would take 6-8 week, but this timescale should be treated with caution given the current pressures on Parliamentary time.

The Mayor reiterated that the issue regarding the Combined Authority's ability to offer and pay grant on affordable housing was a problem which Government needed to resolve and that it was were dealing with the issue.

Councillor Seaton welcomed the development and stated that he fully supported the report recommendations. He stated that it was a small part of the 2,500 homes target, but it was important to March as affordable homes were desperately needed. He would not support getting rid of the £30,000 per unit benchmark.

It was resolved unanimously to:

commit grant funding of £440,000 from the £100m Affordable Housing programme to support delivery of new affordable housing on a scheme at Springfield Avenue, March, Fenland subject to the conditions set out in paragraph 3.11 of the report.

311. STRATEGIC SPATIAL FRAMEWORK PHASE 2

Councillor Herbert introduced a report that brought the work on the Non-Statutory Spatial Framework in line with the development of the Local Transport Plan. He stated that working with the Planning Authorities on this was critical, particularly in relation to reviewing housing demand and looking at future housing needs and there had to be overall agreement on this with sovereign Districts. He recognised that the timetable was stretching with the aim to report back to the Board in May 2019.

Councillor Bates endorsed the report and explained that there had been a long history of the Districts working together on Local Plans. He commented that he was particularly pleased with engagement on the Local Transport Plan and welcomed the progress made so far and the opportunity for discussions going forward.

Councillor Smith welcomed the report and the engagement which had taken place and commented that she would like to formalise the timescale for further engagement and review. The Director of Strategy and Assurance explained that a Gantt chart had been developed for the programme of engagement and that this would be shared with the Board.

The Director of Corporate Affairs for Cambridgeshire and Peterborough Clinical Commissioning Group sought assurances that NHS partners would be engaged in the process. The Director of Strategy and Assurance assured her that they would be included in the engagement programme.

Councillor Bull expressed concern in relation to the tight timetable. The Director of Strategy and Assurance explained that the timetable was aligned with the Local Transport Plan review and that it had been identified to be

achievable. If the deadline turned out to be too ambitious then the timescales would be reviewed.

Councillor Holdich welcomed the report but expressed some concerns regarding the Combined Authorities powers in relation to infrastructure. He highlighted the need to look at the regional distribution of housing and to include Supported Housing in the overall strategy.

The Police and Crime Commissioner reflected on Councillor Holdich's comments and explained that there was a need to develop a countywide strategy on Supported Housing in order to collectively address future need. He stated that the Authority could use this work as an evidence base to seek funding to support future growth.

Councillor Bailey echoed Councillor Herbert's comments on housing numbers and commented that it was a huge regret in East Cambridgeshire that the Housing Inspector had chosen not to accept the regional distribution of housing numbers in its Local Plan. She welcomed the work to review housing numbers collectively.

Councillor Herbert stated that it had taken four and a half years to reach a conclusion on the Plans submitted by Cambridge City and South Cambridgeshire. In his view this was not acceptable as Plans needed to be agreed within a year to respond to current housing need. He would be happy to help work up a letter to the Secretary of State to seek a meeting to discuss the range of planning issues faced by the county. Working together to produce a common position and approach would strengthen the county's position in its discussions with Government.

Councillor Bates sought assurances that the Environment Agency would be central to the discussions. The Director of Strategy and Assurance stated that they would be working with them closely on the review.

The Mayor clarified that once there was clear agreement on the Plan there would be further engagement with Ministers. The creation of a Spatial Strategy the Cambridgeshire and Peterborough sent a strong message to Government and he welcomed this.

It was resolved unanimously to:

agree the work programme and approach for Phase 2 of the Strategic Spatial Framework.

312. QUARTERLY PERFORMANCE REPORTING

The Board considered the quarterly update on performance reporting to the end of January 2019. The Director of Strategy and Assurance explained that through the Combined Authority's Business Plan, links had been made between financial planning and performance reporting. The report showed no

red projects and the net movement had been in a positive direction. The report showed the 12 key projects and their current RAG ratings.

Councillor Herbert queried how the RAG ratings for the projects were assessed. The Director of Strategy and Assurance acknowledged that this was an important challenge. He clarified that project managers had been given a clear framework around how projects should be rated. He clarified that the fact that a project was green did not mean that the project was not difficult.

Councillor Smith requested that future reports showed movement of the RAG status of reports. The Director of Strategy and Assurance stated that this detailed information was contained in the private exception report given to the Board. He explained that how this was presented in future reporting was under review.

It was resolved unanimously to:

note the February Delivery Dashboard.

313. UNIVERSITY OF PETERBOROUGH FUNDING

The Mayor informed the Board that he had received notice that the Overview and Scrutiny Committee wished to comment on the report and invited Councillor Nethsingha, Chair of the Overview and Scrutiny Committee, to address the Board. Councillor Nethsingha commented that the Committee had expressed concerns regarding the Peterborough University project and that it had requested an update on at the next meeting. The Mayor welcomed the Overview and Scrutiny's decision to request further information on this project.

Councillor Holdich introduced the report and stated that he was happy to address the concerns raised by the Committee and that actions had already been taken to address some issues identified by an external assessor. Gleeds had been brought in to review the work that had taken place so far on the project. Pinsent Mason had also been asked to review the future funding for the project. He explained that that the report that had been brought to the Board was to seek agreement for the £446,000 payment to University Centre Peterborough contingent upon the funding agreement being executed before funds were released. Work was also in hand with the Interim S73 Chief Finance Officer to make the financing of the project more visible in future reports. Councillor Herbert stated that he was proud that good progress had been made on the project and that upskilling was crucial to avoid limits on the economy.

Councillor Over commented that there was significant pent up demand for university places in Peterborough and gave his support to the report. He welcomed the visibility of the review of the project so far.

It was resolved unanimously to:

agree the £446,000 payment to University Centre Peterborough contingent upon the funding agreement being executed before funding is released.

314. MOTION SUBMITTED UNDER PROCEEDINGS OF MEETINGS RULE 14

The Mayor stated that a Motion had been submitted by Councillor Herbert in relation to the decision made by the Employment Committee to endorse the draft consultation document outlining a proposed restructuring of staffing at the Combined Authority. Councillor Herbert had subsequently submitted an amendment to the Motion which had been accepted by the Monitoring Officer.

Councillor Herbert commented that he had submitted the amendment to his original Motion as a public report on the staffing consultation had been published ahead of the call in review by the Overview and Scrutiny Committee on 25 February 2019.

The Mayor stated that he had received notice that the Overview and Scrutiny Committee wished to comment on the Motion and invited Councillor Nethsingha to address the Board.

Councillor Nethsingha commented that there had been a number of points arising from the discussion at Overview and Scrutiny Committee that Members wished to make the Board aware of. She wished to make clear that the points raised were the points agreed by the Committee and were not necessarily her own views. These points included:

- concerns around the staffing structure and the impact that it could have on delivery of projects in the future
- concerns around the area of transport delivery and the importance of ensuring that the Combined Authority hired staff with the appropriate transport skills. The vote at the Committee meeting had been drawn on this point so, whilst the decision was not called in, Councillor Nethsingha wished to draw the Board's attention to the level of concern expressed around this
- ensuring that partnership working across the county with other governmental bodies was a priority when considering staffing needs
- clarity around the Peterborough University project manager post within the context of the ongoing university project and whether it was necessary

Councillor Nethsingha explained that the Overview and Scrutiny Committee had considered the risks around the budget and introducing a new staffing structure at a time when there was no full-time Chief Executive in post. The Committee hoped that the recruitment of the new Chief Executive could be

taken forward quickly so that their views could influence the staffing structure within the organisation. The Committee had drawn a balanced conclusion on this to resolve not to endorse the call in concern around the implementation of the staffing structure. As the staffing structure continued to involve the Committee asked if this could be kept under review.

The Mayor sought confirmation from Councillor Nethsingha that the call in had not been endorsed and that the Overview and Scrutiny Committee were not sending the decision back to the Employment Committee. Councillor Nethsingha reiterated that the call in had not been endorsed by the Committee, but that it had been a helpful and constructive discussion. She expressed her gratitude that the consultation document had been brought into the public domain. The Mayor sought further assurances from Councillor Nethsingha that the points that had been raised were fully endorsed by the Committee and were not points made by her as an individual. Councillor Nethsingha commented that she had asked each time if the Committee was happy for her to share these comments with the Board and no member of the Committee had objected, but clarified that these points had not been voted on.

Councillor Smith stated that she felt this was a completely inappropriate line of questioning by the Mayor and that she strongly objected to it.

Councillor Bailey commented that there had been six months of work by officers as part of the root and branch review to draft the revised staffing structure and that the work had not been done in haste. Her view was that the Motion and the Amendment to the Motion questioned the work of the Employment Committee and its delegated authority to make decisions, which she felt was not appropriate. She also felt it questioned the work of the Overview and Scrutiny Committee in reviewing the decision.

Councillor Herbert stated that he wished to speak to the nine points contained in the Amendment to his Motion (copy at Appendix 1) and that he would wish that each point be voted on separately. Kim Sawyer, Interim Joint Chief Executive, stated that under the Constitution the mover of a Motion could add to that Motion provided there was no dissent from other members of the Board. Provided there was no dissent a vote would be required on whether the Amendment should be considered as a whole or in separate parts.

Councillor Bailey commented that it was unusual to consider a Motion which would overturn a decision taken within the last six months. Ms Sawyer stated that there had been no Motion to the Board on the staffing structure within the past six months. As the Employment Committee had delegated authority to make a decision on the staffing structure this decision could not be overturned by the Board. If the Motion before the Board was carried the decision would be returned to the Employment Committee to be reconsidered. The Combined Authority Board had superiority to the Employment Committee and only the decisions of the most superior decision-making body could not be reviewed within six months. Councillor Bailey asked for a note on this point.

Councillor Bates proposed, seconded by Councillor Holdich that Councillor Herbert's Motion and Amendment should be subject to a single vote.

Councillor Herbert commented that there had been a wide range of fundamental changes proposed to the staffing structure at the Combined Authority. There had been no involvement of the Board in discussion of these proposals and he did not feel it was appropriate that his Amendment should be considered as a whole.

On being put to the vote, the Motion was carried.

The Mayor agreed to Councillor Herbert's request to speak to each part of his Amendment in turn. He addressed each of the points of the amended motion in turn (copy at appendix 1).

Speaking in support of the Amended Motion, Councillor Smith expressed her concern in relation to the transport element of the consultation and requested that the Board take the comments from the Overview and Scrutiny Committee into consideration. It had taken considerable time to get finance to the point it was now and she was concerned this might be lost if the current level of expertise was not maintained. She supported the review of the number of posts in the Mayor's Office and its location and suggested greater use should be made of the Combined Authority offices at Alconbury Weald given the investment made in them. Councillor Smith voiced her disappointment at the decision not to vote on each element of the Amendment in turn.

Councillor Holdich stated that the amended motion was one of hindsight and the consultation had been debated fully at Employment Committee. He commented that the Committee had discussed the removal of the Director of Finance and Transport posts at length and had agreed to the changes. Each transport scheme would continue to have a project manager leading it and overseeing the detail.

Councillor Bailey commented that many of the issues raised by Councillor Herbert had been discussed in detail by the Employment Committee which had delegated authority to take these decisions. The Committee had proposed changes to some aspects of the proposals and these were being reflected by officers.

The Police and Crime Commissioner commented that it was his understanding that if posts were at risk it was generally accepted that reports would be considered in closed session. Kim Sawyer, Interim Joint Chief Executive, confirmed that Schedule 12A of the Local Government Act 1972 Paragraph 1 allowed for the press and public to be excluded from a meeting where a report contained information relating to an individual.

Councillor Bates commented that the Board had requested a root and branch review of the Combined Authority staffing structure. From all that he had heard he believed that this had been delivered and considered in detail.

On being put to the vote, both the substantive Motion and the Amended Motion proposed by Councillor Herbert and seconded by Councillor Smith were lost.

The Mayor stated that he had not contributed to the discussion as he had not wanted his views to prejudice the vote. He reiterated that there had been extensive discussions at both Employment Committee and the Overview and Scrutiny Committee of the proposals and he welcomed their support in endorsing the consultation to be taken forward. John Hill, Interim Joint Chief Executive, had done exceptional work in producing the report and the revised staffing structure would make the Combined Authority more efficient and would deliver savings of £1.8m.

315. DATE OF THE NEXT MEETING

10.30am Wednesday 27 March 2019 – Kries Viersen Room, Shire Hall, Cambridge, CB3 0AP

(Mayor)

AMENDMENT TO MOTION SUBMITTED BY COUNCILLOR HERBERT

Moved Councillor Herbert, Seconded Councillor Smith (who is also seconding the original motion)

TO ADD TO THE MOTION SUBMITTED

Given the serious lack of evidence and analysis in the restructuring report, the Combined Authority instructs the Employment Committee to achieve greater but different annual savings than proposed and to:

1) Retain the posts of Directors of Transport and Finance reporting with their teams directly to the Chief Executive (given that the calibre, leadership and impact of the two roles is vital)

but at lower salaries than planned, and that the two recruitments already underway be continued to a conclusion.

2) Retain the post of Inward Investment Manager as a role which will be vital in creating new jobs and in new investment in Cambridgeshire and Peterborough and also to address the potential risks of Brexit to the whole CA area.

3) Retain the post of a corporate Head of Sustainability to align with the Government's emerging ambition to raise the profile of the Environment along the OxCam Arc and to exploit opportunities for developing green technologies and in greening of the area's economy and extra jobs generated.

And to fund this and further savings by reversing new proposals and making the following changes to the restructuring plans:

4) Freeze the already large mayoral office staff of 4, saving at least £100,000/year.

5) Require the Mayor to move the mayoral office to Alconbury given the significant savings and increased efficiency this will generate.

6) Cut the number of extra legal staff by two.

7) Cut the extra strategy team staff by two.

8) Cut the planned budget for Adult Education staffing by 25%.

9) Given the filling of full time positions following the end of the recruitment freeze, cut the excessive and poorly controlled CA consultancy budget for 2019 and future years by at least £500,000/year, and instructs officers to bring forward a report to achieve this.



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 1.6
27 MARCH 2019	PUBLIC REPORT

DESIGNATION OF STATUTORY OFFICER/S

1.0 PURPOSE

- 1.1 To request the Board to designate Emma Powley as Scrutiny Officer whilst the current post holder is on maternity leave.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor (governance portfolio)
Lead Officer:	Kim Sawyer, Interim Chief Executive
Forward Plan Ref: Not applicable	Key Decision: No
The Combined Authority Board is recommended to designate Emma Powley as Scrutiny Officer for the duration of the maternity leave of the current officer.	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1 The Combined Authorities (Overview and Scrutiny Committees, Access to Information and Audit Committees) Order 2017 provides that a combined authority must designate one of its officers as the scrutiny officer of the overview and scrutiny committee to discharge the functions in paragraph (2).
- 2.2 The functions are:
- (a) to promote the role of the overview and scrutiny committee;
 - (b) to provide support and guidance to the overview and scrutiny committee and its members;
 - (c) to provide support and guidance to members of the combined authority and to the mayor in relation to the functions of the overview and scrutiny committee.
- 2.3 The officer designated as the scrutiny officer is due to go on maternity leave imminently and arrangements must be made for appropriate cover for this post during the period of maternity leave.

- 2.4 Emma Powley has been retained as an interim scrutiny officer to cover the maternity leave for an initial period of 9 months, but this may be extended dependent on timing of the officer's return to work.

3.0 FINANCIAL IMPLICATIONS

- 3.1 The costs of the appointment will be contained within the 2019/20 forecast outturn figure for staffing costs, as approved by the Board on 30th January 2019.

4.0 LEGAL IMPLICATIONS

- 4.1 There are no additional legal implications to those mentioned in the report.

5.0 SIGNIFICANT IMPLICATIONS

- 5.1 There are no equalities or other implications arising from this report.

6.0 APPENDICES

- 6.1 None

<u>Source Documents</u>	<u>Location</u>
None	Not applicable



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 2.1
DATE OF MEETING 27 th March 2019	PUBLIC REPORT

APPOINTMENT OF CHIEF EXECUTIVE AND MONITORING OFFICER

1.0 PURPOSE

- 1.1. This report recommends the Authority approve the recommendation of the Employment Committee for the appointment of the Chief Executive of the Authority and approves the appointment of a Monitoring officer

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor
Lead Officer:	John Hill Interim Chief Executive
Forward Plan Ref: N/A	Key Decision: No
The Combined Authority Board is recommended to: (a) Approve the recommendation of the Employment Committee to appoint the new Chief Executive of the Combined Authority (b) Agree to the appointment of the Monitoring Officer with immediate effect.	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1. As Authority members will be aware a recruitment process has been continuing for the identification and appointment of a new Chief Executive of the Authority. This matter will proceed through the Employment Committee on the 26th March

2019 and a recommendation to the full Authority meeting for the appointment of the successful candidate will be tabled.

The Board is recommended to approve and confirm the recommendation of the Employment Committee as to the appointment of the Chief Executive.

- 2.2. In addition to appointing the new Chief Executive the role of the Monitoring Officer has to be appointed as the present Monitoring Officer's contract of employment with the Authority expires on the 31st March 2019. The new Monitoring Officer will be notified to the meeting.

3.0 FINANCIAL IMPLICATIONS

- 3.1. There are no unplanned or additional burdens on the Authority budget from these decisions

4.0 LEGAL IMPLICATIONS

- 4.1. The requirement of a Monitoring Officer is a legal obligation and making the decision recommended will meet this obligation

<u>Source Documents</u>	<u>Location</u>
Employment Committee papers 26 March 2019	http://cambridgeshirepeterborough-ca.gov.uk/meetings/employment-committee-26th-march-2019/?date=2019-03-26



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 3.1
27 MARCH 2019	PUBLIC REPORT

BUDGET MONITOR UPDATE

1.0 PURPOSE

- 1.1 This report provides an update of income and expenditure for the period to the end of January 2019.

<u>DECISION REQUIRED</u>	
Lead Member:	Councillor Steve Count, Portfolio for Investment and Finance
Lead Officer:	Noel O'Neill, Interim S73 Chief Finance Officer
Forward Plan Ref: n/a	Key Decision: No
The Combined Authority Board is recommended to: a) note the financial position of the Combined Authority for the year to date.	Voting arrangements Simple Majority of the Members (or their Substitute Members)

2.0 BACKGROUND

Budget 2018/19 Update

- 2.1. The outturn forecast reflects costs incurred to date, accrued expenditure and the impact on the current year of assumptions made on staffing, overheads and workstream programme delivery costs as set out in the Medium Term Financial Plan (MTFP).
- 2.2. A summary of the financial position of the Authority, showing 'Revenue' income and expenditure for the ten-month period to 31 January 2019, is set out in the

table below. A more detailed breakdown of income and expenditure for the year to date is shown at **Appendix 1**.

2018/19 Revenue				Variance	
	2018/19	Actuals to 31	Predicted	(Predicted	
	Budget	Jan 2019	Outturn	Outturn -	Para
	(£'000)	(£'000)	(£'000)	Budget)	ref:
				(£'000)	
Income					
Grant Income	(11,292.6)	(9,410.5)	(11,321.0)	(28.4)	2.4 (d)
Total Income	(11,292.6)	(9,410.5)	(11,321.0)	(28.4)	
Expenditure					
Mayor's Office	349.4	284.1	349.4	0.0	
Operational Budget:					
Combined Authority Staffing	5,502.1	4,489.8	5,346.9	(155.2)	2.4 (a)
External Support Services	547.0	468.9	547.0	0.0	
Corporate Overheads	687.8	604.1	702.8	15.0	2.4 (b)
Governance	150.6	96.7	150.6	0.0	
Election Provision	260.0	260.0	260.0	0.0	
Financing Costs	(700.0)	(628.5)	(750.0)	(50.0)	2.4 (c)
Workstream/Programme Budget:					
Rural Areas, Culture, Parks etc.	10.0	23.5	38.4	28.4	2.4 (d)
Fiscal	45.0	50.0	50.0	5.0	
Economic Strategy	868.1	625.9	785.7	(82.4)	2.4 (e)
Transport & Infrastructure	2,350.1	1,416.6	2,000.1	(350.0)	2.4 (f)
Employment & Skills	1,015.3	231.2	998.3	(17.0)	2.4 (g)
Strategic Planning	309.2	30.6	98.2	(211.0)	2.4 (h)
Public Service Reform	416.0	257.2	316.0	(100.0)	2.4 (i)
Total Expenditure	11,810.5	8,210.0	10,893.4	(917.1)	
Total (Income) less Total Expenditure	517.9	(1,200.5)	(427.6)	(945.5)	

2.3. The position to 31st January 2019 shows a surplus of income over expenditure of £1,200.5k, whilst the predicted outturn position shows a surplus of £427.6k, an underspend against the 2018/19 budget of £945.5k. Of this £945.5k variance, £656.4k will be carried forward to 2019/20 to fund projects that have been started but not completed. The narrative below gives details of that requirement. It is therefore predicted that the final position will result in a £228.8k draw down from reserves (£427.6k - £656.4k) rather than the budgeted drawdown of £517.9k.

2.4. Variances between the predicted revenue outturn position and the annual budget for the main budget headings are set out below:

- (a) Staffing Costs: The favourable staff cost variance of £155.2k for the year against budget is due to an increase in the number of vacancies in the organisation (e.g. in Finance) and the delay in recruitment to permanent positions pending the outcome of the organisational review.
- (b) Corporate Overheads: Higher than expected overhead costs (£15k) have been incurred as a result of the transfer of the LEP business, including residual insurance obligations, with effect from 1 April 2018.

- (c) **Financing Costs:** The Combined Authority has incurred no financing costs in the year to date as a result of not holding any debt. The improvement in the forecast of income earned on investments (£50k) is largely due to the improved rate of interest earned on balances. Rates available have increased from 0.5% to just over 1.1% during the course of the year. The MTFP has provided greater certainty of future cashflows, which has enabled the Combined Authority to take more informed treasury management investment decisions. Recycling funds rather than the payment of grants will also provide larger capital balances for future investment and provide greater interest earning potential.
- (d) **Rural Areas, Culture, Parks etc:** Additional costs in year of £28.4k reflect a more informed profile of the costs of delivering the South East regional energy hub, including the recruitment of staff, and for necessary IT equipment. The impact on the funding draw down from the energy hub grant already received is reflected in the grant income line.
- (e) **Economic Strategy:**
 - i) The underspend on the development of Market Towns Strategy (£40k) is due to the costs of the work on Fenland market towns falling partially into 2019-20. This project is due to be completed in June 2019, thus the funds will be rolled into 2019-20.
 - ii) The underspend on the international trade programme of £22.4k is due to the initiation of the project being put on hold while the Local Industrial Strategy (LIS) was finalised in order to ensure funding is spent on confirmed strategic objectives. The funding will be utilised in 2019-20 to deliver the objectives of the LIS and Skills Strategy.
 - iii) Development of the St Neots masterplan came in £20k below the forecast costs.
- (f) **Transport and Infrastructure:**
 - i) Whilst limited spend has been incurred to date, the work has now been completed on the Local Transport Plan and the predicted outturn figure reflects the expected residual charges.
 - ii) The recently reported Strategic Bus review anticipated that the total costs incurred will show an underspend in year of £30k due to positive management of the project.
 - iii) Additional costs for the year to date include subsidies paid by the Mayor to maintain local bus routes. The budget has been updated (to £101.6k) to reflect these additional costs.
 - iv) The Cambridge Autonomous Metro (CAM) Strategic Outline Business Case has cost £120k less than the original budget providing a genuine underspend for the Combined Authority.
 - v) The Huntingdon Strategic River Crossing project (as detailed in a separate Board paper) is being commenced. The unused funds of £200k will need to be carried forward from this year to support the project.

(g) Employment and Skills:

- i) At the February Board meeting, the Combined Authority approved funding of £446k this financial year towards the delivery of the University of Peterborough project.
- ii) As with the International Trade Programme, the Life Sciences Sector Investment programme was also put on hold while the Local Industrial Strategy (LIS) was finalised. Unused funding of £63k will be carried forward to fund future LIS and Skills Strategy objectives.

(h) Strategic Planning: A revised timetable for phase 2 of the Strategic Spatial Framework was presented to the Board in February 2019 highlighting the Board's requirement for the Non-Statutory Spatial Framework to reflect the recommendations of the Independent Economic Commission's CPIER review and the Local Transport Plan. It is anticipated that these changes to the timetable will result in a reported underspend for the year of £105k. This funding will be required to continue the work into 2019/20.

(i) Public Service Reform: The Board received a paper in September 2018 detailing a Health and Social Care proposal for Public Sector Reform. Savings have been made by challenging contractors. These will be carried forward into 2019/20 to support the ongoing work of the Independent Commission.

2.5. The year to date 'Capital' position of the Combined Authority (as at 31 January) is shown at **Appendix 2**.

Many of the capital programmes show little or limited spend to date. These apparent underspends are due mainly to suppliers not yet having charged for services provided, or where commissioned activities are work in progress. These costs will be recognised in the year end accounts and so are reflected in the predicted outturn position. Capital underspends may also be due to emerging differences from assumptions made in the profiling of expenditure forecasts across multi-year projects.

2.6. Direct Control:

Programme Managers have reviewed all of the Direct Control programmes and updated their expected expenditure profiles and revised for work in progress with our deliver partners. The programmes continue to progress, but it is expected that £1.75m will be carried forward to 2019/20.

2.7. Schemes previously identified and costed:

Spend incurred to date by delivery partners has been reviewed and predicted outturn positions updated accordingly. A major area of spend is the A505 Corridor project, which is the subject of a separate Board paper. Unspent budget will be carried forward into the 2019/20 Capital Programme.

2.8. Housing investment programme:

The £100m Housing investment programme has been affected by housing grants not currently being able to be used to deliver new homes for Affordable Rent. The Combined Authority has been verbally advised by colleagues at MHCLG that the legislative process to remedy the situation is expected to commence in April 2019 and to last for 6 to 8 weeks. The ongoing issue has resulted in lower than expected expenditure in the year to date. It is anticipated that funding will be carried forward into next year and that expenditure against the programme should catch up with original expectations.

2.9. East Cambs Housing Loan Provision:

It is expected that the first drawdown against the approved loan to East Cambs Trading Company Limited to facilitate the development of a Community Land Trust scheme of 54 homes in Haddenham, as set out in the March 2018 Board papers, will not be required until early in the new financial year.

2.10. Cambridge City Housing Programme:

Funding is being provided to Cambridge City Council to deliver a programme of 500 Council homes by 2022. Finance for the programme is made up of £62.8m from Cambridge City, together with £70m from the Combined Authority, with a predicted drawdown against the Combined Authority funds in 2018/19 of £13.69m.

2.11. National Productivity Investment Fund:

The profiling of required spending has been updated by Peterborough City Council. The underspend at year end will be carried forward for draw down in 2019/20 as the projects are completed.

2.12. Growth Funds: King's Dyke:

Claims covering January to December 2018 have now been received and, along with projected spend for Q4 2018/19, indicate that there will be an overspend against the expected budget. This is due to acceleration of the early phase of the scheme and will be met by bringing forward funding from 2019/20. The overall cost of the project is in line with the original Growth Fund bid and funding is available to meet these costs.

3.0 FINANCIAL IMPLICATIONS

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

4.0 LEGAL IMPLICATIONS

- 4.1. The Combined Authority is required to prepare a balanced budget in accordance with statutory requirements.

5.0 SIGNIFICANT IMPLICATIONS

- 5.1. There are no other significant implications.

6.0 APPENDICES

- 6.1 Appendix 1 - detailed breakdown of income and expenditure for the year to date.
- 6.2 Appendix 2 - the year to date 'Capital' position of the Combined Authority (as at 31 January 2019).

<u>Source Documents</u>	<u>Location</u>
None	Not applicable

Appendix 1: CPCA Revenue 2018/19 (Jan 2019)

	2018/19 Budget £'000	Actuals to 31 Jan 2019 £'000	Predicted Outturn £'000	Variance (Predicted Outturn - Budget) £'000
<u>Income</u>				
Gain Share Revenue	(8,000.0)	(6,666.7)	(8,000.0)	0.0
Mayoral Capacity Fund	(1,000.0)	(833.3)	(1,000.0)	0.0
MHCLG - LEP core payments	(500.0)	(416.7)	(500.0)	0.0
Energy Hub Contribution (Staff Costs)	(333.8)	(278.2)	(362.2)	(28.4)
Growth Hub - BEIS	(246.0)	(205.0)	(246.0)	0.0
EZ contribution to LEP activity	(250.0)	(208.3)	(250.0)	0.0
AEB Funding	(162.8)	(135.7)	(162.8)	0.0
CEC Skills Funding (quarterly claims)	(300.0)	(250.0)	(300.0)	0.0
Growth Fund Contribution	(500.0)	(416.7)	(500.0)	0.0
Total Income	(11,292.6)	(9,410.5)	(11,321.0)	(28.4)
<u>Expenditure</u>				
<u>Mayor's Office</u>				
Mayor's Allowance	85.0	70.4	85.0	0.0
Mayor's Office Expenses	33.5	28.5	33.5	0.0
Mayor's Office Accommodation	43.9	31.3	43.9	0.0
Mayor's Office Staff	187.0	153.8	187.0	0.0
Total Mayoral Costs	349.4	284.1	349.4	0.0
<u>Combined Authority Staffing Costs</u>				
Salaries	5,432.1			(155.2)
Chief Executive		265.0	292.0	
Business and Skills		1,358.3	1,633.3	
Transport		733.9	886.9	
Housing		176.8	214.0	
Strategy & Planning		459.7	523.3	
Corporate Services		1,436.6	1,727.5	
Travel	40.0	41.0	50.0	10.0
Conferences, Seminars	20.0	14.2	15.0	(5.0)
Training	10.0	4.2	5.0	(5.0)
Total Combined Authority Staffing Costs	5,502.1	4,489.8	5,346.9	(155.2)
<u>Externally Commissioned Support Services</u>				
Payments to LAs for services	452.0	401.2	452.0	0.0
Procurement	15.0	10.0	15.0	0.0
Finance System	30.0	15.0	30.0	0.0
ICT external support	50.0	42.7	50.0	0.0
Total Externally Commissioned Support Services	547.0	468.9	547.0	0.0
<u>Corporate Overheads</u>				
Accommodation Costs	258.8	227.1	258.8	0.0
ICT consumables	20.0	14.2	20.0	0.0
Website Development	39.0	29.3	39.0	0.0
Recruitment Costs	200.0	188.1	200.0	0.0
Insurance	25.0	31.2	35.0	10.0
Audit Costs	70.0	54.1	70.0	0.0
Office running costs	20.0	18.0	25.0	5.0
Communications	55.0	42.1	55.0	0.0
Total Corporate Overheads	687.8	604.1	702.8	15.0
<u>Governance Costs</u>				
Committee/Business Board Allowances	47.0	19.0	47.0	0.0
Meeting Costs	10.0	1.5	5.0	(5.0)
Monitoring and Evaluation Framework	83.7	62.7	83.7	0.0
Miscellaneous	10.0	13.5	15.0	5.0
Total Governance Costs	150.6	96.7	150.6	0.0
<u>Election Costs</u>				
Election costs	260.0	260.0	260.0	0.0
Total Election Costs	260.0	260.0	260.0	0.0
<u>Financing Costs</u>				
Interest Receivable on Investments	(700.0)	(628.5)	(750.0)	(50.0)
Total Financing Costs	(700.0)	(628.5)	(750.0)	(50.0)
Total Operational Expenditure	6,447.5	5,291.0	6,257.3	(190.2)

	<u>2018/19</u> <u>Budget</u> £'000	<u>Actuals to</u> <u>31 Jan</u> <u>2019</u> £'000	<u>Predicted</u> <u>Outturn</u> £'000	<u>Variance</u> <u>(Predicted</u> <u>Outturn -</u> <u>Budget)</u> £'000
<u>Workstream Revenue Budgets</u>				
<u>Rural Areas, Culture, Parks and Open Spaces</u>				
Develop Energy Hub	10.0	23.5	38.4	28.4
Total Rural Areas, Culture, Parks and Open Spaces	10.0	23.5	38.4	28.4
<u>Fiscal</u>				
Investment Fund Strategy	25.0	50.0	50.0	25.0
Treasury Management Strategy	20.0	0.0	0.0	(20.0)
Total Fiscal	45.0	50.0	50.0	5.0
<u>Economic Strategy</u>				
Growth Hub (net of salaries)	75.4	62.8	75.4	0.0
Development of a Market Towns Strategy	250.0	140.2	210.0	(40.0)
Develop an International Trade Programme	50.0	27.6	27.6	(22.4)
St Neots Masterplan	100.0	15.0	80.0	(20.0)
Independent Economic Commission	392.7	380.3	392.7	0.0
Total Economic Strategy	868.1	625.9	785.7	(82.4)
<u>Transport and Infrastructure</u>				
Local Transport Plan	400.0	93.7	400.0	0.0
Strategic Bus Review	148.6	65.1	118.6	(30.0)
Smart Cities Network	100.0	83.3	100.0	0.0
Sustainable Travel	150.0	123.2	150.0	0.0
Schemes and Studies	100.0	62.6	100.0	0.0
New Bus Subsidies	101.6	68.6	101.6	0.0
Transport Feasibility Studies	1,350.0	920.1	1,030.0	(320.0)
Total Transport and Infrastructure	2,350.1	1,416.6	2,000.1	(350.0)
<u>Employment & Skills</u>				
Peterborough University	400.0	13.7	446.0	46.0
Career Advice and Progression (Hamptons)	54.5	45.4	54.5	0.0
Skills Hub	231.0	94.8	231.0	0.0
Life Sciences Sector Investment	75.0	7.5	12.0	(63.0)
Devolution of Adult Education Budget	254.8	69.7	254.8	0.0
Total Employment & Skills	1,015.3	231.2	998.3	(17.0)
<u>Strategic Planning</u>				
Non Statutory Spatial Plan (Phase 2)	135.0	8.6	30.0	(105.0)
Rural Strategy - Town & Parish Council conf	28.3	20.0	28.3	0.0
CA2030 Programme	40.0	2.0	40.0	0.0
Fenland UNESCO Biosphere & Parks Trust	26.0	0.0	0.0	(26.0)
Cambridgeshire and Peterborough Land Commission	80.0	0.0	0.0	(80.0)
Total Strategic Planning	309.2	30.6	98.2	(211.0)
<u>Public Service Reform</u>				
Independent Commission and Reform Plan	416.0	257.2	316.0	(100.0)
Total Public Sector Reform	416.0	257.2	316.0	(100.0)
Total Workstream Expenditure	5,013.7	2,634.9	4,286.8	(726.9)
Total Expenditure	11,810.5	8,210.0	10,893.4	(917.1)
Total Income less Total Expenditure	517.9	(1,200.5)	(427.6)	(945.5)

Appendix 2: CPCA Capital Programme - 2018/19 (Jan 2019)

<u>Direct Control</u>	<u>2018/19 Budget £m</u>	<u>Actuals to 31 Jan 2019 £m</u>	<u>Predicted Outturn £m</u>	<u>Variance (Predicted Outturn - Budget) £m</u>
Cambridge South Station	0.25	0.00	0.25	0.00
Peterborough University - Business case	0.30	0.00	0.00	(0.30)
Soham Station	2.00	1.43	2.00	0.00
St Neots River Northern Crossing cycle bridge	0.50	0.00	0.01	(0.49)
Wisbech Garden Town	1.00	0.17	1.00	0.00
Wisbech Rail	0.75	0.03	0.06	(0.69)
Wisbech Access Study	0.30	0.00	0.00	(0.30)
Digital Connectivity Infrastructure	0.44	0.13	0.44	0.00
A10 Upgrade	0.00	0.24	0.24	0.24
A47 Dualling	1.01	0.33	0.80	(0.21)
Office Accommodation Fitout	0.25	0.25	0.25	0.00
Total Committed Direct Control Expenditure	6.81	2.59	5.06	(1.75)
<u>Schemes Previously Identified and Costed</u>				
Coldhams Lane roundabout improvements	0.30	0.04	0.10	(0.20)
Eastern Industries Access - Phase 1	0.25	0.11	0.19	(0.06)
March junction improvements	0.39	0.22	0.39	0.00
Queen Adelaide Level Crossing	0.13	0.11	0.11	(0.02)
Regeneration of Fenland Railway Stations	0.30	0.00	0.02	(0.28)
A10 Foxton Level Crossing	0.50	0.00	0.00	(0.50)
A1260 Nene Parkway Junction 15	0.25	0.07	0.09	(0.16)
A1260 Nene Parkway Junction 32-3	0.15	0.01	0.06	(0.09)
A141 capacity enhancements	0.40	0.08	0.08	(0.32)
A142 Capacity Study	0.15	0.00	0.00	(0.15)
A14 Junctions Improvement feasibility study	0.15	0.00	0.15	0.00
A505 Corridor	1.00	0.12	0.12	(0.88)
A605 Oundle Rd Widening - Alwalton-Lynch Wood	0.23	0.10	0.21	(0.02)
Schemes Previously Identified and Costed Total	4.19	0.86	1.52	(2.68)
Cambridge City Housing Programme	19.43	10.87	13.69	(5.74)
East Cambs - Housing Loan Provision	1.67	0.00	0.00	(1.67)
Housing Investment Programme	6.63	0.30	0.30	(6.33)
LTP Schemes with PCC and CCC	24.52	24.52	24.52	0.00
National Productivity Investment Fund	4.65	1.60	1.60	(3.05)
Passported/Ringfenced Total	56.89	37.29	40.11	(16.79)
<u>Growth Funds</u>				
King's Dyke Crossing (Growth Fund)	5.49	6.11	6.54	1.05
A428 Cambourne to Cambridge	1.00	0.00	1.00	0.00
Ely Rail Improvements	1.80	0.07	1.80	0.00
In Collusion	0.12	0.09	0.12	0.00
Wisbech Access Strategy - Delivery Phase	1.00	0.00	0.52	(0.48)
Agri-tech	1.98	0.53	1.98	0.00
Opportunity Peterborough - Skills	0.00	0.16	0.16	0.16
Bourges Boulevard Phase 2	1.35	1.72	1.74	0.39
Ely Southern Bypass	3.80	3.81	3.81	0.01
Whittlesea and Manea Railway Stations	0.34	0.32	0.37	0.03
Local Energy East	0.04	0.04	0.04	0.00
ERDF	0.00	0.35	0.35	0.35
IMET Phase 3	1.64	1.34	1.34	(0.30)
Lancaster Way Phase 2	0.86	0.00	0.00	(0.86)
University Project Group	0.10	0.11	0.11	0.01
COSMOS	0.03	0.03	0.03	0.00
Growth Funds Total	19.56	14.66	19.92	0.36
Total	87.45	55.39	66.60	(20.85)



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.1
27th MARCH 2019	PUBLIC REPORT

HOUSING DEVELOPMENT COMPANY

1. PURPOSE

- 1.1. The Combined Authority received a commitment from central government for the receipt of £170m to bring forward 2,500 homes by March 2022. To deliver this there are effectively two sub-programmes running; £70m is allocated to Cambridge City to deliver 500 additional homes and the balance of £100m is allocated to the rest of the Combined Authority area to deliver an additional 2,000 affordable homes.
- 1.2. On 26 September 2018 (Agenda Item 2.1) the Combined Authority Board approved the Housing Strategy.
- 1.3. The Housing Strategy seeks to address current and potential future housing challenges facing the area, both in the next few years and the longer term through a selection of different development tools in addition to traditional grant funding.
- 1.4. The Housing Strategy recommended the Combined Authority accelerate housing delivery by establishing a wholly owned company to enable direct intervention in the housing market, which would enable the development of new homes and affordable homes in the region.
- 1.5. Creating the structure for a trading company with a housing development company now will enable us to quickly action when project specific opportunities to engage in housing delivery are identified and reported.
- 1.6. Responsibility and control of the use of the £170m of monies provided under the Devo deal to support the delivery of 2,500 affordable housing units in the CPCA area will remain under the direct control of the CPCA Board. If the proposed CATC or DevCo have a housing delivery opportunity that is seeking funding from that money, a paper will need to be presented to the CPCA Board for consideration.

<u>DECISION REQUIRED</u>	
Lead Member:	Cllr Roberts (housing portfolio)
Lead Officer:	Roger Thompson, Director of Housing
Forward Plan Ref: n/a	Key Decision: No
<p>The Combined Authority Board is recommended to:</p> <ul style="list-style-type: none"> (a) Approve the Business Case for establishing a Combined Authority Trading Company (CATC) as detailed in Appendix 1; (b) Approve the Combined Authority Trading Company Business Plan and as detailed in Appendix 2; (c) Approve the Housing Development Company (DevCo) business plan as detailed in Appendix 3 (d) Approve the funding strategy for the Housing Development Company (paragraph 6); (e) Approve the composition of the CATC Board as set out in Appendix 2 (ref: P8 para 4.1.1 and P9 para 4.1.2); <p>Furthermore, in order to implement a)-c), authorise and approve:</p> <ul style="list-style-type: none"> (f) The Chief Executive to enter into a loan agreement with CATC as detailed in paragraph 6; (g) The Chief Executive and the Corporate Services Director to complete the necessary legal documentation to implement the above. 	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

2. BACKGROUND

2.1. To address current and future housing challenges the Combined Authority has an aspiration to deliver 100,000 new homes, including 40,000 affordable homes over the next 20 years. In order to do this the Combined Authority established key objectives and principles when creating the Housing Strategy:

- a) To accelerate housing delivery to support economic growth
- b) To create prosperous places where people want to live
- c) To expand housing choices and opportunity through promotion of steps to promote home ownership using alternative structures, potential starter homes and more shared ownership scheme
- d) Promoting all housing (not just affordable housing) that is in addition to the existing development pipeline and encourage accelerated delivery within adopted local plans
- e) Be creative, in using a range of financial delivery mechanisms that have not traditionally been a method through which the public sector; organisations have supported and delivered housing. This aims to create a revolving fund that will outlast the £170m programme that will help to meet the longer-term target of an additional 100,000 homes by 2037
- f) An ambition to deliver 40,000 affordable homes within the same time period, to help address the affordability of housing, particularly for key workers, first time buyers and those in low and medium paid employment who cannot easily access the home ownership market without family or other third-party support. This will support more sustainable communities
- g) To support the spread of Community Land Trusts (CLTs) which support their local communities;
- h) Ensuring that housing supports the most vulnerable by offering increased choice and affordability for those requiring specialist care
- i) Supporting infrastructure to enable new housing schemes through a co-ordinated approach, particularly regarding transport by making strong links across strategies and projects within the Combined Authority
- j) Encouraging best use of all property assets, bringing homes that are currently excluded from the market back into market use and supporting the creation of new homes from existing built assets not currently in residential use.
- k) To consider using the Combined Authorities borrowing powers to help to accelerate schemes using financial mechanisms, over and above the money available in the revolving fund.

- 2.2. The Housing Strategy provides a flexible multi toolkit approach that will assist the Combined Authority to deliver on its ambition to build 100,000 new homes (including 40,000 affordable homes) Tools included Direct Development allowing for direct intervention and development in the housing market, a Strategic Land and value capture mechanism, office to residential conversions, infrastructure enabling/recovery, community land trusts, repayable loan agreements, joint ventures, provision of housing grant to registered providers and guarantees.
- 2.3. In order to progress the Housing Strategy a number of actions are recommended. One such action is for the Combined Authority to establish a wholly owned company to undertake the development and management of new homes in the region.

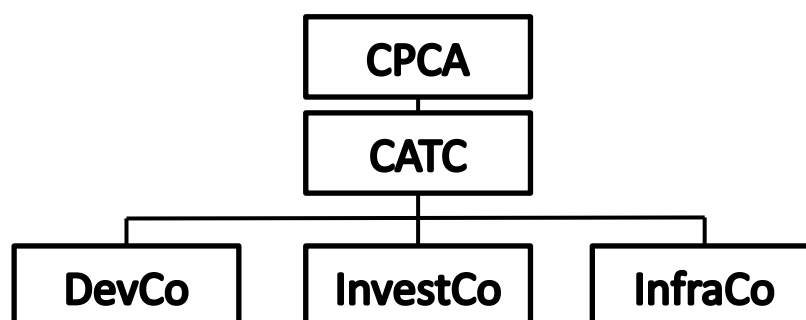
3. ESTABLISHING A COMBINED AUTHORITY TRADING COMPANY

- 3.1. The purpose for developing a housing delivery structure is to have a vehicle that enables the Combined Authority to take direct action and intervention, to create additional or accelerated affordable housing. This might be potentially combined and cross subsidised with market housing or other uses, to generate revenue and capital to support additional housing schemes in the CPCA area. The CPCA is seeking to undertake the development of housing, through both direct delivery (joint ventures/independently) and potentially in the longer term through land value capture (acquiring strategic land and obtaining planning permission that enhances its value).
- 3.2. The business case for establishing the Combined Authority Trading Company is provided at Appendix 1.
- 3.3. **Reasons for establishing a wholly owned company**
- a) Single focused vehicles: The vehicles would have a single focus on delivering additional residential development and would be less likely to be distracted by extraneous activities.
 - b) More attractive to potential joint venture partners: Potential partners may be more inclined to partner with an independent entity vehicle which is separate from the CPCA itself and is able to act in a commercial manner in terms of decision making.
 - c) Ring-fencing risk: The vehicles would be able to (subject to how future deals and agreements were drafted) insulate the CPCA from development risk, for each scheme to be 'isolated' in terms of risk. Each different development opportunity could be undertaken in a separate 'special vehicle', so in case an individual scheme runs into difficulty, that issue would be 'contained'.
 - d) Independent Directors: The vehicles would be able to recruit directors with specific development, and other skills that may be required.

- e) **Streamlining governance:** The proposed structure (set out below) includes a number of different vehicles including a holding company (Trading Co) and a development company (Dev Co) to be immediately set up. Potentially in future an investment company (Invest Co) and an infrastructure company (Infra Co) could be added. By using different vehicles for each type of activity the CPCA has the ability to streamline its governance of each separate vehicle and introduce any bespoke requirements.
- f) **Ability to sell for profit in the future:** Having separate vehicles means that the CPCA has the flexibility to sell its ownership (wholly or partly), of any vehicle to a third party, hopefully for a profit, if it no longer wishes to engage in the activities or just realise the value that has been created within a vehicle.

4. STRUCTURE AND GOVERNANCE

- 4.1. Under the Localism Act 2011, where the CPCA seeks to do something for a commercial purpose, it must do so through a company.
- 4.2. The Combined Authority Trading Company (CATC) will be 100% owned by the CPCA, so Limited Liability Partnership and Joint Venture models are not appropriate. Given that a partial objective of the CATC is to generate a return, to create and add value to the company and if appropriate, produce dividend returns to the CPCA, the Company Limited by Guarantee is also not a viable option.
- 4.3. The recommended form is a Company Limited by Shares with the CPCA as the sole shareholder.



- 4.4. The establishment of a holding company (CATC) with a group of subsidiaries (DevCo, and potentially in future InvestCo & InfraCo) will facilitate strategically-focused decision making appropriate to the subsidiary trading arms. This approach mitigates risks associated with one company carrying out a broad range of activities which may not fall within the expertise of the directors. Liability arising in one trading company will not impact on the remaining trading arms and, subject to further specialised tax advice, any losses may be able to

offset against tax payable on profits elsewhere.

- 4.5. The CATC Board of Directors will be responsible for the strategic direction and success of the company. The CATC Board will be required to manage the CATC and must be mindful of commercial and market forces. At all times they must act in the best interest of the CATC for the benefit of the CPCA as the sole shareholder.
- 4.6. It is proposed that the CATC Board will comprise the Mayor and one of the Deputy Mayors of the CPCA, the Managing Director, Corporate Services Director of the CATC, (those positions to be held by the Chief Executive and Corporate Services Director of the CPCA) and an Independent Chairman (to be recruited). Each of the five board members will have one vote each and the Chairman will not have a casting vote.
- 4.7. The CPCA Board will appoint the first Chairman of the CATC.
- 4.8. **Conflicts of interest**
- 4.9. Members or officers of the Combined Authority who are appointed directors of a company have a fiduciary duty to the company, **not to** the Authority. They have the powers and duties of company directors while they are appointed directors, and as directors, they are answerable to the membership of the company in accordance with the company's articles of association. However any member elected as a director is still bound by relevant local authority codes of conduct, in so far as these codes do not conflict with their legal obligations under company law.
- 4.10. A conflicts of interest policy will be developed to assist members and officers to conduct their roles as directors. This will enable them to identify any conflicts of interest and take action to avoid acting to the detriment of the company or the Combined Authority

4.11. Shareholder Agreement

- 4.12. The relationship between the Combined Authority and the CATC is regulated through a shareholder agreement. The purpose of the shareholder agreement is to regulate the boundaries within which the CATC operates. Other than where legislation and/or articles reserve decisions for shareholders, the Board of Directors of a company is its main decision-making body and is to act as it thinks is in the best interest of that company. Ordinarily this would, for instance, include issuing shares to third parties (which the CPCA would not want to control) or borrowing (which would impact on the CPCA's own prudential borrowing limit).
- 4.13. In this context, a shareholders agreement between the CPCA and CATC (which would then be applied to each subsidiary through a deed of adherence) must be agreed. This would consider that each business's Board of Directors is responsible for running the relevant company. The agreement will provide the CPCA with a number of reserved rights:

- a) Matters relating to the control of shares
- b) Amendments to Articles of Association
- c) Matters relating to the payment of a dividend
- d) Matters relating to the company structure of CATC
- e) Matters relating to the cessation of CATC
- f) Matters relating to the business if it is not considered to be ancillary or incidental to the approved business
- g) Any decisions that require funding from the CPCA, for example funding for a housing scheme from the £100m affordable fund
- h) Appointment/removal of a Director
- i) Remuneration of any Director
- j) Entering into service contract, terms of appointment or other agreement with a Director
- k) Remuneration of any CATC (or subsidiary company) employee exceeding £100,000
- l) Establishing or amending any profit-sharing, share option, bonus or other incentives of any nature for Directors and employees
- m) Making any bonus payment to any Director or key employee
- n) Changing the name or registered office
- o) A limit on external borrowing
- p) Approval of the annual business plan.

4.14 The shareholder agreement will be subject to further agreement by the Combined Authority at a future meeting.

5. BUSINESS PLAN

5.1. A high level business plan has been developed to provide a framework for the strategic operations of both the proposed CATC and DevCo, specifically:

- a) Benefits and advantage of the CATC
- b) Recommended governance structure
- c) Board and management structures
- d) Financial review of the CATC's forecast performance
- e) Risk assessment

5.2. The Business Plans are attached as Appendix 2 and Appendix 3 for approval.

5.3. From the 27 March 2019 CPCA Board until the formal establishment of the CATC and DevCo, there will be a requirement to authorise specific officers to implement the decisions of the CPCA Board. These include the Shareholder Agreement, the Articles of Association and Service Level Agreements. There will also be a requirement to amend the Constitution during this period.

6. FINANCIAL IMPLICATIONS

6.1. The CATC and DevCo will require a loan of £600,000 with a drawdown facility as cash flow requirements dictate to cover its initial set up and operating costs for its first 2 years of operation. Devco staff costs are a cost to the company from day one in order to comply with EU competition law requirements. Please

note that the Devco staff and a majority of the other costs within the operating costs will be incurred by the CPCA in any event, whether or not CATC and DevCo are set up. Those costs are effectively being allocated away from the CPCA overhead and into CATC as a cost. The borrowing requirement for the CATC is to provide sufficient cashflow to cover CATC/Dev Co's first 2 years of trading. Any loan requirements beyond this will be reported to the CPCA Board as part of an annual business planning exercise that will include future commitments and projections, for the Trading Company activities beyond Year 1.

- 6.2. Repayment of the loan shall commence after the first three years of trading. The CPCA shall enter into a loan agreement with the CATC, such agreement shall stipulate that borrowing will only be for the purpose stated in the business plan and set out the terms and conditions of borrowing, including interest payment.
- 6.3. The CPCA is required to charge a commercial interest rate for the loan, so as to not contravene State Aid regulations. The final agreed rate will depend on the prevailing interest rates at the time. This interest will be payable on the loan outstanding on an annual basis and will reduce as the CATC and DevCo repays the loan.
- 6.4. There will be initial set up costs, which will be incurred between the CPCA Board meeting on 27 March 2019 and the date when the CATC commences trading. It is proposed that the CPCA funds the work which includes but may not be limited to Incorporation (£1,300), Article of Association for HoldCo and DevCo (£7,000), Shareholder Agreement for Hold Co and Dev Co (£10,250) and report on duties of directors, indemnity agreements and presentation to the directors (1,500). This totals appx £20,050.
- 6.5. Any CPCA funding required to deliver specific DevCo projects will be reported and requested from the CPCA board in the usual way.

7. LEGAL IMPLICATIONS

- 7.1. By virtue of Section 1 Local Government Act 1999 a Combined Authority is a best value authority. Best value authorities are permitted to trade, through a company, to carry out their functions for a commercial purpose. The creation of the company structure permits the Combined Authority to make a profit.
- 7.2. The creation of a wholly owned company means that certain regulatory requirements must be adhered to in creating the company, namely:
 - a) A business case must be approved by the Combined Authority
 - b) A business plan must be approved by the Combined Authority
 - c) The company is subject to capital expenditure controls: Prudential Code for capital finance in local authorities
 - d) It is subject to limits on borrowing imposed by Government on the Combined Authority

- 7.3. Combined Authority employees may be seconded into the company to provide expertise where it is required. Employees will be protected by a secondment agreement with the DevCo which will ensure that the employees' rights are preserved during and after their secondment.
- 7.4. The Combined Authority may provide assistance to the companies within this structure subject to appropriate financial compensation being given by the company to the authority.
- 7.5. This proposal for a company to provide direct interventions into the housing market aligns with the Housing Strategy approved by the Board in 2018 and the Housing Business case agreed with MHCLG (approved by the Board in March 2017) which both recommended the use of Combined Authority funds to create a sustainable investment fund which could recycle investment into future schemes.

8. GOVERNANCE AND CONTROL

- 8.1. As set out in paragraph 4 of this report.

9. EQUALITIES AND HEALTH AND SAFETY IMPLICATIONS

- 9.1. Any equalities or health and safety implications will be addressed as they arise in the implementation of the strategy.

10. APPENDICES

- 10.1. Appendix 1- Business Case for establishing the Combined Authority Trading Company.
- 10.2. Appendix 2 - Combined Authority Trading Company Business Plan.
- 10.3. Appendix 3 - Development Company Business Plan.
- 10.4. Appendix 4 – Questions and Answers

<u>Source Documents</u>	<u>Location</u>
CA Board reports and minutes 26 September 2019	https://cambridgeshire.cmis.uk.com/ccs_live/Meetings/tabid/70/ctl/ViewMeetingPublic/mid/397/Meeting/930/Committee/42/Default.aspx

Business Case for setting up the Combined Authority Trading Company

1.0 Executive Summary

1.1 Introduction

This Business Case assesses the business and financial basis for the setting up of the Combined Authority Trading Company (CATC) to deliver, amongst other things, mixed tenure housing in the Cambridgeshire and Peterborough Combined Authority (CPCA) area.

The CATC will be established as a vehicle that will enable CPCA to deliver its aims and objectives. If the business case is approved the CATC will provide a vehicle through Devco to accelerate the delivery of additional housing (specifically affordable housing), through toolbox initiatives that include direct development and joint ventures with other Councils/third parties to deliver housing and potentially generate surpluses that can either be reinvested to deliver more housing or could be paid as a dividend to the CPCA to meet its aims and objectives.

This business case is supported by Business Plans for the CATC and its proposed subsidiary Dev Co.

1.2 Core Purpose

Initially the CATC will be set up to enable additional or accelerated delivery of housing (always incorporating affordable housing), by direct delivery, joint venture with constituent Councils/third parties or other toolbox routes as articulated in the CPCA approved Housing strategy (Sept 2018). However, the proposed structure has been designed to enable other subsidiaries to be formed that will provide the CATC with the flexibility that it needs to maximise the potential of a CATC, for example Infra Co could be established as a vehicle for holding and or developing infrastructure and Invest Co could be established as a vehicle to hold long term investment opportunities and provide a vehicle for commercial opportunities that could deliver surpluses to the CATC to enable it to deliver its aims and objectives.

1.3 Strategic Objectives

The strategic objectives of CATC are set out below:

1. To accelerate the delivery of affordable and market housing in the CATC area,
2. To create prosperous places where people want to live
3. To expand housing choices to meet a range of housing needs
4. To generate surpluses that will enable the CPCA to meet its aims and objectives.

1.4 Financial Summary

The initial creation of the CATC will not involve the direct employment of staff in the short term. It is proposed that the CPCA Housing Director and Development Manager will be seconded from the CPCA to the CATC for an initial period of one year. As the CATC develops and the number of housing projects increase, there will be a need to directly employ some staff. This will be subject to demonstrating a business case to the Managing Director that the employment is necessary to achieve the strategic objectives.

The CATC will be subject to the usual conditions under the Companies Act and where the CATC makes a profit it will be subject to all relevant taxes including Corporation Tax. The first 2 years operating costs will be covered (if approved) by a loan from the CATC. Initially all CATC income will be from the sale of housing or any other asset that is proposed for development.

2.0 INTRODUCTION

2.1 Context

In September 2018 the CPCA Board approved the Housing Strategy. The Housing Strategy seeks to address current and potential future housing challenges facing the area, by proposing the potential use of a selection of tools to engage the property market both in the next few years and the longer term.

To address current and future housing challenges the Combined Authority has an aspiration to deliver 100,000 new homes, including 40,000 affordable homes over the next 20 years. In order to do this the Combined Authority established key objectives and principles when creating the Housing Strategy:

- (a) To accelerate housing delivery to support economic growth;
- (b) To create prosperous places where people want to live;
- (c) To expand housing choices and opportunity through promotion of steps to promote home ownership using alternative structures, potential starter homes and more shared ownership schemes;
- (d) Promoting all housing (not just affordable housing) that is in addition to the existing development pipeline and encourage accelerated delivery within adopted local plans;
- (e) Be creative, in using a range of financial delivery mechanisms that have not traditionally been a method through which the public sector; organisations have supported and delivered housing. This aims to create a revolving fund that will outlast the £170m programme that will help to meet the longer term target of an additional 100,000 homes by 2037;

- (f) An ambition to deliver 40,000 affordable homes within the same time period, to help address the affordability of housing, particularly for key workers, first time buyers and those in low and medium paid employment who cannot easily access the home ownership market without family or other third party support. This will support more sustainable communities;
- (g) To support the spread of Community Land Trusts (CLTs) which support their local communities;
- (h) Ensuring that housing supports the most vulnerable by offering increased choice and affordability for those requiring specialist care;
- (i) Supporting infrastructure to enable new housing schemes through a co-ordinated approach, particularly regarding transport by making strong links across strategies and projects within the Combined Authority;
- (j) Encouraging best use of all property assets, bringing homes that are currently excluded from the market back into market use and supporting the creation of new homes from existing built assets not currently in residential use; and
- (k) To consider using the Combined Authorities borrowing powers to help to accelerate schemes using financial mechanisms.

The Housing Strategy provides a flexible multi toolkit approach that will assist the Combined Authority to deliver on its ambition to build 100,000 new homes (including 40,000 affordable homes); Direct Development Devco, Strategic Land and value capture mechanism, office to residential conversions, infrastructure enabling/recovery, community land trusts, repayable loan agreement, joint ventures, housing grant and guarantees.

In order to progress the Housing Strategy a number of actions are recommended. One such action is for the CPCA to take direct action and establish a wholly owned company to undertake the development and management of new homes in the CPCA area.

2.2 Purpose of the Business Case

The purpose of the business case is to assess the case for setting up the CATC which will be wholly owned by the CPCA. The CATC will be used initially to focus on the delivery of housing in the CPCA area.

The creation of the CATC and its future development will provide a vehicle for the CPCA to respond to the challenges of the housing market and the need to deliver more housing to support economic growth within the CPCA area.

Reasons for establishing a wholly owned company:

- (a) Single focused vehicles: The vehicle would have a single focus on delivering residential development and would be less likely to be distracted by extraneous activities

- (b) More attractive to potential joint venture partners: Potential partners may be more inclined to partner with an independent entity vehicle which is separate from the CPCA itself and is able to act in a commercial manner in terms of decision making
- (c) Ring-fencing risk: The vehicle would be able to (subject to how the development agreements were drafted) insulate the CPCA from development risk. Indeed each different development opportunity could be undertaken in a separate vehicle, so in case any individual scheme runs into difficulty, that issue would be 'contained' to that scheme only.
- (d) Independent Directors: The vehicle would be able to recruit directors with specific development, and other skills as may be required
- (e) Streamlining governance: The proposed structure includes a number of different vehicles including a holding company (Hold Co) and a development company (Dev Co), both to be immediately set up. Potentially in future an investment company (Invest Co) and an infrastructure company (Infra Co) could be added. By using different vehicles for each type of activity the CPCA has the ability to streamline its governance of each separate vehicle and introduce any bespoke requirements or objectives
- (f) Ability to sell for profit in the future: Having separate vehicles means that the CPCA has the flexibility to sell its ownership (wholly or partly) of the vehicle to a third party, hopefully for a profit. That might be because it no longer wishes to engage in the activities or just realise value that has been created.

2.3 How it might work

The housing system faces a number of challenges that impact economic growth, social well-being and public service delivery.

- Historically in most areas nationally, housing delivery has not kept up with demand.
- Most houses have traditionally been newly constructed, so the number and rate of new build properties is crucial.
- Housing is barely affordable for many people.
- Communities and housing schemes are not habitually designed to support the diverse aspirations of communities, healthy living and healthy ageing.
- Large housing schemes controlled by national house builders tend to deliver a similar type of housing product for which there is a maximum demand or profit margin in a particular locality. They control supply, with the principal objective being to maximise profits.

Establishing the CATC will enable the CPCA to set up DevCo to take direct action to overcome some of these challenges. In establishing a wholly owned company the CATC will be able to directly intervene in the housing market by purchasing sites to deliver mixed tenure housing and joint venture with Council's and other third parties to deliver mixed tenure housing.

The Dev Co Business Plan has been developed to demonstrate some early indicative schemes that could come forward to assist the CPCA in its aspiration to support the delivery of additional new homes in the CPCA area. The ambition for Devco is to develop its capability quickly and accelerate the number of units it becomes involved in delivering over a 5 year period and beyond.

3.0 OPTIONS APPRAISAL

The Local Government Act 2003 restricts local authorities from making a profit from its services, although they are able to offset on costs. The Localism Act 2003 enables local authorities to undertake activities to make a profit but only if delivered within a company.

In order to deliver the aims of the Housing Strategy it is necessary for the CPCA to develop housing schemes that deliver additional affordable housing and generate small surpluses that can be reinvested to deliver more housing and infrastructure.

A brief summary of the options considered is provided in the table at Appendix A.

The CATC will be 100% owned by the CPCA, so Limited Liability Partnership and Joint Venture models are not appropriate. Given that a partial objective of the CATC is to generate a return, to create and add value to the company and if appropriate, produce dividend returns to the CPCA, the Company Limited by Guarantee is also not a viable option. The recommended corporate form is a Company Limited by Shares with the CPCA as the sole shareholder.

4.0 GOVERNANCE

This business case assumes that the CPCA will use the provisions of section 1 of the Localism Act 2011 to establish the CATC as a wholly owned subsidiary company. The CATC's Articles of Association will be prepared in accordance with the CATC business plan and the general legal requirements. The CATC will be a separate legal entity from the CPCA and would be established in such a way as to it would have the freedom and ability to pursue its objectives as necessary. The CPCA will be responsible for approving the annual business plan of the CATC.

The CPCA will be a company limited by shares and will be a wholly owned company of the CPCA. The company's day to day governance will be managed by a Board of Directors. The Board of Directors will consist of CPCA Members/CPCA Senior Officers and an Independent Chairman.

As the CPCA will be the sole shareholder of the CATC it will have the ability to direct the directors to take or refrain from taking specified action. A Shareholder Agreement will be drafted which will set out the arrangements whereby certain key matters will be reserved for consideration by the CPCA.

5.0 FINANCIAL CASE

The CATC's DevCo's main purpose is to accelerate and create additional housing, including affordable housing in the CPCA area, either by direct action or entering into

joint ventures with constituent Councils and third parties. This section sets out the basis and assumptions for growing and developing the CATC.

Individual cost-benefit and risk analysis will need to be undertaken as part of a business case for each housing development the CATC DevCo intends to pursue and it will be for the CATC and DevCo boards of directors to approve the case for each individual site. If finance or financial resources are required from CPCA, then approval of the CPCA board will also be required for that funding.

5.1 Set Up Costs

In order to establish the CATC the CPCA will need to provide working capital, in a manner consistent with state-aid rules, in order for the CATC to commence trading. This will need to be in the form of a loan on terms that comply with State Aid rules to the CATC. A loan of £600,000 is proposed. Such an amount will provide the CATC with sufficient cash flow to enable functional operation in its first two years of trading.

If this business case is approved the CPCA will need to fund the costs of the CATC and Dev Co incorporation; Incorporation (£1,300), Articles of Association (£7,000), Shareholder Agreements (£10,250) and report on duties of directors, indemnity agreements and presentation for directors (£1,500), totalling appx £20,500.

5.2 Operating Costs

The table below sets out the operating costs in the first five years of trading. The operation costs reflect the basic operating needs of the CATC with a DevCo subsidiary.

	Year 1	Year 2	Year 3	Year 4	Year 5
Chairman	£12,000	£12,240	£12,484	£12,733	£12,988
Managing Director*	£20,000	£20,400	£20,808	£21,224	£21,648
Company Secretary*	£5,000	£5,100	£5,202	£5,306	£5,412
Support (Admin, Finance, Legal, IT & HR)	£20,000	£20,400	£20,808	£21,224	£21,648
Insurance	£10,000	£10,000	£10,000	£10,500	£10,500
Office Rent	£5,000	£5,000	£5,000	£5,000	£5,000
Audit Fees (Yr end)	£0	£10,000	£10,000	£10,500	£10,500
DevCo Staff	£218,500	£222,870	£227,327	£231,873	£236,511
Total	£290,500	£306,010	£311,629	£318,360	£324,207

5.3 Staff

It is assumed that initially the CATC will not directly employ staff (other than the Independent Chairman). The role of Managing Director and Company Secretary will be fulfilled by the CPCA Chief Executive and Corporate Service Director

respectively. The CPCA will be compensated by the CATC for any member of staff undertaking a function of the CATC.

The Housing Director and Development Manager will be seconded to the CATC from CPCA for an initial period of one year and reviewed thereafter.

5.4 Support Functions

Support functions will be provided through a Service Level Agreement (SLA) with the CPCA. The following support functions will be provided to the CATC:

- HR support, including recruitment and training,
- Payroll,
- Finance- transactional finance functions and financial controller activities,
- IT- provision of IT equipment and services (including helpdesk support),
- Insurance provision (buildings, vehicles, employers and public liability), and
- Legal support (as and when required).

This will be reviewed annually to ensure the level of support is sufficient for the CATC to operate functionally.

5.5 Property and Assets

The Head Office of the CATC will be The Incubator 2, First Floor, Alconbury Weald Enterprise Campus, Alconbury Weald, Huntingdon, PE28 4WX.

The Development Company will occupy The Incubator 2, First Floor, Alconbury Weald Enterprise Campus, Alconbury Weald, Huntingdon, PE28 4WX A reasonable annual rent will be charged to the CATC.

We will review the use of office accommodation on an ongoing basis to ensure the premises are fit for purpose and cost effective.

IT assets will be leased from CPCA as part of the SLA when it starts trading.

5.6 Policies and Procedures

The CATC will use all relevant CPCA policies and procedures in the first instance, but will review and refine these over time to ensure they are fit for purpose.

5.7 Information Sharing

An information sharing protocol will be developed during implementation. In any event the information sharing protocol will comply with all Data Protection Regulations.

5.8 Data Protection

The CATC will comply with the relevant legislation and guidance concerning Data Protection, including adopting suitable policies and procedures to ensure data is adequately safeguarded.

5.9 Freedom of Information

The CATC will be subject to requests for the disclosure of information under the Freedom of Information Act 2000 in its own right. As such, the CATC will maintain a record management system that complies with the relevant guidance concerning the maintenance and management of records.

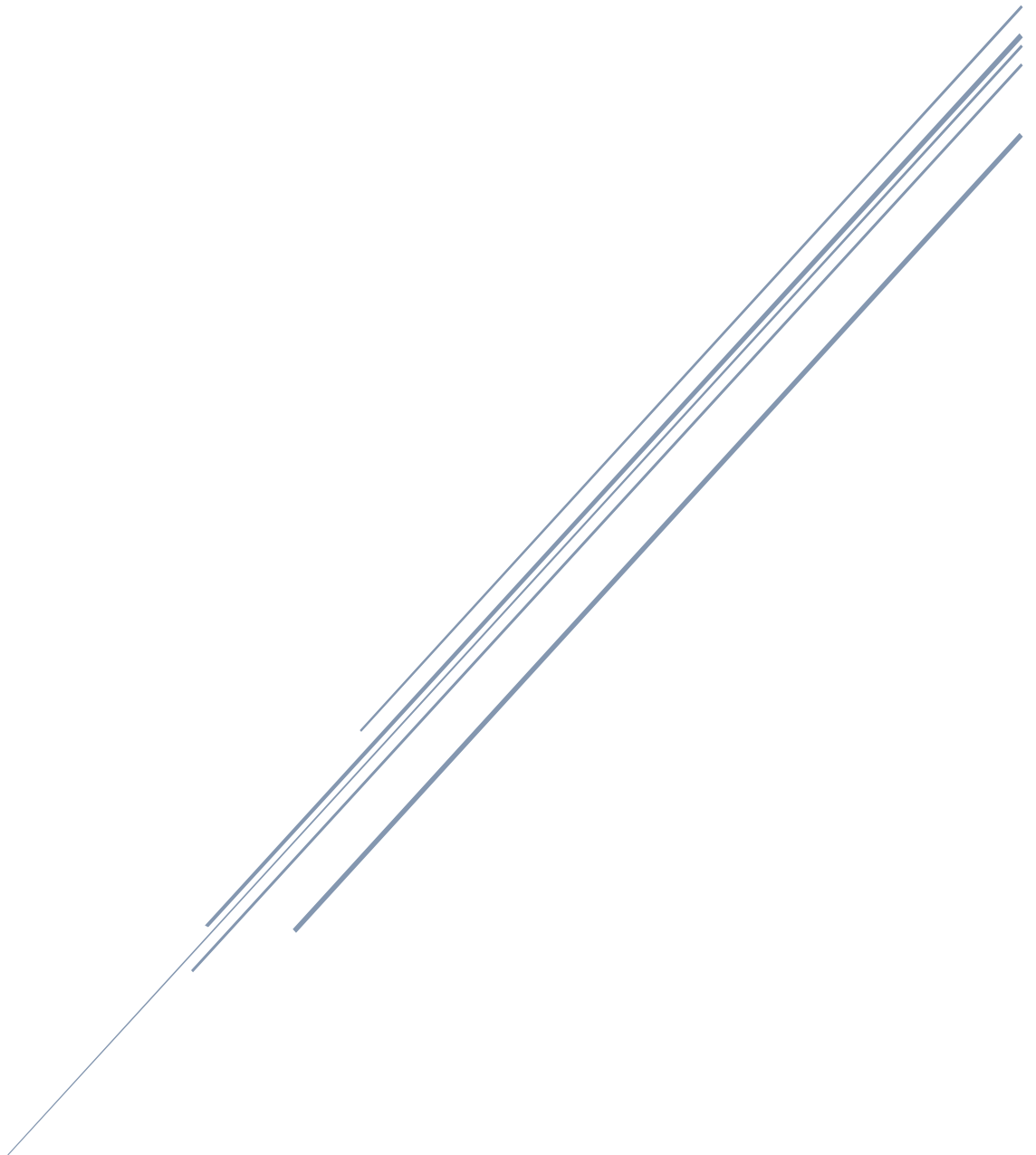
KEY FEATURES	FINANCIAL	LEGAL	TAX
Company Limited by Shares Creation of a wholly owned company with the CPCA holding all the shares with full commercial freedom to trade	Financial returns limited by commercial capability	Governance through Articles of Association and Shareholder Agreement CPCA appoints Directors Liability limited to value of shares Procurement required for above EC threshold contracts	Subject to corporation tax Important to understand the nature of property activities undertaken to model precise tax impacts Will need to register for VAT
Company Limited by Guarantee Creation of a charitable company for the development and management of property	Will not generate surpluses	Governance through Articles of Association and Member Agreement CPCA appoints trustees Trustees run the company in pursuit of its objects (duty is to the Charity not the CPCA) Typically non-profit making entity Procurement required for above EC threshold contracts Difficult to attract equity funding	Subject to Corporation Tax Important to understand the nature of property activities undertaken to model precise impacts Will need to register for VAT

KEY FEATURES	FINANCIAL	LEGAL	TAX
<p>Limited Liability Partnership</p> <p>CPCA enters into partnership with a third party</p> <p>Provides greater flexibility but with the safeguard of limited liability</p>	<p>Profits or losses are allocated directly in relation to the proportion of capital invested by each partner</p>	<p>Transparent entity generating profits for its partners</p> <p>Requires multiple parties coming together</p> <p>Limited Liability Partnership Act 2000 applies</p> <p>Procurement required for above EC threshold contracts</p>	<p>Tax transparent- income and gains allocated directly to members- provides Corporation tax benefit to CPCA</p> <p>Specialist partnership SDLT rules apply- minimal/nil SDLT rules apply on transfer of assets from CPCA to LLP but beware of clawback rules</p> <p>LLP can register for VAT in its own right</p>
<p>Joint Venture</p> <p>Establishment of JV owned with partners</p> <p>Ownership split dependent on risk assessment</p> <p>Element of profit share</p> <p>Benefit from partner's expertise</p>	<p>Cost reduction can be significant (typically 10-20%) and investment if mature partner</p>	<p>Governance through Articles of Association and Shareholders' Agreement</p> <p>Council and partner appoint Directors</p> <p>Profit making entity</p> <p>Liability limited to value of shares</p> <p>Addition of further shareholders is straightforward</p>	<p>Choice of vehicle will determine Corporation Tax</p> <p>SDLT change likely on transfer of land/property into JV</p> <p>Timing of transfers eg pre or post planning will impact tax liability</p> <p>JV vehicle likely to have to register for VAT</p>

		Procurement require for above EC threshold contracts	
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COMBINED AUTHORITY TRADING COMPANY

Business Plan



March 2019

1 EXECUTIVE SUMMARY

1.1 Purpose

This business plan is designed to provide an overview and detail of the:

- Benefits and advantages of a Combined Authority Trading Company (CATC)
- Governance structure for the CATC
- Financial overview of the CATC's forecast performance
- Board and management structures
- Strengths, Weaknesses, Opportunities and Threats

It is proposed that the CATC will be a CATC Limited by shares and CPCA will be the sole shareholder. Initially the CATC will be set up with the objective to enable the creation of a DevCo to accelerate the delivery of additional affordable housing in the CPCA area. The structure of the CATC has been designed with future options for the potential creation of both investment and infrastructure companies. An investment company could be used to create and hold long term investment opportunities should CPCA wish or have opportunity. An infrastructure company offers a mechanism to deliver infrastructure that might be necessary and helps to facilitate both housing and economic growth.

A separate business plan and articulation of the benefits of DevCo is to be found in Appendix 3 of the board report

1.2 Drivers for establishing the CATC

The main drivers for establishing a CATC are:

- To accelerate the delivery of additional affordable housing in the CPCA area
- To capture any surpluses or profit that maybe generated, to assist with delivering current and future objectives of the CPCA
- To offer a flexible structure that can easily facilitate a future opportunity to have a CPCA investment and infrastructure company, in addition to DevCo

1.3 Benefits of the CATC

Creating a CATC will a key part of providing a structure that will support and help to achieve the aims of the CPCA. Establishing a CATC will provide the CPCA with a vehicle to:

- Accelerate and provide a vehicle for the delivery of additional affordable housing
- Joint venture with other Council's/Third Parties to deliver housing
- Procure goods and services locally
- Use any profit generated to meet the aims of the CPCA
- Hold and manage investments
- Deliver infrastructure

2 INTRODUCTION

2.1 Background

On 26 September 2018 (Agenda Item 2.1) the Cambridgeshire and Peterborough Combined Authority (CPCA) Board adopted the 'CPCA Housing Strategy'. The strategy identified the need to accelerate the delivery of housing in order to meet the aims of the CPCA. One of the housing strategy recommendations is:

'Direct Action: The CPCA should establish a wholly owned company to undertake the development and management of new homes in the region.'

The Local Government Act 2003 restricts local authorities from making a profit from its services, although they are able to offset on costs. The Localism Act 2011 enables local authorities to undertake activities to make a profit but only if delivered within a company.

The CPCA is legally able to establish a wholly owned trading company where the CPCA retains full control over the direction of the Combined Authority Trading Company (CATC), manages its risks and receives the benefits in full. The CPCA will be the sole shareholder.

The purpose of this document is to set out the business case for CPCA's establishment of the CATC.

2.2 Strategic Fit

The CPCA has an ambition to facilitate the delivery of 100,000 more homes in the region by 2036 (including at least 40% new affordable homes).

In order to achieve this, the Mayor, together with the partner organisations within the CPCA area, has agreed the following key strategic objectives for housing:

- To accelerate housing delivery to support economic growth
- To create prosperous places where people want to live
- To expand housing choices to meet a range of housing needs

Across each of these objectives the CPCA's programme of intervention falls into three broad areas:

- i) Direct Action, where the CPCA will take an active strategic investment approach to deliver new homes
- ii) Enabling Action, where the CPCA will distribute funds including loans and recoverable enabling finance for the delivery of new homes by others
- iii) Collaborative Action, where the CPCA will work with its partner authorities, housing agencies and the private sector to support increased and accelerated delivery by others

The CATC is a key part of achieving these objectives. The CATC will provide the CPCA with the ability to do things it cannot currently do, specifically:

- Act as the developer and build out good quality homes,
- Capture any profits generated to meet the future aims and objectives of CPCA
- Offer a future option through Investco to create or acquire and hold investments

- Offer a future option through Infrastructure co to create and hold infrastructure assets

Initially the CATC will focus on opportunities to accelerate the delivery of additional affordable housing in the CPCA area through DevCo.

2.3 Development Company

The CATC will provide a vehicle for the CPCA to either directly engage with development or to joint venture with other Council's/Third Parties to deliver more affordable housing in the CPCA area.

DevCo will harness community experience and local knowledge to deliver successful well-designed property developments which bring community benefit, are right for their place and respond to the needs of the local market.

The business plan for DevCo is provided in Appendix 3 of the board report

3 PROCESS

CPCA will provide support services to the CATC through Service Level Agreements (SLAs).

The CATC will negotiate individual SLAs with each support service to reflect the needs of the CATC as a whole. The SLA will include measurable performance indicators, break clauses and remedies for non-performance.

There will be an annual review process whereby SLAs are refined to more accurately reflect the support required by the CATC.

Support Services include:

- HR support, including recruitment and training,
- Payroll,
- Finance- transactional finance functions and financial controller activities,
- IT- provision of IT equipment and services (including helpdesk support),
- Insurance provision (buildings, vehicles, employers and public liability), and
- Legal support (as and when required).

3.1 Property and Assets

The Head Office of the CATC will be the offices of CPCE, currently: The Incubator 2, First Floor, Alconbury Weald Enterprise Campus, Alconbury Weald, Huntingdon, PE28 4WX.

We will review the use of office accommodation on an ongoing basis to ensure the premises are fit for purpose and cost effective.

Priorities for review

- Office accommodation requirements - more mobile working, utilising capacity in operational buildings
- Where there is existing capacity in operational buildings, rent or hire space to partner organisations

IT assets will be leased from CPCA as part of the SLA when it starts trading.

If required, assets such as vehicles and equipment will be purchased/leased from CPCA as part of the SLA when it starts trading.

3.2 Policies and Procedures

The CATC will use all relevant CPCA policies and procedures in the first instance, but will review and refine these over time to ensure they are fit for CATC purpose.

3.3 Information Sharing

An information sharing protocol will be developed during implementation. In any event the information sharing protocol will comply with all Data Protection Regulations.

3.4 Data Protection

The CATC will comply with the relevant legislation and guidance concerning Data Protection, including adopting suitable policies and procedures to ensure data is adequately safeguarded.

3.5 Freedom of Information

The CATC will be subject to requests for the disclosure of information under the Freedom of Information Act 2000 in its own right. As such, the CATC will maintain a record management system that complies with the relevant guidance concerning the maintenance and management of records.

3.6 Marketing Strategy

The CATC will effectively be acting as a Trading Company holding vehicle for DevCo, Invest Co and Infrastructure Co. It is unlikely to need to develop its own marketing strategy or require an identifiable brand.

4 GOVERNANCE AND MANAGEMENT

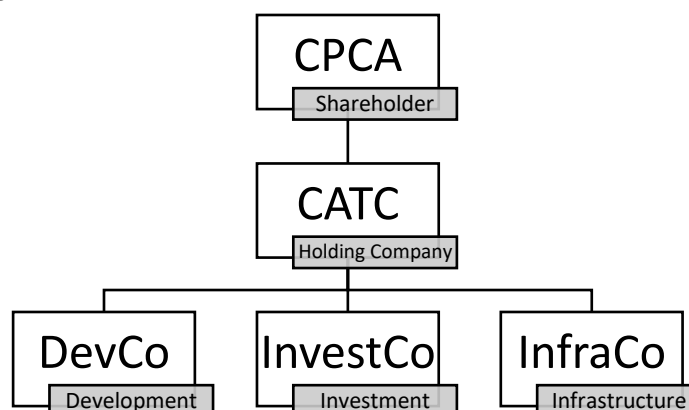
This business plan will be delivered in full compliance with the governance requirements set out by CPCA. The CATC will seek to enhance CPCAs reputation and brand for high standards.

The CATC will establish and maintain an effective service and financial performance management reporting system which will include reports to the CATC Board and the CPCA Board.

The CATC will be subject to any audit and inspection requirements of the CPCA.

This Business Plan provides for sufficient support and leadership from Directors, a Managing Director and an Independent Chairman. Additional Support will be provided by Finance, HR, Legal and IT.

4.1 Structure



4.1.1 CATC Board of Directors

The CATC Board of Directors shall comprise:

- The Independent Chairman,
- 2 CPCA representatives; Mayor of CPCA and one of the Deputy Mayors of CPCA,
- 2 CPCA Senior Officers; Chief Executive and Director Corporate Services

The quorum for board meetings shall be three. In the event that a board meeting cannot be attended by either the Mayor or the Deputy Mayor of the CPCA then the meeting will not be quorate.

At board meetings each director shall have one vote.

Board meetings shall be held at least quarterly on such dates as they may agree (in the event of failure to reach an agreement on a date the Chairman shall make a decision as to the date).

An agenda for the meeting will be prepared and distributed not less than 5 business days prior to the meeting.

Except where the information is commercially sensitive, approved minutes of Board meetings will be provided (on request) to the CPCA Board for noting.

4.1.2 DevCo Board of Directors

The DevCo Board of Directors shall comprise:

- The Independent Chairman,
- 2 Senior Officers; Managing Director and Housing Director

The quorum for board meetings shall be three.

At board meetings each director shall have one vote.

Board meetings shall be held at least quarterly on such dates as they may agree (in the event of failure to reach an agreement on a date the Chairman shall make a decision as to the date).

An agenda for the meeting will be prepared and distributed not less than 5 business days prior to the meeting.

Except where the information is commercially sensitive, approved minutes of Board meetings will be provided to the CATC Board for noting.

4.1.3 Invest Co and Infra Co

It is not proposed that Invest Co and Infra Co companies are set up at this point in time. The CPCA Board will approve the governance structure at the appropriate time.

4.1.4 CATC/DevCo Managing Director & Company Secretary

The Managing Director of CATC/DevCo shall be the Chief Executive of CPCA. The Managing Director will act as the key conduit between the CATC and the CPCA and shall have overall responsibility for ensuring compliance with the Shareholder Agreement.

The Company Secretary of CATC/DevCo shall be the Director Corporate Services of the CPCA.

Full details of the Board of Directors and the Managing Director will be contained in the Shareholder Agreement.

4.1.5 Management of DevCo

The Development Company will be managed by the Director of Housing and Development who will be seconded (initially for 12 months to 31 March 2020) from the CPCA.

4.1.8 Decisions reserved for the Shareholder

Decisions reserved for CPCA Board:

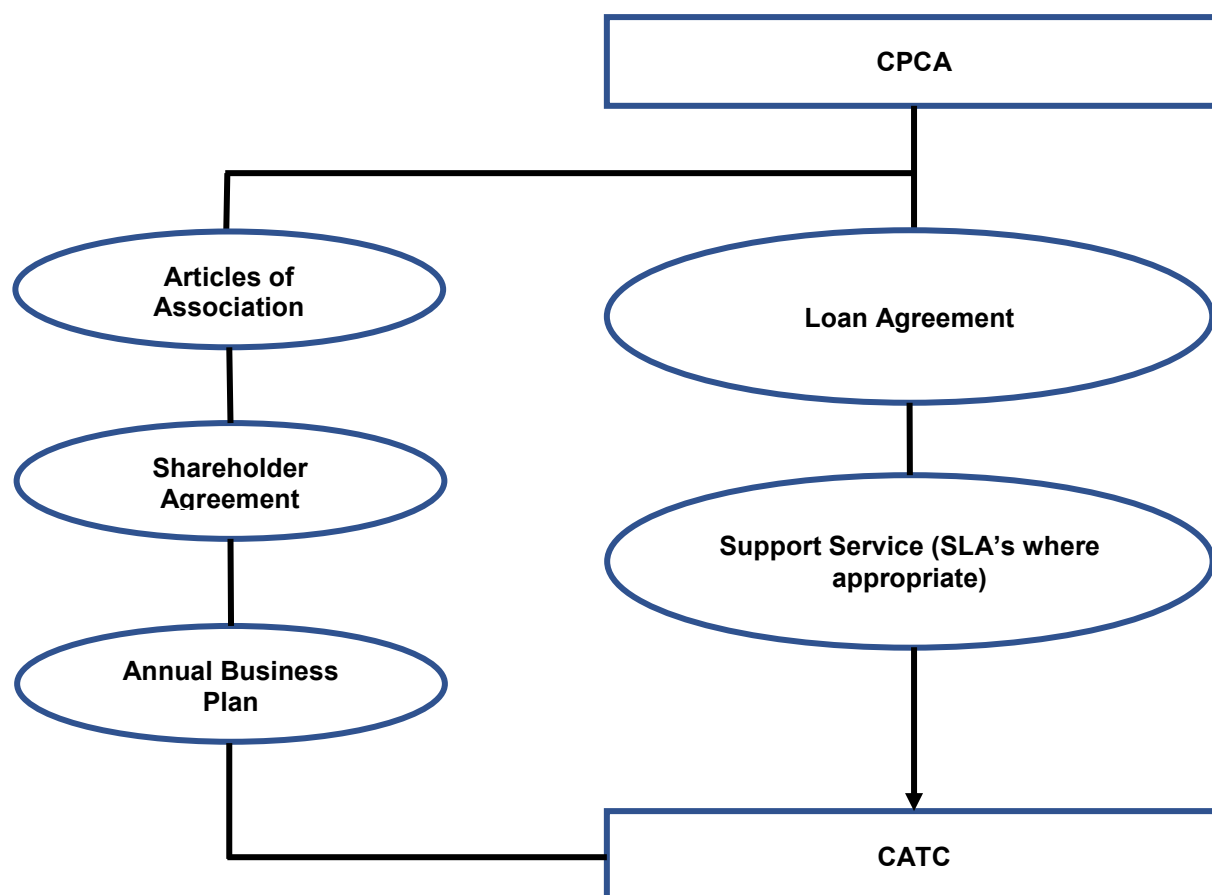
- Matters relating to the control of shares
- Amendments to Articles of Association
- Matters relating to the payment of a dividend
- Matters relating to the company structure of CATC
- Matters relating to the cessation of CATC
- Matters relating to the business if it is not considered to be ancillary or incidental to the approved business
- Any decisions that require funding from CPCA, for example funding for a housing scheme from the £100m affordable housing fund
- Appointment/removal of a Director
- Remuneration of any Director
- Entering into service contract, terms of appointment or other agreement with a Director
- Remuneration of any CATC (or subsidiary company) employee exceeding £100,000
- Establishing or amending any profit-sharing, share option, bonus or other incentives of any nature for Directors and employees
- Making any bonus payment to any Director or key employee
- Changing the name or registered office
- Approval of the annual business plan

4.1.9 CATC Responsibilities

The CATC shall:

- Prepare an Annual Business Plan for approval by the CPCA Board
- Provide a quarterly update to the CPCA Board, such an update shall include:
 - Financial performance, and
 - Risk Management Plan

Structure and Control Functions



5 FINANCIAL

5.1 Methodology

The projected income and expenditure set out below is a consolidation of the financial information provided in the Development Company Business Plan and the costs associated with operating the CATC as set out in 5.1.2 below.

5.2 Financial Assumptions

The projection below provides an indicative summary of income and expenditure for the first five years of trading. This has been modelled on the generic DevCo schemes that typically

we might expect to be pursued in the first year. It is anticipated that additional opportunities would be explored and engaged as Devco's activities expand.

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Income	£600,000	£1,000,000	£6,595,346	£8,501,798	£7,564,955	£24,162,088
Expenditure	£3,347,153	£5,404,422	£6,787,861	£6,570,487	£520,037	£22,529,960
Surplus*/(Loss)	(£2,847,153)	(4,404,422)	(£192,515)	£1,931,311	£7,044,907	£1,632,128

*Profit will be subject to corporation tax, £600,000 loan from CPCA is re-paid from sales receipts in year 4.

Details of the projected income and expenditure of the Development Company are set out in the Development Company Business Plan.

The table below details the operating costs of the CATC and Dev Co.

	Year 1	Year 2	Year 3	Year 4	Year 5
Chairman	£12,000	£12,240	£12,484	£12,733	£12,988
Managing Director*	£20,000	£20,400	£20,808	£21,224	£21,648
Company Secretary*	£5,000	£5,100	£5,202	£5,306	£5,412
Support (Admin, Finance, Legal, IT & HR)	£20,000	£20,400	£20,808	£21,224	£21,648
Insurance	£10,000	£10,000	£10,000	£10,500	£10,500
Office Rent	£5,000	£5,000	£5,000	£5,000	£5,000
Audit Fees (yr end)	£0	£10,000	£10,000	£10,500	£10,500
DevCo Staff	£218,500	£222,870	£227,327	£231,873	£236,511
Total (Annual)	£290,500	£306,010	£311,629	£318,360	£324,207

*Please note that the role of Managing Director, and Company Secretary shall be held by the Chief Executive, and Director Corporate Services of the CPCA respectively. There is no direct remuneration proposed for any of these positions, the CPCA will charge the CATC for these positions for time spent in operating their functions in the CATC.

Devco staff costs are a cost to the company from day 1 in order to comply with EU competition law requirements.

Please note that the Devco staff and many of the other costs within the operating costs in the table above will be incurred by the CPCA in any event, whether or not CATC and DevCo are set up. Those costs are effectively being allocated away from the CPCA overhead and into CATC as a cost.

5.3 How will the CATC be funded?

It is proposed that CPCA will provide the CATC with a loan of up to £600,000. This figure is representative of the need for CPCA to have sufficient cashflow to cover its operating costs for 2 years. The CATC will commence repayment of the loan in April 2022 on terms to be agreed between the CPCA and CATC.

The CPCA shall enter into a loan agreement with the CATC. The loan agreement will make provision for the following:

- The CATC shall only utilise the loan in accordance with the CATC Business Plan and to support the activities of DevCo

- The CATC shall draw down the loan as cash flow requires,
- Loan repayment terms and conditions, and
- Loan interest

6 SWOT AND RISK MANAGEMENT

6.1 RISK MANAGEMENT PLAN

Establishing the CATC is a relatively new concept. The Localism Act 2011 requires the CPCA to include a risk assessment as part of the business plan for the establishment of the CATC.

In order to properly assess the risks associated with establishing a new company a high level PESTLE Analysis, Five Forces Analysis, Force Field Analysis and SWOT Analysis have been prepared to inform the Risk Management Plan.

PESTLE Analysis

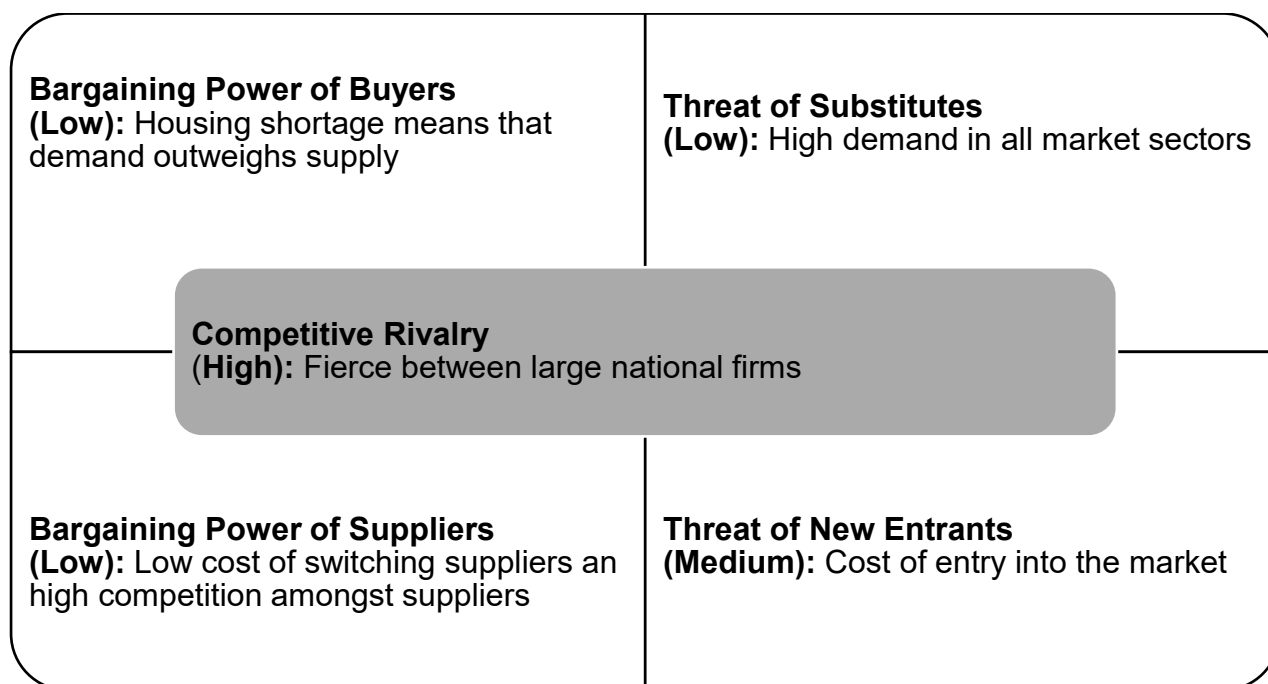
The PESTLE is a high level analysis that examines the external environment and identifies the Political, Economic, Social, Technological, Legal and Environmental factors that could impact the CATC.

Political <ul style="list-style-type: none"> - Reform of the planning and housing legislation - Economic growth - Need to deliver more housing - Funding - Changes in political priorities 	Economic <ul style="list-style-type: none"> - Investment and mortgage finance constraints - Status of the housing market - Interest rates - Taxation - Construction market and trade cycles
Social <ul style="list-style-type: none"> - Demand for home ownership - Housing shortage - Consumer choice 	Technological <ul style="list-style-type: none"> - Energy infrastructure - Intellectual property - Innovation in construction
Legal <ul style="list-style-type: none"> - Reform in the planning system - Changes to the Localism Act - Banking legislation- impact on lending - Environmental legislation and targets - Sustainability (see environmental) 	Environmental <ul style="list-style-type: none"> - Sustainable building requirements - Climate change - Weather conditions

The biggest impact on the CATC would be felt from any significant fluctuation in the development and housing markets. It will be a priority of the CATC to monitor trends in the housing market during its business planning process to ensure that developments respond to the requirements of the local housing market.

Five Forces Analysis

A Five Forces Analysis looks at the factors which may undermine the CATC in its consideration to enter the competitive market.



This high level analysis does not raise any major concerns which would deter the CATC from entering the competitive market to deliver mixed tenure housing.

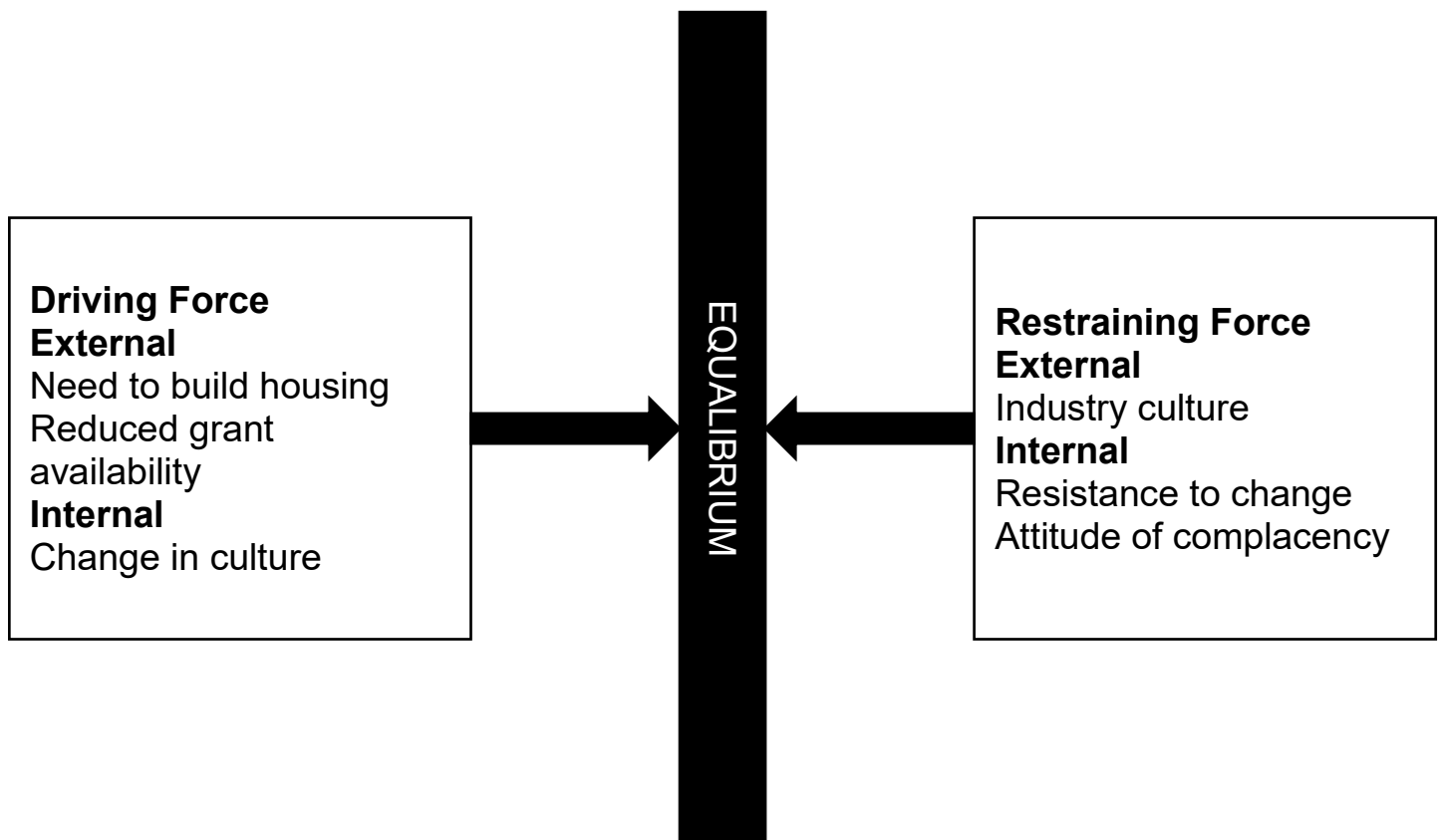
SWOT Analysis

Strengths <ul style="list-style-type: none"> - Brand - Local market knowledge - Assists CATC with delivering its objectives - Connection with communities - Existing expertise available to provide early stage support 	Weaknesses <ul style="list-style-type: none"> - Resistance to change - The CATC will be a new company, wholly owned by the CPCA, that has limited experience in working in a competitive environment - In a competitive environment there is a need for decisions to be taken quickly, however, due to the governance arrangements that are in place this presents a possible disadvantage for the CATC - Potential for perceived bias in the way in which the Company will operate
Opportunities	Threats

<ul style="list-style-type: none"> - Benefits from reform of planning system - Cost realisation via rationalization of structure - The CATC will be able to act as the developer of land via DevCo - The CATC will be able to Joint Venture with Council's/Third Party - The CATC will be able to accelerate the delivery of more housing - High demand for new housing at all levels of the market and low level of current supply - Few local competitors producing design-led, high quality property may make the CATC an attractive developer for landowners and communities 	<ul style="list-style-type: none"> - Available land at realistic prices - Difficult economic climate - The property market is subject to volatility in cost and sales - Other companies in, or moving in to, the market - Housing and planning are key policy areas for all political parties and future changes to legislation have the potential to create adverse conditions for the CATC
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Force Field Analysis

The force field analysis identifies the reasons for the change.



Risk Management

Commercial risks such as venture failure and financial loss ultimately resides with the CATC. Wherever possible the CATC shall put in place measures to mitigate risks.

The table below identifies the risks associated with the CATC and provides an outline of how each risk will be managed. Please note that the list provided below is not exhaustive and will be reviewed on a regular basis.

Legislative/Policy				
Identified Risk	Management of Risk	Risk Score		Risk Owner
<p>Changes in legislation which could place restrictions on the CPCA's power to trade in a commercial manner.</p> <p>Changes in legislation could impact on CATC's ability to borrow (or conversely CPCA's power to lend) to fund future projects</p>	<p>This is outside the control of CATC. Going forward this will need to be monitored.</p> <p>Continuous monitoring of changes to legislation through liaison with MP's, ebulletins, consultations, LGA Knowledge Hub and other publications.</p> <p>Any significant changes in legislation which realise this risk should be addressed immediately by the Managing Director to the Board of Directors.</p> <p>An amended Business Plan or Exit Strategy will need to be approved by the Board of Directors and submitted to the CPCA.</p> <p>The Company Secretary attends all Board Meetings and advises on all relevant financial and governance matters.</p>	<p>Likelihood Impact Risk</p>	<p>1 5 5</p>	<p>Managing Director</p>
<p>The June 2016 Referendum result for the United Kingdom to leave the European Union could have a financial and/or operational impact on CATC.</p> <p>The extent of the impact is unknown, this will be kept under continuous review.</p> <p>At present negative impact is relatively speculative and unquantifiable.</p>	<p>The Board of Directors shall continuously monitor the perceptions and actual impacts on market conditions and inform the CPCA of any changes/decisions that need to be made.</p> <p>Advice will be sought from the relevant professional body when appropriate.</p>	<p>Likelihood Impact Risk</p>	<p>3 4 12</p>	<p>Board of Directors</p> <p>Corporate Services Director/Housing Director</p>

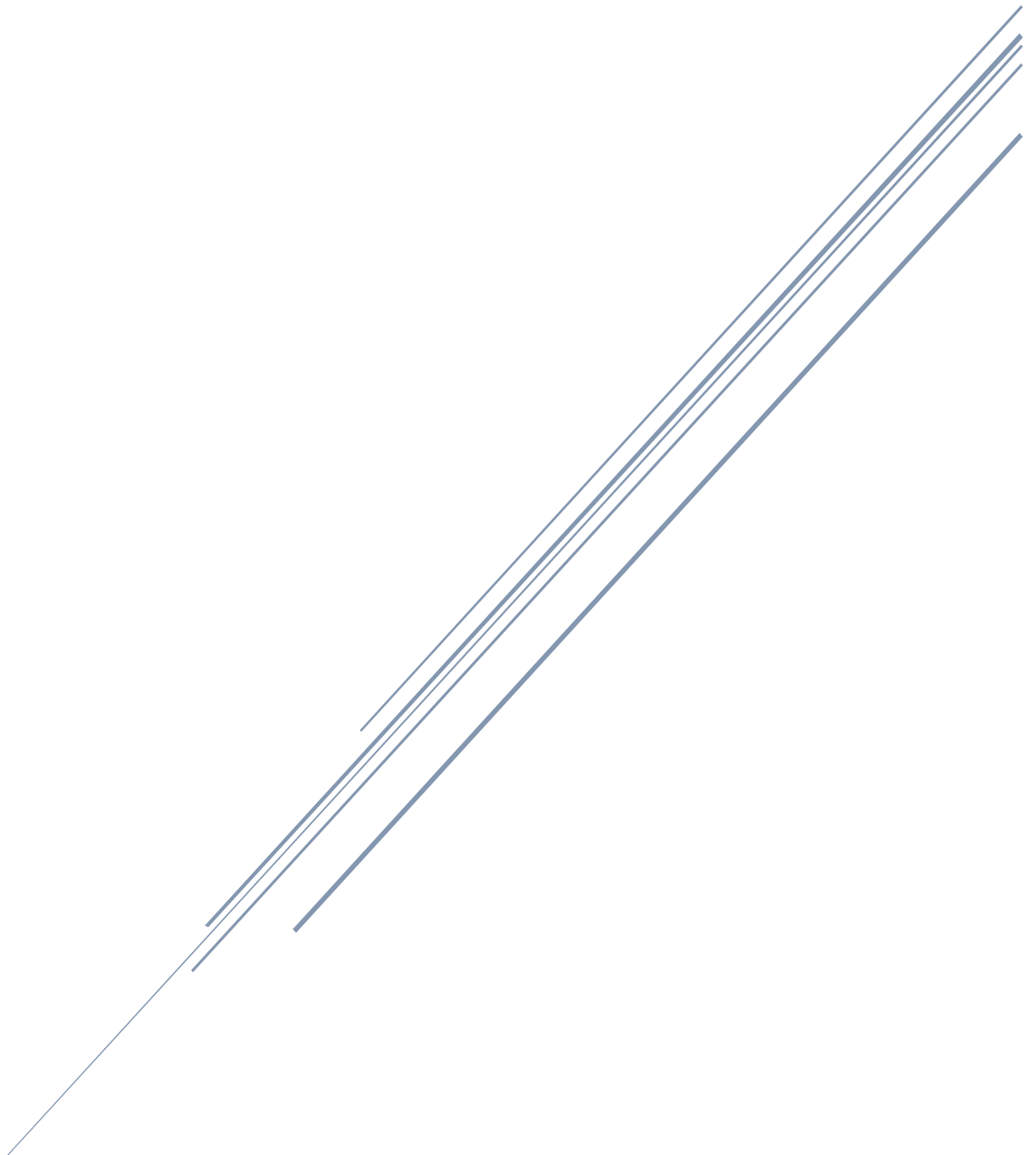
Changes in Planning and Housing Policies could have an impact of the Development Company, for example, changes to Affordable Housing, Starter Homes, and Self-build could impact the profitability of a particular development.	The Housing Director will have regard to changes to national planning policy, local planning policy and changes to legislation/regulation during the development appraisal process. These matters will be addressed through business planning and specific business plans for individual projects.	Likelihood Impact Risk	3 2 6	Housing Director
Governance				
Inadequate governance arrangements and lack of clarity on roles of the CPCA and CATC could lead to poor decision making which could undermine the operation of CATC.	<p>The Shareholder Agreement sets out the role of the CPCA and the role of CATC (in particular matters reserved only for CPCA) and provides for governance of CATC and the scrutiny arrangements through the CPCA Board.</p> <p>The CPCA and CATC will monitor the practicalities of the Shareholder Agreement to ensure that it is fit-for-purpose. Any necessary changes will be brought to the attention of the CPCA.</p> <p>Any changes to the Shareholder Agreement will need to be approved by the CPCA. The Managing Director will provide a report to the CPCA detailing any proposed changes and why these changes would be necessary.</p>	Likelihood Impact Risk	3 4 12	Managing Director
<p>As CATC is wholly owned by CPCA, CATC is subjected to the controls and decision making process for matters that lay outside of the Business Plan.</p> <p>The speed of the decision making process may have an impact on CATC's ability to operate effectively.</p>	<p>The Shareholder Agreement sets out the decision making abilities of the CATC and CPCA. The Shareholder Agreement provides for the ability of extraordinary meetings of the CPCA Board to be called to consider urgent business.</p> <p>In accordance with the CPCA's Constitution a meeting can be convened to deal with any urgent business.</p>	Likelihood Impact Risk	3 4 12	Managing Director
Economic				

<p>CPCA is providing a loan to CATC of £600,000 to be drawn down in accordance with the loan agreement.</p> <p>If the CPCA's MTFP is not successfully implemented this will reduce the availability of loan finance to CATC, thus undermining the cash flow and profitability.</p>	<p>The Section 151 Officer will continuously monitor the MTFP to ensure CPCA can 'make good' on its commitments.</p> <p>The Section 151 Officer will ensure the CPCA can make the advances to CATC in accordance with the loan agreement, in the event that advances cannot be made the Section 151 Officer shall notify the Managing Director as soon as is practicably possible.</p>	<p>Likelihood Impact Risk</p>	<p>3 4 12</p>	<p>S151 Officer</p>
<p>Changes in taxation, interest rates and build cost inflation could have an impact on the viability and profitability CATC.</p>	<p>At present changes in taxation is not a known risk, however, CATC should have regard to the impact of any such changes.</p> <p>Building cost inflation is the key risk; to minimise the impact of this contracts will be let with costs defined.</p> <p>The Housing Director will monitor changes and factor any changes in the business planning process.</p>	<p>Likelihood Impact Risk</p>	<p>1 3 3</p>	<p>Housing Director</p>
<p>Economic downturn could result in less than anticipated (or even losses) assumed in the Business Plan</p>	<p>A full assessment of the market conditions will be carried out prior to any development commencing. In the event that an economic downturn occurs once a development has commenced the Housing Director will appraise the Managing Director of the situation.</p> <p>The Managing Director shall inform the CPCA as soon as is practicably possible of any significant changes that may impact on the repayment of the loan.</p> <p>Where relevant the Managing Director shall present to the CPCA an amendment to the Business Plan or, if necessary, present an Exit Strategy, for approval.</p>	<p>Likelihood Impact Risk</p>	<p>3 4 12</p>	<p>Housing Director Managing Director</p>

<p>In order to prosper in a commercial environment, cash flow for the CATC will be essential.</p> <p>Insufficient cash flow will result in CATC being constrained in realising the objectives of the Business Plan.</p>	<p>CATC shall through the annual review of the Business Plan ensure that sufficient provision is made to provide cash flow to achieve the aims of the Business Plan.</p> <p>Should opportunities arise that are outside of the scope of the Business Plan CATC shall liaise with the CPCA and prepare a revised Business Plan, at the earliest opportunity, which will include identifying loan funding (to be approved by CPCA Board) that would enable commercial opportunities to be realised.</p>	<p>Likelihood Impact Risk</p>	<p>3 4 12</p>	<p>Managing Director</p> <p>Corporate Services Director</p>
Operational				
<p>Inadequate cost controls on commercial build contracts can lead to delays, overspends and reduced profitability/cash flow for the company.</p> <p>This has the potential to undermine the ability to repay loans to the CPCA.</p>	<p>The Housing Director, in the business planning cycle, shall have regard to market conditions, build cost inflation and put in place a robust project management and cost control plan.</p>	<p>Likelihood Impact Risk</p>	<p>2 3 6</p>	<p>Managing Director</p> <p>Housing Director</p>
<p>Change and upheaval can, if not managed properly, impact on the quality of service delivery during a period of transition and post-change establishment.</p>	<p>The level of resources required is identified in the Business Plan.</p> <p>The CPCA shall provide sufficient resources (costs of which are recoverable) to support.</p>	<p>Likelihood Impact Risk</p>	<p>1 3 3</p>	<p>Managing Director</p> <p>Housing Director</p>

DEVELOPMENT COMPANY

Business Plan

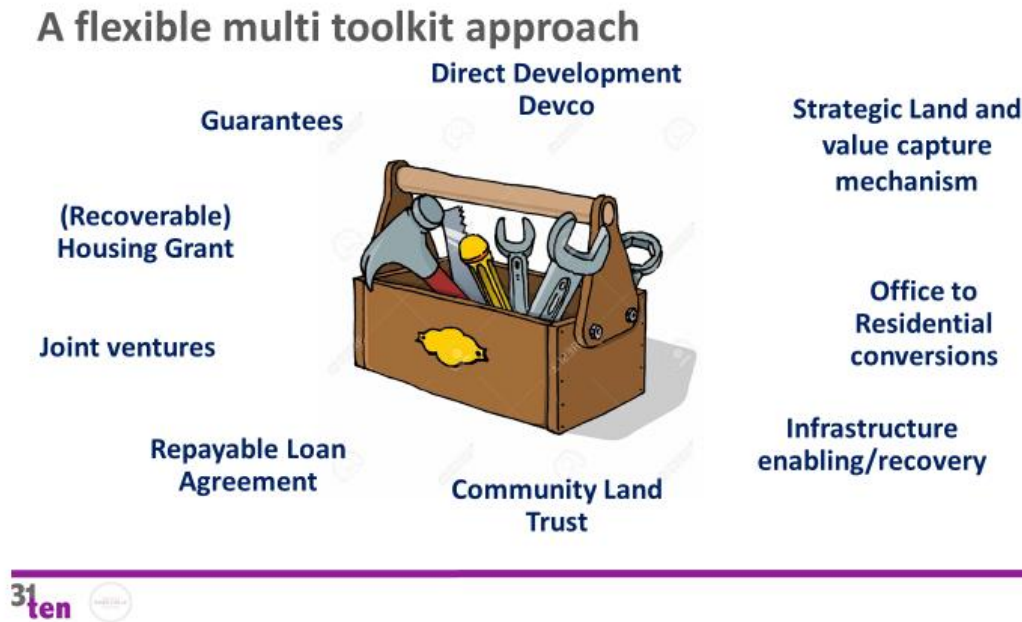


March 2019

1 EXECUTIVE SUMMARY

DevCo will be a subsidiary company of the Combined Authority Trading Company (CATC). DevCo will be a vehicle set up to enable the Cambridgeshire and Peterborough Combined Authority (CPCA) to deliver (directly or indirectly) more affordable houses (but not exclusively affordable houses), in the CPCA area.

In the Housing Strategy approved at Board in September 2018 the board approved a series of potential 'toolbox' interventions:



In order to progress some of these alternatives, like joint ventures, direct development, office to residential conversions and some strategic land initiatives, we need a vehicle to manage any risks and also the costs and returns.

DevCo will harness both in-house and out-house expert property development knowledge alongside community experience and local knowledge to deliver successful well-designed property developments with affordable housing, which will bring community benefit and respond to the needs of the local market.

In doing so, in the first 5 years it will:

- Facilitate the delivery (directly or indirectly) of more affordable housing in the CPCA area,
- Make the CPCA area an even better place to live and work by building good quality homes
- Improve local infrastructure by delivering or enabling appropriate, well-designed property developments.

The CATC will engage directly in commercial markets to undertake property development across the CPCA region.

Financial Projections Years 1-5

The projections below are based on the compilation of the financial modelling of 5 illustrative generic schemes in the CPCA area. These were: 1) a new residential development of

approximately 15 units as a direct development, 2) an office to residential conversion delivering 20 units, 3) a new direct development of 5 units 4) a new direct development of 39 units and 5) a new direct development of 29 units. In total across the 5 year cashflow, the illustrative schemes would deliver 108 units. This is considered by us to be a very 'safe' projection and the schemes are indicative of the sort of schemes that we might initially to take on and commence delivery of in the first year or two of operation. However our ambition for Devco is far more significant and we would hope to be able to get involved in some form, in opportunities that would deliver hundreds of units over the 5 year period.

The detailed cashflows for the illustrative schemes are provided as an appendix to this Business Plan.

The table below shows the cumulative cost and revenue profile of the 5 schemes.

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Revenue from illustrative schemes		£1,000,000	£6,595,346	£8,501,798	£7,564,944	£23,662,088
Cost of illustrative schemes	£3,347,153	£5,404,422	£6,787,861	£5,970,487	£520,037	£22,029,960
Surplus/(Loss)	(£3,347,153)	(£4,404,422)	(£192,515)	£2,531,311	£7,044,907	£1,632,128

2 INTRODUCTION

2.1 Background

On 26 September 2018 (Agenda Item 2.1) the Cambridgeshire and Peterborough Combined Authority (CPCA) Board adopted the 'CPCA Housing Strategy'. The strategy identified the need to accelerate the delivery of housing in order to meet the aims of the CPCA. One of the housing strategy recommendations is:

STRATEGIC FIT

CPCA Housing Strategy (September 2018)

'Direct Action: The CPCA should establish a wholly owned company to undertake the development and management of new homes in the region.'

The Local Government Act 2003 restricts local authorities from making a profit from its services, although they are able to offset on-costs. The Localism Act 2011 enables local authorities to undertake activities to make a profit but only if delivered within a company.

The CPCA is legally able to establish a wholly owned trading company where the CPCA retains full control over the direction of the Combined Authority Trading Company (CATC), manages its risks and receives the benefits in full. The CPCA will be the sole shareholder.

The purpose of this document is to set out the business case for the DevCo subsidiary of the CATC.

2.2 Strategic Fit

The CPCA has an ambition to facilitate the delivery of 100,000 more homes in the region by 2036 (including at least 40% new affordable homes).

In order to achieve this, the Mayor, together with the partner organisations within the CPCA area, has agreed the following key strategic objectives for housing:

- To accelerate housing delivery to support economic growth
- To create prosperous places where people want to live
- To expand housing choices to meet a range of housing needs

Across each of these objectives, the CPCA's programme of intervention falls into three broad areas:

- i) Direct Action, where the CPCA will take an active strategic investment approach to deliver new homes
- ii) Enabling Action, where the CPCA will distribute funds including loans and recoverable enabling finance for the delivery of new homes by others
- iii) Collaborative Action, where the CPCA will work with its partner authorities, housing agencies and the private sector to support increased and accelerated delivery by others.

2.3 Purpose & Possible Tools

DevCo is a key part of achieving these objectives in the long term. DevCo will provide the CPCA with the ability to do things it cannot currently do, specifically:

PURPOSE

To assist with delivering the aims of the housing strategy by:

- Accelerating the delivery of all housing
 - Providing the ability and vehicles to JV with other LA's and/or private sector
 - Making a profit which could be used to:
 - Invest in more housing
 - Return a dividend to the CPCA
-

In addition it can:

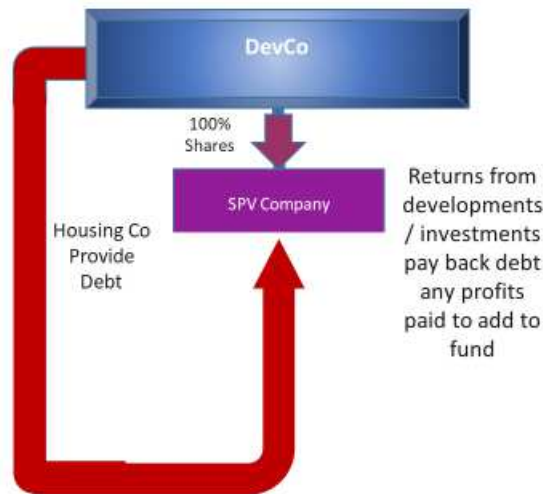
- Procure goods and services locally
- Use any profits to re-invest into more affordable housing schemes.

Initially we anticipate that DevCo will focus on opportunities to accelerate the delivery through smaller scale direct development or joint ventures with constituent Council's and third parties, both in the public and private sector.

Tool - Direct Development

Types of schemes / Areas

- Viable schemes
- Affordable only or mix of private sale / rent and affordable
- Land needs to be acquired
- End sale or handover to an Affordable provider, unless establishment of management / rent co.



Advantages

- Control – Direct development not reliant upon others
- Ability to increase pace of development
- Utilise Equity and JV or debt funding
- Potential for some profit
- Enables cross subsidy, grant could still be offered to affordable providers to acquire completed units

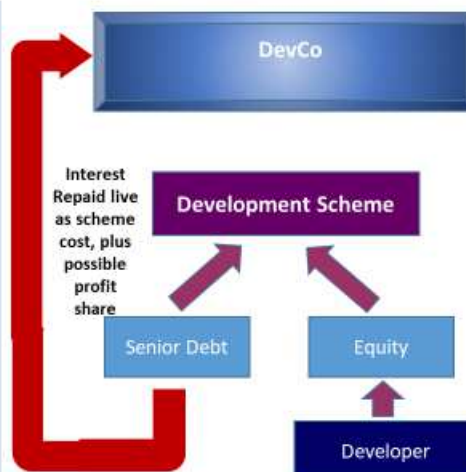
Disadvantages

- Relies on broadly viable schemes
- Higher risk – exposed to construction sales / market risk
- Need to establish supply chain

Tool – Repayable Loan Agreement

Types of schemes / Areas

- Innately viable schemes but not at a level of profit to get the private sector to develop
- Debt required on different basis to commercial debt
 - Phasing
 - Timing of payback
- More sophisticated approach to senior debt



Advantages

- Return on investment @ interest rate
- Secured investment (first charge)
- Predictable timing of returns
- Sophisticated approach – risk based investment, opportunity for profit share

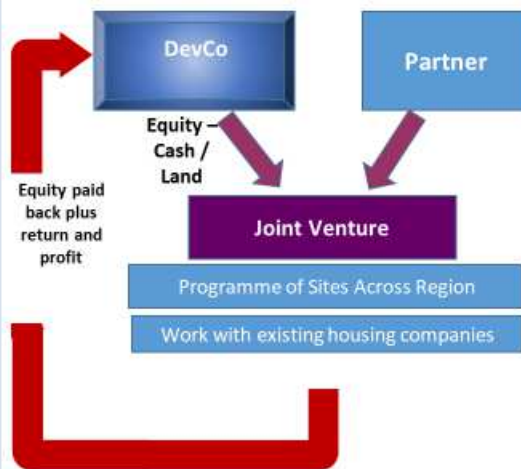
Disadvantages

- Relies on broadly viable schemes
- Ongoing monitoring requirement

Tool - Joint Venture

Types of schemes / Areas

- Collaborative approach
- Other public sector bodies can put sites in / investment in / utilise their land or trading companies
- Expertise and funding through JV partner
- Programme possibilities after pilot schemes – not just scheme by scheme



Advantages

- Return on investment @ interest rate plus profit
- More 'Units for Bucks'
- Cross regional approach
- Procurement savings
- Private sector expertise
- Share in development risk

Disadvantages

- Up front investment to establish partnership
- Partners need alignment of objectives, need for land commitments
- Share in profit

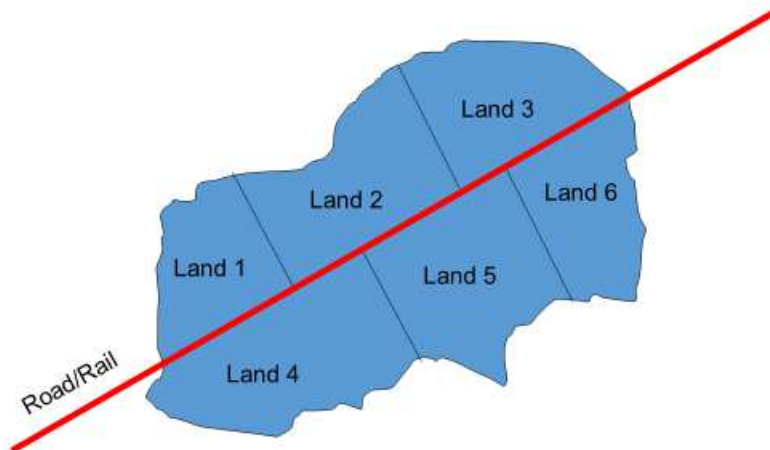
Tool - Value Capture Mechanism

Example

- Multiple land holdings
- Agricultural values, with limited 'hope' value
- Link road/rail – Infrastructure opens opportunity residential devt

Approach

- Infrastructure Co provides loan to deliver Road/Rail
- Direct Acquisition or security taken over land
- Plots / units cannot be sold until charge is released
- Uplift in value helps funds loan – BEWARE CASHFLOW & DELAYED RECEIPTS



3 VISION

We believe in improving the quality of life of the taxpayer of the Cambridgeshire and Peterborough area and intend to deliver the objectives which are set out in the 'CPCA Housing Strategy' (September 2018). The Combined Authority Trading Company and through it the creation of Devco will support the Cambridgeshire and Peterborough Combined Authority in achieving these objectives.

4 MISSION STATEMENT

DevCo will harness development and community experience with local knowledge to deliver successful well-designed property development which bring community benefit, are right for their place and respond to the needs of the local market.

5 STRATEGIC OBJECTIVES

- To make a positive contribution to the delivery of more affordable housing across the CPCA area and to contribute to meeting housing need in all segments of the market
- To make the best use of every commercial opportunity that might become available
- To trade in a manner that, wherever possible, acts in the best interest of the CPCA
- To recycle any surplus funds generated from these projects to support the aims of the CPCA, specifically re-investment into more housing schemes and additional affordable housing.

6 OPERATING MODEL

DevCo will operate in the local residential property markets across the CPCA area either through joint ventures with constituent council's/third parties or independently; i.e. secure an interest and develop land.

Every opportunity that arises will have its own business case which will have to be approved through the necessary governance process by the DevCo Board of Directors. If funding is required from the CPCA for any DevCo's activities, approval will also need to be sought from the CPCA Board.

7 YEAR 1 OBJECTIVES

This business plan sets out the following specific targets for DevCo Year 1 (2019/20).

- Enter into direct development or joint ventures for the development of two sites in the CPCA area,
- Identify new development opportunities from constituent council-owned land and facilitate the delivery of these sites potentially in partnership, and
- Identify a pipeline of future development projects that will deliver more homes in the CPCA area by starting on site by no later than 31st March 2022.

8 STAFFING

DevCo will be established in the first instance to deliver the outcomes of the CPCA Housing Strategy (September 2018). In its early stages DevCo will be supported by the Director Housing (seconded from the CPCA) and a development manager (also seconded from the CPCA).

Where DevCo decides to participate more significantly in the property market there may be a need to employ additional personnel. This will be subject to the approval of the DevCo Board of Directors; such approval will be based on a robust business case which will clearly identify the rationale, need and costs of the resources required to enhance Devco's operations in the housing market.

Such key personnel may over time include:

Land Manager

The Land Manager will be responsible for identification, assessment, negotiation and acquisition of new development opportunities, as well as assisting with the promotion of projects by managing external consultants through the design and planning stages to maximise return.

Development Manager

The Development Manager is responsible for the management of projects from completion of the planning stage through the pre-design and pre-construction phases; overseeing all design issues and coordinating with the external consultants and contractors that will progress the build process to completion.

Sales Manager

The Sales Manager will create marketing strategies and materials, and manage new site set ups, sales releases and pricing. The Sales Manager will manage and motivate an external Sales and Legal team that is capable of achieving the Company's objectives through support, control and development whilst at all times ensuring the team enhance the Company's reputation to prospective and existing customers and deliver high standards of customer service.

9 SUPPLIES, SYSTEMS AND INFRASTRUCTURE

CPCA will continue to provide support services to DevCo through a managed Service Level Agreement (SLA).

DevCo will establish contractual SLAs with each support service. This will include measurable performance indicators, break clauses and remedies for non-performance.

Once DevCo is operational there will be an annual review process whereby SLAs are refined to more accurately reflect the support DevCo needs.

Support services include:

- Finance- transactional finance functions and financial control activities
- IT- provision of IT equipment and services- including helpdesk support
- Insurance provision (buildings, vehicles, employers and public liability)
- HR support, including systems, recruitment and training
- Payroll

10 USE OF EXTERNAL SUPPLIERS

DevCo will seek to use local external suppliers where the appropriate service can be competitively sourced. For larger construction works contracts exceeding the EC threshold of £4.3 million, OJEU procurement principles will apply.

11 PROPERTY AND ASSETS

DevCo will operate from The Incubator 2, First Floor, Alconbury Weald Enterprise Campus, Alconbury Weald, Huntingdon, PE28 4WX and a reasonable rent will be charged by the CPCA to DevCo for space it occupies. In order to be flexible, office accommodation arrangements will be reviewed annually.

12 INFORMATION SHARING

An information sharing protocol will be developed during implementation.

13 DATA PROTECTION

DevCo will comply with the relevant legislation and guidance concerning Data Protection, including adopting suitable policies and procedures to ensure data is adequately safeguarded.

14 FREEDOM OF INFORMATION

As a company wholly owned by CPCA, DevCo will be subject to requests for the disclosure of information under the Freedom of Information Act 2000 (FOI) in its own right. As such, DevCo will maintain a record management system that complies with the relevant guidance concerning the maintenance and management of records.

DevCo will liaise with CPCA as appropriate to ensure consistency in answering FOI requests and provide such information to CPCA as it may require to answer requests it has received.

15 MARKETING STRATEGY

In line with our Vision and Values, DevCo will develop its Brand and Marketing Strategy with a view to clearly articulating its Proposition to the Residential Development market and potential customers.

16 BUSINESS DEVELOPMENT

DevCo will build key customer relationships from a network of potential clients that will include local land and property owners and Local Authorities. The future of the Company will depend on its ability to unite this divergent set of clients around a common aim; to enable and build good quality, well-designed new housing developments that are both commercially successful and right for their place.

17 SWOT AND RISK ANALYSIS

17.1 Strengths

- Opportunity for DevCo to create a brand alongside enhancing the CPCA brand and develop the business as a trustworthy and well-funded development partner
- DevCo might be able to access (if willing) constituent councils' portfolios of land and property with potential to create a strong pipeline of future development projects that would underpin the business
- DevCo is not purely driven by commercial profit, but by a need to see more affordable housing being delivered without making financial losses.

17.2 Weaknesses

- Decisions will need to be taken quickly if DevCo is able to respond to market opportunities when they arise
- DevCo will be a new 'player' in the market
- There is the potential for perceived bias in the way that the Company operates.

17.3 Opportunities

- High demand for new housing at all levels of the market and low level of current supply so investment risk is reduced

- Producing design-led, good quality housing will give DevCo an opportunity to position itself as a developer of choice for landowners.

17.4 Threats

- Property market can be subject to volatility in cost and sales
- In a market when house prices strengthen, other local developers may up their game in terms of design quality, presence and competition in the local market
- Housing and planning are key policy areas for all political parties and future changes to legislation could have the potential to create adverse conditions for DevCo

17.5 Commercial Risk

The key risk is around CPCA's inexperience as an organisation in delivering housing activity through a company. It is, however, a shift in approach taking place throughout Local Authorities. The use of the existing CPCA director of housing and development and development manager, along with ensuring that any appointment of future key personnel will have strong market experience, will allow the risk to be managed. This, alongside managing the size and scale of early projects and engaging in joint ventures with appropriate partners, will sensibly manage this issue.

The level of risk exposure should be deliberately small in the formative years of DevCo, with risk limited to specific projects for which there is a clear and understood risk profile and route to delivery.

5 Unit New Build v 13.01.19
Peterborough

Detailed Cash flow																					
		Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020
Monthly B/F		0	-233,500	-234,008	-234,516	-235,026	-235,536	-236,046	-236,559	-237,073	-237,586	-261,600	-318,085	-398,546	-494,474	-597,332	-698,569	-789,625	-861,903	-906,797	-908,769
Revenue																					
Sale - Residential units 5 No		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000,000
Disposal Costs																					
Sales Legal Fee		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5,000
Unit Information																					
Residential units 5 No																					
Acquisition Costs																					
Fixed Price		-200,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stamp Duty		-7,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Legal Fee		-4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Planning & fees		-10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Building regulations fees		-5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
topographical Survey		-2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ground conditions Survey		-5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Costs																					
Con. - Residential units 5 No		0	0	0	0	0	0	0	0	0	-19,608	-46,661	-66,567	-79,325	-84,936	-83,399	-74,715	-58,883	-35,904	0	0
Demolition		0	0	0	0	0	0	0	0	0	-357	-848	-1,210	-1,442	-1,544	-1,516	-1,358	-1,071	-653	0	0
Asbestos removal allowance		0	0	0	0	0	0	0	0	0	-357	-848	-1,210	-1,442	-1,544	-1,516	-1,358	-1,071	-653	0	0
Professional Fees																					
Architect		0	0	0	0	0	0	0	0	0	-998	-2,375	-3,389	-4,038	-4,324	-4,246	-3,804	-2,998	-1,828	0	0
Project Man, QS & PD fees		0	0	0	0	0	0	0	0	0	-1,198	-2,851	-4,067	-4,846	-5,189	-5,095	-4,564	-3,597	-2,193	0	0
Miscellaneous Costs																					
Developers Contingency		0	0	0	0	0	0	0	0	0	-980	-2,333	-3,328	-3,966	-4,247	-4,170	-3,736	-2,944	-1,795	0	0
Net Cash Flow Before Finance		-233,500	0	0	0	0	0	0	0	0	-23,497	-55,917	-79,772	-95,061	-101,784	-99,943	-89,536	-70,564	-43,026	0	995,000
Debit Rate 2.610%		2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%
Credit Rate 0.000%		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Finance Costs (All Sets)		0	-508	-508	-510	-510	-510	-513	-513	-513	-517	-568	-689	-867	-1,074	-1,295	-1,519	-1,714	-1,868	-1,972	0
Net Cash Flow After Finance		-233,500	-508	-508	-510	-510	-510	-513	-513	-513	-24,014	-56,485	-80,461	-95,927	-102,858	-101,238	-91,055	-72,278	-44,894	-1,972	995,000
Cumulative Net Cash Flow Monthly		-233,500	-234,008	-234,516	-235,026	-235,536	-236,046	-236,559	-237,073	-237,586	-261,600	-318,085	-398,546	-494,474	-597,332	-698,569	-789,625	-861,903	-906,797	-908,769	86,231

Peterborough

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20 Unit Office to Residential Conversion

Detailed Cash flow																															
		Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	
Monthly B/F		0	-862,500	-864,376	-866,252	-868,136	-870,020	-871,904	-873,801	-875,697	-877,593	-879,502	-881,411	-883,320	-885,241	-887,162	-889,083	-943,095	-1,068,270	-1,251,558	-1,479,891	-1,740,146	-2,019,186	-2,303,863	-2,580,962	-2,837,259	-3,059,532	-3,234,468	-3,348,756	-3,356,039	
Revenue																															
Cap - Grd flor retail unit 1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95,346	
Sale - Residential units 20 No		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,500,000	
Disposal Costs																															
Sales Legal Fee		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-17,977	
Unit Information																															
Residential units 20 No																															
Acquisition Costs																															
Fixed Price		-750,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stamp Duty		-37,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Legal Fee		-15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Planning & fees		-20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Building regulations fees		-5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asbestos Survey		-5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Damp & wood Survey		-5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structural Survey		-10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Party wall Survey & agreement		-15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Costs																															
Con. - Residential units 20 No		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-42,546	-100,592	-147,849	-184,317	-209,995	-224,885	-228,985	-222,295	-204,817	-176,549	-137,491	-87,645	0	0	
Building/fabric repairs incl Roof		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2,162	-5,111	-7,513	-9,366	-10,671	-11,427	-11,636	-11,296	-10,408	-8,971	-6,986	-4,454	0	0	
Asbestos removal allowance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1,081	-2,556	-3,756	-4,683	-5,335	-5,714	-5,818	-5,648	-5,204	-4,486	-3,493	-2,227	0	0	
Professional Fees																															
Architect		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1,297	-3,067	-4,508	-5,620	-6,402	-6,856	-6,981	-6,777	-6,245	-5,383	-4,192	-2,672	0	0	
Project Man,QS & PD fees		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2,865	-6,773	-9,954	-12,410	-14,139	-15,141	-15,417	-14,967	-13,790	-11,887	-9,257	-5,901	0	0	
Miscellaneous Costs																															
Developers Contingency		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2,127	-5,030	-7,392	-9,216	-10,500	-11,244	-11,449	-11,115	-10,241	-8,827	-6,875	-4,382	0	0	
Net Cash Flow Before Finance		-862,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-52,078	-123,129	-180,973	-225,611	-257,042	-275,267	-280,286	-272,098	-250,703	-216,102	-168,295	-107,281	0	3,577,370	
Debit Rate 2.610%		2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	2.610%	
Credit Rate 0.000%		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
Finance Costs (All Sets)		0	-1,876	-1,876	-1,884	-1,884	-1,884	-1,896	-1,896	-1,896	-1,909	-1,909	-1,909	-1,921	-1,921	-1,921	-1,934	-2,047	-2,315	-2,722	-3,213	-3,772	-4,392	-5,001	-5,593	-6,171	-6,641	-7,007	-7,284	0	
Net Cash Flow After Finance		-862,500	-1,876	-1,876	-1,884	-1,884	-1,884	-1,896	-1,896	-1,896	-1,909	-1,909	-1,909	-1,921	-1,921	-1,921	-54,011	-125,176	-183,288	-228,333	-260,255	-279,039	-284,678	-277,099	-256,296	-222,273	-174,936	-114,288	-7,284	3,577,370	
Cumulative Net Cash Flow Monthly		-862,500	-864,376	-866,252	-868,136	-870,020	-871,904	-873,801	-875,697	-877,593	-879,502	-881,411	-883,320	-885,241	-887,162	-889,083	-943,095	-1,068,270	-1,251,558	-1,479,891	-1,740,146	-2,019,186	-2,303,863	-2,580,962	-2,837,259	-3,059,532	-3,234,468	-3,348,756	-3,356,039	221,330	

29 units, Fenland DC

[illegible]

36 Unit Residential Scheme 07.03.19

Peterborough CC

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Agenda Item No. 4.1 – Appendix 4

1. Why do we need a development company to deliver our 2,000 affordable homes?

Combined Authorities can only generate profits through a company. The aim of the development company is to deliver mixed tenure housing that will generate surpluses to enable the delivery of both market and affordable homes.

The Combined Authority Housing Strategy recommended the establishment of a Development Company to support the delivery of the 100,000 new homes that are needed to meet the growing demands of the Cambridgeshire and Peterborough area. Within that strategy the board approved the use of a variety of development tools, other than traditional grant funding. The development company will provide a vehicle to apply those other tools to deliver additional market and affordable homes.

2. Are we simply handing over the £100 million that Government gave us to this development company?

No, initially the Development Company will borrow £600,000 (as set out in the report) that will essentially provide operating capital for the development company for its first 2 years of operation. This loan will then need to be repaid by the Development Company.

The Development Company will need to apply to the CPCA for loan funding from the Combined Authority. The £100 million housing fund will remain controlled by the CPCA.

3. What oversight do we have of the development company – it's a separate company to the CPCA

The Combined Authority is the Shareholder and will be responsible for the accepting Directors onto the HoldCo Board of Directors. The proposal for the Board of Directors is set out in the report. The relationship between the Combined Authority and the HoldCo will be set out in a shareholder agreement, which will reserve rights for the Combined Authority. Any subsidiary of the HoldCo will be bound by the shareholder agreement and will be held to account by the HoldCo Board of Directors.

4. Are we giving public money to a private company?

Under State Aid rules the Combined Authority cannot 'give' the development company money. Any money that the development company receives will either be loan from the Combined Authority or other funding providers. All loan applications by the development company will require consent from the Combined Authority.

5. Who decides what sites the development company will buy and deliver?

The Development Company Board of Directors will make the decision of what sites should be delivered. How these sites are funded will ultimately be the decision of the Combined Authority. It is proposed that under the shareholder agreement HoldCo,

and therefore Development Company, is required to seek the consent of the Combined Authority before undertaking any external borrowing. Where the Development Company is not seeking to borrow money (i.e. in future it might choose to use surpluses generated from its activities) then Combined Authority consent is not required however such purchases will require the approval of the HoldCo Board.

6. Can the CATC borrow money? And why would it need to?

The CATC will need the consent of the Combined Authority to undertake external borrowing. There may be opportunities that the Combined Authority is not in a position to lend money for (for example due to other commitments that mean that money is not available at the time of the request for a loan) and external borrowing may be sought to meet the opportunity. All requests for borrowing will be accompanied by a full business case for doing so.

7. If so, will the Combined Authority be liable if they don't repay that money? Does the Combined Authority have to underwrite the borrowing?

Unless the Combined Authority has agreed to underwrite a CATC loan then it will not be responsible for their liabilities. Some lenders may require the parent company (the Combined Authority) to underwrite the borrowing, if this is the case then the Combined Authority will need to consent to this, such requests will be made clear to the Combined Authority at the time of the request and it will be the decision of the Combined Authority to proceed on this basis.

8. Will the company be in competition with the Combined Authority to provide housing?

No. It is intended to supplement the ability of the Combined Authority to deliver housing. The intention is that the company allows the Combined Authority to deliver market housing which contributes towards its housing targets and also enables it to recycle funds to enable delivery of affordable housing in perpetuity.

9. What can't the Combined Authority simply provide the housing itself?

Under the Localism Act 2011, where the Combined Authority is seeking to do something for a commercial purpose it must do so through a company. The report set out the reasons why the CPCA might want to establish a wholly owned company.

10. Why is the Chair of the Housing Committee not on the Board of the CATC?

Conflicts are more likely to arise if the Chair of the Housing Committee is dealing with housing matters for the company and also within the Combined Authority. If the Housing Committee is asked to decide a request from the Board, the Housing Chair will be making that request as a Board member and also deciding the request as the Housing Chair. For this reason, it is better that the roles are separate.

11. Why do we need a holding company (CATC)?

A HoldCo Structure enables further companies to be established, for example a potential future InvestCo and InfraCo. This structure enables the CATC to be flexible and ring fences any risk to each subsidiary.



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.2
27 MARCH 2018	PUBLIC REPORT <i>(Appendix 2 to this report is exempt from publication under Paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972, as amended, in that it would not be in the public interest for this information to be disclosed: information relating to the financial or business affairs of any particular person (including the authority holding that information))</i>

CAMBRIDGE AUTONOMOUS METRO UPDATE

1.0 PURPOSE

- 1.1. The Cambridgeshire and Peterborough Combined Authority Order 2017 transferred the local transport planning powers to the Combined Authority and created the Cambridgeshire and Peterborough Combined Authority as the local transport authority for the area.
- 1.2. The Cambridgeshire Autonomous Metro (CAM) is one of twelve priority projects identified by the Combined Authority, most recently through the Growth Ambition Statement (adopted November 2018) and Business Plan (adopted January 2019) which describes our overall approach to making Cambridgeshire and Peterborough the leading place in the world to live, learn and work.
- 1.3. The Combined Authority at its meeting in January 2018 approved £600,000 to develop a Strategic Outline Business Case (SOBC) and an Options Appraisal Report for the CAM.
- 1.4. This report provides the very positive findings from the SOBC and recommends to the Board that approval is given to move into the next stage of the project that will require concurrent work covering four areas:
 - (a) production of the Outline Business Case
 - (b) development of a funding solution
 - (c) integration and coordination with the strategic spatial strategy
 - (d) stakeholder engagement and communication

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Chris Twigg, Transport Director
Forward Plan Ref: 2019/002	Key Decision: Yes
<p>The Combined Authority Board is recommended to:</p> <ol style="list-style-type: none"> 1. Note that the CAM SOBC has been founded upon CPIER growth scenarios as set out in section 2.6 to 2.9. 2. Note the strong strategic and economic case made in the SOBC for the CAM and that this case has been made drawing upon only 50% of the total potential economic growth in the CPIER report. 3. Note the links between the timeline of the CAM outline business case and the Non-Statutory Spatial Plan. 4. Agree that the funding solution for the CAM will be drawn from blend of sources as set out in section 3.9. 5. Agree to release £1m of funding from the 2019/20 budget for the procurement and development of the Outline Business Case, the accompanying technical packages (including funding) and programme of stakeholder engagement. 6. Agree to delegate authority to the Chief Executive, in consultation with the Chair of the Transport and Infrastructure Committee, to enter into the contractual relationships following the procurement of the external consultants required to undertake the Outline Business Case and accompanying technical packages 	<p>Voting arrangements</p> <p>All members are required to be present for this item.</p> <p>Two thirds of the constituent council members must vote in favour to include Cambridgeshire County Council and Peterborough City Council.</p>

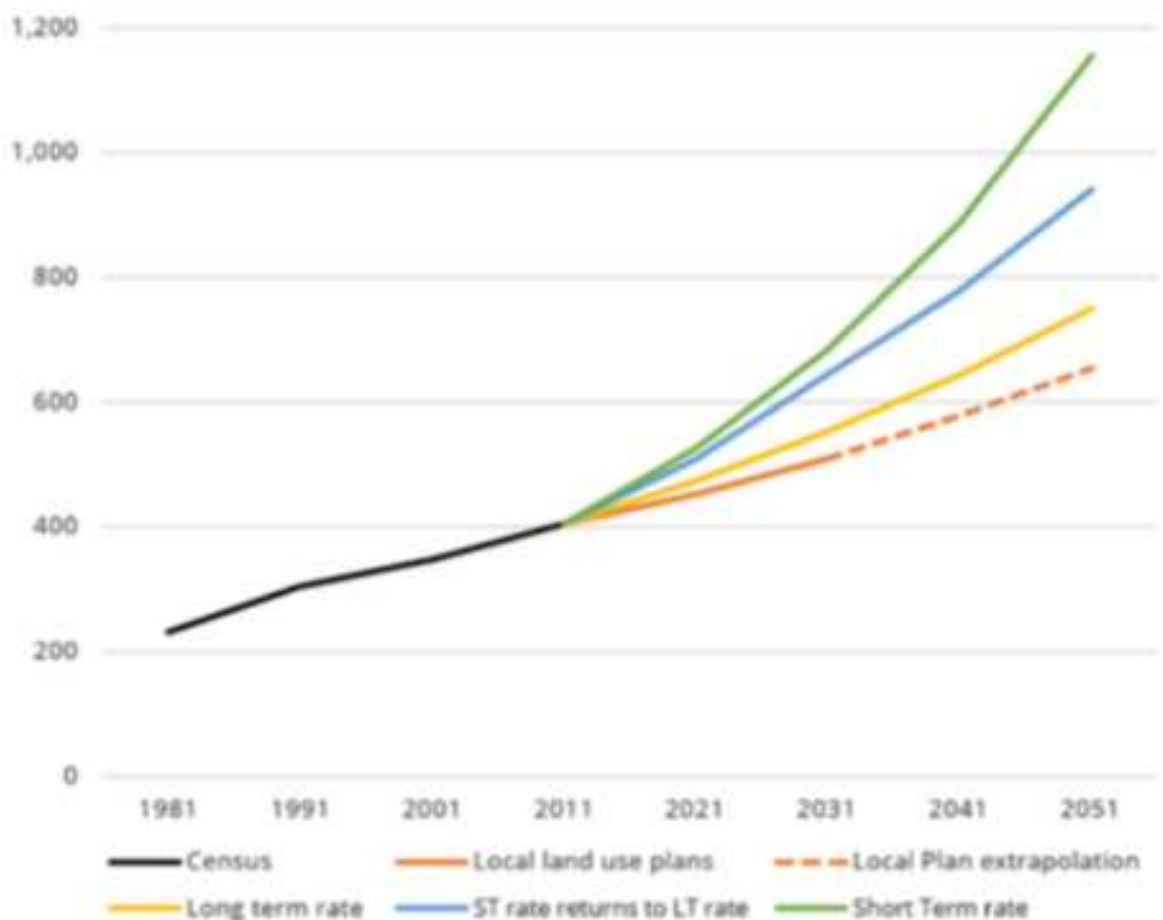
2.0 BACKGROUND AND CONTEXT

- 2.1 At the October 2018 meeting of the Combined Authority Board it agreed unanimously to adopt the Cambridgeshire and Peterborough Independent Economic Review (CPIER) main recommendations and the Growth Ambition Statement.
- 2.2 Recommendation seven of the CPIER states that a package of transport & other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Cambridgeshire and Peterborough Combined Authority (CPCA) in the short-medium term.
- 2.3 The growth ambition statement goes on to emphasise the importance of the Cambridgeshire Autonomous Metro in contributing to this recommendation (items 18-22) through joining transport and spatial planning to ensure that jobs and homes are linked.
- 2.4 At the January meeting of the Combined Authority Board, the CA further reinforced its commitment to the CAM by identifying it as a priority project within the Medium-Term Financial Plan and Business Plan and allocated £1m of revenue funding for 2019/20.
- 2.5 At the February meeting of the Combined Authority Board, the CA agreed a programme and approach for the production of phase 2 of the strategic spatial framework. The strategic spatial framework is due to be finalised by October 2019 and will underpin the growth assumptions of the next stage of work on the CAM.

Cambridgeshire and Peterborough Independent Economic Review (CPIER)

- 2.6 The CPIER identified Cambridgeshire and Peterborough's housing crisis as a major constraint on the region's ability to fulfil its economic potential. Since 2012, employment has grown by over 15%, whilst housing stock has grown by under 5%, reflected in ever-increasing house prices and housing unaffordability. House prices are now more than 13 times average earnings in Cambridge and over 11 times in South Cambridgeshire, compared to the UK average of 7.
- 2.7 The 'Cambridge Futures' study, widely cited in the CPIER report, modelled the economic impact that this increase in prices will have should current trends continue. This study found that the increased cost of living, driven through higher housing costs, could cause employment growth to slow beyond 2021 and decline beyond 2031.
- 2.8 Accelerating the supply of housing that is affordable to people on average and lower incomes is therefore critical to supporting the level of employment growth consistent with the 'Devolution Deal' ambition and the CPIER 'central case' projection (shown as the blue line in **figure 1** overleaf).

- 2.9 Alongside the 'central' employment projection, CPIER also set out an employment growth scenario based on 'Local Plan extrapolation', where constraints on growth prevent the region's potential from being realised, shown as the orange dashed line in **figure 1** below. This 'business as usual' scenario indicates employment increasing to around 650,000 by 2051, compared to over 900,000 in the 'central' scenario – a difference of over 250,000 jobs by 2051 at the Combined Authority level.
- 2.10 CPIER asserts that many firms take a 'Cambridge or Overseas' approach when considering where to locate. If Cambridge became a less attractive location, then businesses are more likely to locate abroad than to other locations within the UK. Survey evidence from the CPIER report indicates that significantly more businesses indicated that they would move abroad (44.2%) than elsewhere in the UK (25.0%).
- 2.11 This highlights the 'net additionality' of Greater Cambridge to national economic output. Many jobs of the additional jobs would be 'net additional' to the UK economy, rather than simply displaced from elsewhere. This underlines the importance of Cambridge as a national asset – where Cambridge succeeds, the UK succeeds. The potential of CAM to deliver the additional jobs and homes is central to the Strategic and Economic Cases for the project.



Source: Dr Ying Jin, University of Cambridge, reproduced from CPIER page 20

Figure 1 - CPIER growth projections

- 2.12 Transport infrastructure is a fundamental ‘enabler’ to supporting the additional housing and jobs growth required to tackle the challenges set out in the CPIER.
- 2.13 Current and emerging transport policies set out in the current Cambridgeshire and emerging Cambridgeshire and Peterborough Local Transport Plan firmly establish the role of high-quality public transport corridors in providing the required sustainable transport capacity and connectivity to support growth. This policy has underpinned the development of existing (Cambridgeshire Guided Busway) and planned (Cambridge to Cambourne, Granta Park and Waterbeach New Town) segregated corridors, which will form integral elements of the full CAM network.
- 2.14 Despite the significant investment planned across Greater Cambridge, including public transport corridors and ‘City Access’, significant constraints will remain part of the transport network if CAM is not constructed. Fundamentally, the historic, highly constrained nature of the city centre streetscape will always limit the public transport connectivity and capacity that can be achieved for trips to, across and within the city.
- 2.15 Moreover, these constraints mean that public transport accessibility to the city ‘fringe’ is limited for any cross-city movements. This limits public transport mode share to major ‘fringe’ employment sites, but also limits their full potential by constraining firms’ effective labour market catchments and limiting development density by the need to accommodate significant volumes of parking.
- 2.16 These city centre constraints cannot be overcome with an at-grade transit solution that will deliver the capacity, connectivity and reliability that is necessary to deliver the transformation public transport provision envisaged by the CAM network, and in turn to support the growth ambition of Greater Cambridge. This suggests a more radical rethink of how transport capacity is expanded will be required. Tunnelling is the only option which will allow future transport capacity to be adequately accommodated.

3.0 THE CASE FOR THE CAM

Developing a business case for the CAM

- 3.1. Consultant Steer was appointed in May 2018 to produce a Strategic Outline Business Case in accordance with the CA assurance framework and Department for Transport guidance for business cases.
- 3.2. The CA assurance framework and Department for Transport (DfT) guidance requires that the business case for the CAM will be developed across three principle stages:
- (a) Strategic Outline Business Case (SOBC)
 - (b) Outline Business Case (OBC)
 - (c) Full Business Case (FBC)

3.3. The SOBC is formed of five cases, as set out below and in line with published guidance. The SOBC is primarily focussed on establishing the strategic and economic cases for the CAM.

- (a) Strategic – to demonstrate a robust case for change that fits with wider public policy objectives
- (b) Economic – to demonstrate value for money
- (c) Financial – to demonstrate that it is financially affordable
- (d) Commercial – to demonstrate that it is commercially viable
- (e) Management – to demonstrate that it is achievable

Key points from the SOBC

A copy of the Strategic Outline Business Case is appended to this report at **Appendix 1** and the key points have been extracted below.

Strategic case – why is CAM required?

3.4. The strategic case for the CAM is founded upon the following key points:

- (a) Without a transformational transport intervention, to accelerate the delivery of more housing that is affordable, the Cambridge economy will go into decline from 2031
- (b) Current and emerging transport policies point to the requirement for high-quality transport corridors to provide the required transport capacity and connectivity to support growth
- (c) The historic, highly constrained nature of the city centre landscape mean that an at-grade solution will not deliver the capacity, connectivity or reliability required to support growth
- (d) That the CAM supports the concept of the 30-minute city; the Combined Authority's commitment to connecting homes to jobs

3.5. In summary, there is not another transport solution that can achieve the connectivity and overcome the constraints.

Economic case – Will CAM deliver value for money

3.6. The economic case for the CAM is founded upon the following key points:

- (a) The SOBC conservatively assesses that 50,000 new jobs and 30,000 new homes could be attributed to the CAM. The upper range of these figures is 100,000 jobs and 60,000 homes
- (b) That, based upon total scheme costs in the range £3,690m - £4,500m, the benefit cost ratio (BCR) ranges from 2 to 4; meaning that the economic benefits are 2-4 times higher than the scheme costs. A BCR of above 2 is classified as high value for money by the Department for Transport.

3.7. The economic case also includes the following information on the type of service the CAM would offer:

- (a) Metro levels services: CAM will provide for a high frequency 'metro-style' level of service. Passengers will benefit from 'turn up and go' services whereby they can arrive at stops in the expectation that there will be a service within a few minutes, without the need to check a timetable.
- (b) High-quality vehicles and stops: CAM will operate with high-quality, zero-emission 'trackless metro' vehicles, powered by electric batteries recharged overnight and at route termini throughout the day, without the need for overhead wires. Vehicles would offer a high level of ride comfort, comparable to tram operation, with a maximum speed of approximately 55mph (88kph). There are several low-floor, 'tram style', fully battery-powered electric vehicles on the market which could be used to support CAM services.
- (c) Direct Accessibility and Easy Interchange: CAM will provide direct services from all corridors to the City Centre and Cambridge Station, together with several direct cross-city connections (such as between the Cambridge Biomedical Campus and the St Ives corridor). Where passengers are required to interchange for a small proportion of journeys, this will be achieved via a 'same-platform' interchange in the City Centre without the need to use stairs, lifts or escalators.
- (d) Capacity to accommodate future growth – the very nature of the system means that it can progressively respond to changes in demand from housing and employment growth. The capacity of the CAM system can be significantly increased through increasing service frequencies, operating longer vehicles and / or 'platooning' of vehicles, whereby vehicles operate in 'convoy' travelling a short distance apart from one another. These approaches enable the capacity of the CAM network to be increased incrementally
- (e) Autonomous-Capable: CAM presents the opportunity to adopt rapidly emerging autonomous vehicle technology, as and when it becomes sufficiently mature for mainstream use. CAM has been developed to maximise segregation, which in addition to creating a faster, more reliable network, will increase the ease at which autonomous operation can be introduced. The initial piloting and then running of driverless vehicles will be significantly easier to implement within a more controlled (i.e. segregated from general traffic) environment. Autonomous, driverless operation of CAM could deliver significant operational savings, as well as help Cambridge become a 'city of firsts' in creating a high-quality, high-capacity and automated mass transit system.

3.8. In summary, the SOBC demonstrates that the CAM has a strong economic case and that the DfT would assess the BCR for CAM as very high.

Financial case – how could CAM be funded?

3.9. The financial case for the CAM is founded upon the following key points:

- (a) The capital cost of the project is estimated at around £4 billion (2018 real prices) for the entire network
- (b) There is now a clear expectation that a large proportion of funding for major transport investments such as the CAM should be secured from local sources, rather than Central Government, as seen with the funding packages that have supported the construction of Crossrail and the Northern Line Extension in London.
- (c) A robust funding strategy for large-scale transport infrastructure schemes should therefore consider finding ways of capturing the uplift in benefits enabled by the scheme as this can reduce reliance on the public purse
- (d) The funding strategy should be prepared on the concept of 'beneficiary pays'. This concept is based on the principle that those who benefit from the improvement in transport should contribute to its cost, where beneficiaries include both direct users of the development (such as passengers) and economic beneficiaries (such as those who obtain increased economic benefit either in capital or revenue terms from the improved transport provision). The SOBC provides evidence that central government would also benefit from the scheme because of the anticipated net addition that the CAM would contribute to the national economy.
- (e) It is therefore anticipated that the funding solution for the CAM will be developed from a blend of funding sources including central government and local contributions
- (f) More detail is contained within the technical report on funding and finance that was produced by consultant Arup and is attached as **Appendix 2** of this report.

3.10. In summary, the SOBC and accompanying technical report on funding and finance demonstrates, to an appropriate level of detail, that the CAM can be funded and that extensive engagement with local beneficiaries and national government will be required to develop a funding solution to accompany the OBC.

Commercial case – how will CAM be procured and operated?

3.11. The commercial case for the CAM is founded upon the following key points:

- (a) The delivery of a successful project is dependent on its commercial viability.
- (b) That the CAM should be delivered in a way that: allocates risk appropriately across contracts; incentivises the intended outcomes in terms of performance, efficiency and innovation; facilitates the delivery of the project to time and budget; and secures the targeted economic, social and environmental benefits of the project as discussed with stakeholders and agreed with decision makers.

3.12. In summary, the SOBC demonstrates that there are a range of delivery models that could be adopted for the CAM and that these will be explored in more detail during OBC stage.

Management case – how will CAM be delivered?

3.13. The management case for the CAM is founded upon the following key points:

- (a) That the management case has been developed to an initial outline level commensurate with the requirements of an SOBC.
- (b) That it is the intention of the CA and GCP to align resources to deliver the next stages of the CAM project, including the joint appointment of a CAM programme director.
- (c) That the CA will be the lead promoter of the central tunnelled section and outer corridors (to St Neots, Mildenhall, St Ives and Haverhill) and that the GCP will remain the promoter of the inner corridors (Cambridge to Cambourne, Granta Park, Waterbeach New Town and Newmarket Park and Ride)

3.14. In summary, the SOBC demonstrates, to an appropriate level of detail, that the CAM can be delivered and that this will be explored in more detail during OBC stage.

Overall summary of SOBC

3.15. This SOBC demonstrates that CAM has the potential to transform the connectivity and quality of Greater Cambridge's transport network, and support the long-term growth ambitions of the CPCA and GCP in a sustainable manner. CAM would deliver value-for-money and be operationally affordable. The Strategic and Economic Case for CAM is therefore compelling.

3.16. There are a range of potential funding and financing sources that could fund the delivery of the project, and developing the funding strategy further will be a key focus of the next stage of project development. Similarly, there are a number of different delivery models for the implementation of CAM, outlined in the SOBC, that would be developed as the scheme progresses.

4.0 NEXT STEPS - OUTLINE BUSINESS CASE

- 4.1. As set out in sections 3.1 to 3.3 the next stage in the development of the CAM project is the Outline Business Case. The Outline Business Case will include a detailed funding solution (as part of the financial case) and demonstrable links to the non-statutory spatial plan (as part of the updated economic case).
- 4.2. Concurrently with the development of the OBC, the CA, working in partnership with the GCP and district council partners, will design and implement a comprehensive programme engagement with key local and national stakeholders and the communities that are set to be positively affected by the CAM project.

- 4.3. The key activities for the next year and the associated timescales are set out below:

Activity	Dates
Technical and engineering development	February 2019 onwards
Local stakeholder engagement	February 2019 onwards
Procurement of technical team	April to May 2019
Outline business case production	June 2019 to February 2020
National stakeholder engagement	April 2019 onwards

- 4.4. The Combined Authority (CA) and Greater Cambridge Partnership (GCP) have agreed to jointly appoint a CAM programme director to ensure that the work across each of the CAM routes continues to be integrated and coordinated.

5.0 FINANCIAL IMPLICATIONS

- 5.1. This report is seeking approval for the release of the £1m allocated for 2019/2020 within the approved MTFP to fund the next stage of work for the CAM project.
- 5.2. The Combined Authority is also in discussions with partners and key stakeholders to raise additional funding contributions that would more components of the technical work to be advanced at the same time as preparing the Outline Business Case.

6.0 LEGAL IMPLICATIONS

- 6.1. Cambridgeshire and Peterborough Combined Authority was created by virtue of the Devolution deal reached between the local authorities of Cambridgeshire and Peterborough and authorised by the making of the Cambridgeshire and Peterborough Combined Authority Order SI 251/2017.
- 6.2. The Order confers powers on the Combined Authority making it the Transport Authority for the Key road network and for Public Transport in these areas.
- 6.3. The Greater Cambridge Partnership (GCP) has been set up as a sub-committee of three local authorities in Cambridgeshire to encourage economic growth and the provision of infrastructure across the area.
- 6.4. As a local transport authority the Combined Authority sets the transport strategy and develops a Local Transport Plan, the promotion of the CAM is a central part of this and seen as a key driver in economic growth across the Combined Authority Area.
- 6.5. Both the CA and GCP have agreed to enter into a Memorandum of Understanding in which they aspire to work together and to create a framework under which they can agree key objectives in the promotion of the CAM, how they will collaborate and how they will identify the respective roles and

responsibilities. The first outcome in the project was the production of the Strategic Outline Business case. This report is now asking approval for work to proceed collaboratively moving onto stakeholder engagement and technical development of the Outline Business case.

7.0 SIGNIFICANT IMPLICATIONS

7.1. There are no other statutory matters to bring to the Board's attention.

8.0 APPENDICES

- 8.1 Appendix A – CAM Strategic Outline Business Case – Steer
Appendix B – Technical report on funding and finance - Arup

<u>Source Documents</u>	<u>Location</u>
Report and decisions of the Board dated ** January 2018	http://cambridgeshirepeterborough-ca.gov.uk/meetings/combined-authority-board-31-january-2018/
Report and decisions of the Board dated 25 July 2018	http://cambridgeshirepeterborough-ca.gov.uk/meetings/cambridgeshire-and-peterborough-combined-authority-board-3/

Cambridgeshire Autonomous Metro Strategic Outline Business Case



Cambridgeshire and Peterborough Combined Authority and the Greater
Cambridge Partnership

Our ref: 23288302

steer

Cambridgeshire Autonomous Metro Strategic Outline Business Case

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The logo for Steer, featuring the word "steer" in a bold, lowercase, sans-serif font.

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Executive Summary

Introduction

This report sets out the Strategic Outline Business Case (SOBC) for the Cambridgeshire Autonomous Metro (CAM). The purpose of the SOBC is to establish the case for investment in the CAM network, based on HM Treasury's Five Case Business Case model.

This SOBC seeks to demonstrate that CAM:

- is supported by a robust case for change that aligns with wider objectives – the '**strategic case**';
- represents value for money – the '**economic case**';
- is commercially viable – the '**commercial case**';
- is financially affordable – the '**financial case**'; and
- is achievable – the '**management case**'.

The **Strategic Case** for CAM centres on its ability to enable and accelerate additional economic growth within Greater Cambridge, through supporting the sustainable delivery of additional jobs, housing, and GVA through investment to alleviate the region's transport constraints. The Strategic Case demonstrates that a combination of limited transport capacity and accessibility undermines future development, exacerbates housing unaffordability, and puts future growth at risk.

The **Economic Case** demonstrates how delivering this additional growth, alongside transforming the quality of public transport provision, delivers significant benefits at both the regional and national level that justify the expenditure of the scheme. It outlines how, when the benefits of this additional growth dependent of CAM are captured, the scheme represents good value-for-money.

At SOBC stage, the **Financial, Commercial and Management Cases** are developed to a more outline level of detail than the Strategic and Economic Cases, reflecting the early stage of scheme development. However, the **Financial Case** sets out the principles that will underpin the development of a funding strategy, and identifies a range of potential funding mechanisms. The SOBC sets out the overall case for investment, and more work on funding involving a range of stakeholders has recently commenced. The **Management and Commercial Cases** outline how (and by whom) the scheme is proposed to be planned, developed, procured and operated. This will be reviewed and developed further if the scheme is progressed to Outline Business Case (OBC).

Each case is clearly set out as a respective chapter within this SOBC.

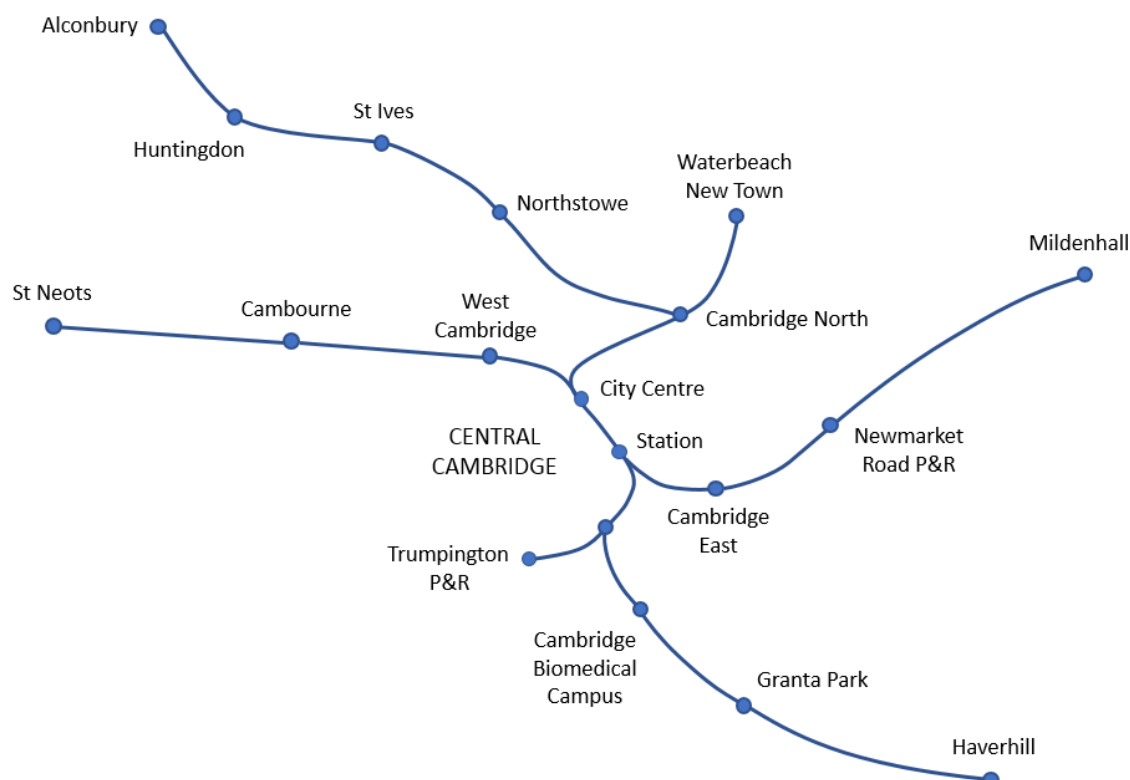
What is Cambridgeshire Autonomous Metro?

The Network Vision

The Cambridgeshire Autonomous Metro (CAM) will provide a high-quality, fast and reliable transport network that will transform transport connectivity across the Greater Cambridge region. The vision for the project is an expansive metro network that seamlessly connects Cambridge City Centre, key rail stations (Cambridge, Cambridge North and future Cambridge South), major city fringe employment sites and key 'satellite' growth areas, both within Cambridge and the wider region.

Figure 1 outlines the key corridors proposed to be served by the Cambridgeshire Autonomous Metro.

Figure 1: CAM Network Map



CAM will operate entirely segregated from traffic through Central Cambridge through an underground tunnel, ensuring fast and reliable services unaffected by traffic congestion. Services will be provided by electric, low-floor 'trackless metro' vehicles.

Many of the building blocks of the network are already in place or planned. These include the existing Cambridgeshire Guided Busway (CGB), and the proposed high-quality segregated public transport corridors to Cambourne, Waterbeach New Town and Granta Park currently being developed by the Greater Cambridge Partnership.

These corridors deliver segregated routes to the 'city fringe', but suffer from severe congestion within its bounds. This congestion slows journeys and makes them less reliable, limiting the effectiveness of the public transport network and discouraging its use. Journeys on the existing Guided Busway, for example, are timetabled to take the same time to travel from St Ives to the Science Park – a distance of 12 miles – as from the Science Park to Cambridge station – a distance of just 3.5 miles.

Furthermore, Cambridge City Centre is characterised by a network of historic, narrow streets which limit the routes, speeds and reliability at which buses (or any on-street system) operate, and, critically, cannot adequately cater for the significant growth planned in Greater Cambridge. While these constraints remain, the potential for public transport to cater for demand to and across the city centre (e.g. to major 'fringe' employment sites) will be severely limited, and car use and traffic congestion will worsen.

The critical 'enabler' of the overall network is therefore the provision of new segregated, tunnelled infrastructure within the city. Tunnelled sections are required to connect existing

and planned segregated corridors, at Cambridge North, West Cambridge, East Cambridge and north of the Biomedical Campus to each other, and to the City Centre and Cambridge Station. This infrastructure will transform the nature of public transport connectivity by providing complete segregation and reliability within Central Cambridge. The CAM network configuration means services from each of the six radial corridors shown in Figure 1 will have direct services to new, underground stations at both the City Centre and Cambridge Station.

The vision for the CAM network includes regional connections to St Neots, Haverhill, Alconbury and Mildenhall, serving locations with significant planned or potential growth. These regional connections will only be viable if they directly connect into new segregated infrastructure serving the city centre, and are fully or largely segregated on the 'regional' sections of route.

CAM Services and Operations

CAM will provide a modern, high-quality, high frequency and reliable metro system. Key features of CAM are summarised below.

Metro Level Services: CAM will provide for a high frequency 'metro-style' level of service. Passengers will benefit from 'turn up and go' services whereby they can arrive at stops in the expectation that there would be a service within a few minutes, without the need to check a timetable.

High-Quality Vehicles and Stops: CAM will operate with high-quality, zero-emission 'trackless metro' vehicles, powered by electric batteries recharged overnight and at route termini throughout the day, without the need for overhead wires. Vehicles would offer a high level of ride comfort, comparable to tram operation, with a maximum speed of approximately 55mph (88kph).

There are several low-floor, 'tram style', fully battery-powered electric vehicles on the market which could be used to support CAM services. The supplier market is developing rapidly as manufacturers and technology companies are responding to opportunities that 'trackless metro' offers, and the ambition that a number of public authorities have to develop and enhance their public transport networks based on an affordable, flexible and scalable technology. An example of a such a vehicle is shown in Figure 2 below.

Figure 2: Potential CAM Vehicle

Source: Irizar ie Tram

CAM stops will include waiting facilities, covered cycle parking, ticket vending machines, smartcard readers and real-time information provision. Stops would be high-quality, providing shelter from the elements, and present an attractive, iconic and recognisable impression of the CAM system.

Direct Accessibility and Easy Interchange: CAM will provide direct services from all corridors to the City Centre and Cambridge Station, together with several direct cross-city connections (such as between the Cambridge Biomedical Campus and the St Ives corridor). Where passengers are required to interchange for a small proportion of journeys, this will be achieved via a 'same-platform' interchange in the City Centre without the need to use stairs, lifts or escalators.

Guidance: It is envisaged that vehicles would be guided through tunnelled and other segregated sections by an optical guidance system of the CAM network. Such optical guidance systems are well-proven, and the technology has been in operation in several European cities since the early 2000s, including Rouen, Nimes, Bologna, Castellon and Essen. Optical guidance is currently proposed for the segregated Cambourne – Cambridge and Granta Park – Cambridge Biomedical Campus corridors, under development by the Greater Cambridge Partnership, which will form part of the CAM network at opening. Such guidance mechanisms can be readily migrated towards driverless operation.

Capacity to Accommodate Future Growth: It is essential that the CAM network provides both a level of service and coverage which is commensurate with the expected level of demand in the early years of operation, but also able to accommodate increased demand in future, including from both housing and employment growth and future expansion of the network.

Our demand analysis, presented in the Economic Case, shows that the assumed initial service levels are sufficient to accommodate forecast demand. In the medium and longer term, the capacity of the CAM system can be significantly increased through increasing service frequencies, operating longer vehicles and / or 'platooning' of vehicles, whereby vehicles

operate in 'convoy' travelling a short distance apart from one another. These approaches enable the capacity of the CAM network to be increased incrementally, to respond to increasing demand over time, and to accommodate areas of planned and future growth.

Autonomous-Capable: CAM presents the opportunity to adopt rapidly emerging autonomous vehicle technology, as and when it becomes sufficiently mature for mainstream use. CAM has been developed to maximise segregation, which in addition to creating a faster, more reliable network, will increase the ease at which autonomous operation can be introduced.

The initial piloting and then running of driverless vehicles will be significantly easier to implement within a more controlled (i.e. segregated from general traffic) environment. Autonomous, driverless operation of CAM could deliver significant operational savings, as well as help Cambridge become a 'city of firsts' in creating a high-quality, high-capacity and automated mass transit system.

It should be noted, however, that the CAM concept is not *dependent* or in any way predicated on autonomous operation. It is intended that CAM will operate with a driver initially, before transiting to driverless operation as and when the requisite technology matures.

The Strategic Case - Why is CAM Required?

A Unique and Thriving Economy

Greater Cambridge, defined as the area encompassing the City of Cambridge, South Cambridgeshire, and parts of Huntingdonshire and East Cambridgeshire, is a thriving region. It is home to more than 459,000 people, a world-leading university, and a highly productive and dynamic economy. Cambridge acts as the centre of “Silicon Fen”, a leading global cluster of biomedical, software, programming and life science firms, which sustain the regions’ high-tech economy and compete on a national and international stage.

Knowledge-intensive (KI) sectors drive the success of the economy. Greater Cambridge is home to over 1,000 technology and biotechnology companies (1,400 when providers of services and support organisations are included), including 61 bio-technology firms. Parts of the city act as ‘clusters’ for specific sectors: the Cambridge Science Park is home to more than 70 software and technology firms; the Cambridge Biomedical Campus a network of healthcare facilities, life sciences and pharmaceutical companies, and start-ups.

In total, over 60,000 people work in KI-sector companies in Greater Cambridge. Multi-national knowledge-intensive firms based in the region include ARM Holdings, Astra Zenica, Aveva Group, Dialight, Marshalls of Cambridge and PPD Laboratories – many of whom started as start-ups in the regions’ business and science parks.

Greater Cambridge’s economic success is characterised by significantly higher levels of Gross Value Added (GVA) per head than the national average: £39,000 in Cambridge, compared to £27,000 for the UK, together with a highly skilled workforce: 34% hold degree-level qualifications, compared to the national average of 17%, and UK-leading rates of innovation. Within Cambridge, there are 341 patent applications per 100,000 people: more patents per person than the next six cities combined.

Firms choose to locate in Greater Cambridge – despite the high cost of doing so – due to the availability of skilled, innovative staff, and the high concentration of other knowledge-intensive (KI) firms. Firms benefit from being located close to one another, either physically or through good transport connectivity, as it facilitates collaboration and competition. This allows firms to learn and benefit from each other’s best practices, reduce costs by sharing resources, and have access to an extensive pool of skilled labour.

The Opportunity for Growth

The opportunity for the continued growth of Greater Cambridge, driven by the desire of businesses to locate and expand in the area, is highly significant. The Combined Authority has set out clear ambition to deliver this growth, with the Cambridgeshire and Peterborough ‘Devolution Deal’ setting out the ambitious target of doubling the size of the local economy over the next 25 years, boosting regional GVA from £22bn to £40bn.

The Cambridge and Peterborough Independent Economic Review (CPIER), published in September 2018, provides an evidence-based, independent assessment of the Cambridgeshire and Peterborough economy and its growth potential. CPIER has developed scenarios for the scale of change in the number of jobs, homes and improvement in productivity that are required to meet the target of doubling the size of the regions’ economy. CPIER sets out a ‘central case’ employment projection, whereby employment at the Combined Authority level would need to increase from approximately 480,000 in 2018 to over 900,000 by 2051 for the regions’ potential to be maximised. This is shown as the ‘blue’ line in Figure 3.

Challenges to Realising Growth

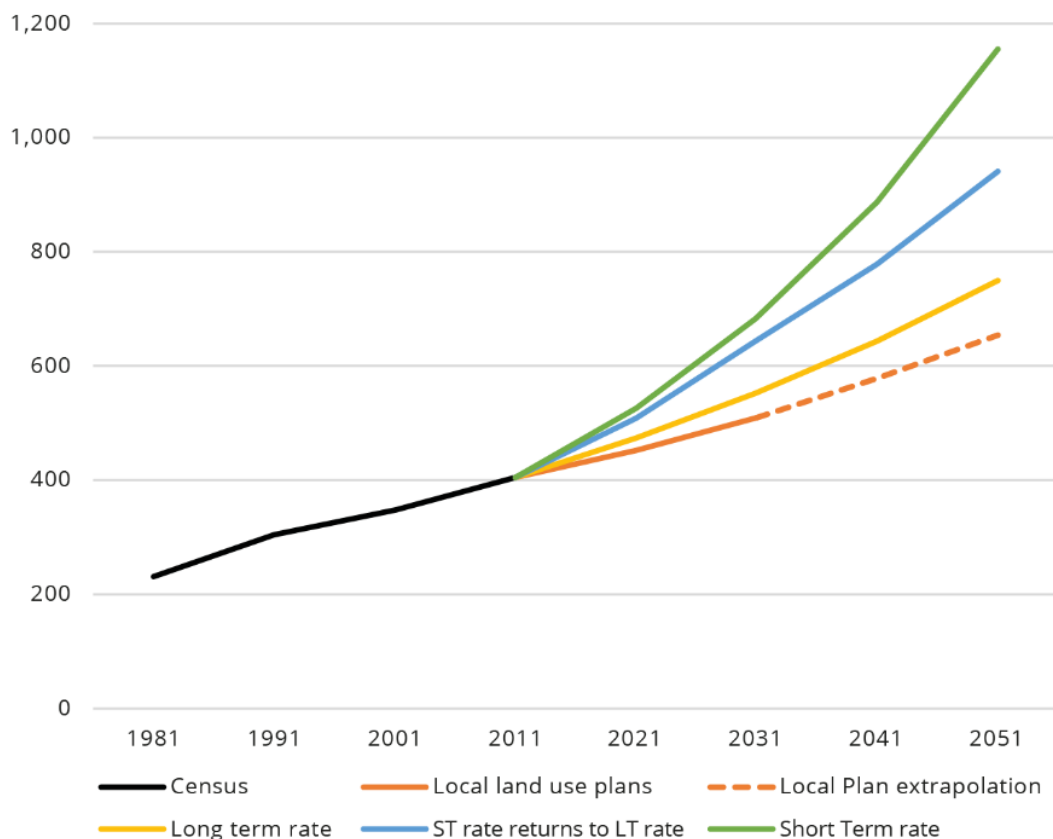
CPIER identified Cambridgeshire and Peterborough's housing crisis as a major constraint on the region's ability to fulfil its economic potential. Since 2012, employment has grown by over 15%, whilst housing stock has grown by under 5%, reflected in ever-increasing house prices and housing unaffordability. House prices are now more than 13 times average earnings in Cambridge and over 11 times in South Cambridgeshire, compared to the UK average of 7.

The 'Cambridge Futures' study, widely cited in the CPIER report, modelled the economic impact that this increase in prices will have should current trends continue. This study found that the increased cost of living, driven through higher housing costs, could cause employment growth to slow beyond 2021 and decline beyond 2031.

Accelerating the supply of housing affordable to people on average and lower incomes is therefore critical to supporting the level of employment growth consistent with the 'Devolution Deal' ambition and the CPIER 'central case' projection.

Alongside the 'central' employment projection, CPIER also set out an employment growth scenario based on 'Local Plan extrapolation', where constraints on growth prevent the region's potential from being realised, shown as the orange line in Figure 3. This 'business as usual' scenario indicates employment increasing to around 650,000 by 2051, compared to over 900,000 in the 'central' scenario – a difference of over 250,000 jobs by 2051 at the Combined Authority level.

Figure 3: Growth scenarios under different employment assumptions



Source: Dr Ying Jin, University of Cambridge, reproduced from CPIER page 20

Our assessment is that around 150,000 of the 250,000 additional jobs (CPIER ‘central case’ versus ‘Local Plan extrapolation’ or ‘business as usual’ scenario) would be accommodated within Greater Cambridge and that, taking account of the likely opening date for a CAM network, CAM has the potential to support the delivery of around 100,000 of these additional jobs. This number of additional jobs equates to a commensurate number of additional dwellings of up to 60,000, based on estimates from CPIER.

Why Growth in Greater Cambridge Matters to UK plc

CPIER asserts that many firms take a ‘*Cambridge or Overseas*’ approach when considering where to locate. If Cambridge became a less attractive location, then businesses are more likely to locate abroad than to other locations within the UK. Survey evidence from the CPIER report indicates that significantly more businesses indicated that they would move abroad (44.2%) than elsewhere in the UK (25.0%).

This highlights the ‘net additionality’ of Greater Cambridge to national economic output. Many jobs supported by CAM are likely to be ‘net additional’ to the UK economy, rather than simply displaced from elsewhere. This underlines the importance of Cambridge as a national asset – where Cambridge succeeds, the UK succeeds. The potential of CAM to deliver the additional jobs and homes is central to the Strategic and Economic Cases for the scheme.

“the UK government should adopt a ‘*Cambridge or overseas*’ mentality toward knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority” *CPIER Recommendation #3*

The Case for Change

Transport infrastructure is a fundamental ‘enabler’ to supporting the additional housing and jobs growth required to deliver the wider growth ambitions of the Combined Authority and its partners.

Current and emerging transport policies set out in the current Cambridgeshire and emerging Cambridgeshire and Peterborough Local Transport Plan firmly establish the role of high-quality public transport corridors in providing the required sustainable transport capacity and connectivity to support growth. This policy has underpinned the development of existing (Cambridgeshire Guided Busway) and planned (Cambridge to Cambourne, Granta Park and Waterbeach New Town) segregated corridors, which will form integral elements of the full CAM network.

Despite the significant investment planned across Greater Cambridge, including public transport corridors and ‘City Access’, significant constraints will remain part of the transport network if CAM is not constructed. Fundamentally, the historic, highly constrained nature of the city centre streetscape will always limit the public transport connectivity and capacity that can be achieved for trips to, across and within the city.

Moreover, these constraints mean that public transport accessibility to the city ‘fringe’ is limited for any cross-city movements. This limits public transport mode share to major ‘fringe’

employment sites, but also limits their full potential by constraining firms' effective labour market catchments and limiting development density by the need to accommodate significant volumes of parking.

These city centre constraints cannot be overcome with an at-grade transit solution that will deliver the capacity, connectivity and reliability that is necessary to deliver the transformation public transport provision envisaged by the CAM network, and in turn to support the growth ambition of Greater Cambridge. This suggests a more radical rethink of how transport capacity is expanded will be required. Tunnelling is the only option which will allow future transport capacity to be adequately accommodated.

CAM Vision and Objectives

CAM has been designed to support the shared CPCA and GCP priorities and outcomes around economic growth, accelerating housing delivery, promoting equity and encouraging sustainable growth and development. These outcomes have directly informed the development of four overarching CAM scheme objectives. Under each of the four outcome-related objectives there are a number of sub-objectives. These are presented in Table 1.

Table 1: CAM Scheme Objectives

Objective (outcome-related)	Sub-objectives
Promote economic growth and opportunity	<ul style="list-style-type: none"> • Improve transport connectivity • Improve journey time reliability • Promote agglomeration • Support new employment by enhancing access to and attractiveness of key designated employment areas • Increase labour market catchments
Support the acceleration of housing delivery	<ul style="list-style-type: none"> • Direct high-quality public transport access to key housing sites (existing designations) • Serve and support new areas for sustainable housing development • Provide overall transport capacity to enable and accommodate future growth
Promote Equity	<ul style="list-style-type: none"> • Promote better connecting other towns within Cambridgeshire and Peterborough to Cambridge • Improve opportunities for deprived residents
Promote sustainable growth and development	<ul style="list-style-type: none"> • Improve local air quality • Promote the low carbon economy • Support environmental sustainability

Objectives and Measures of Success

The scale of contribution of CAM against the scheme objectives stems from the transport outputs delivered 'on the ground' in terms of the nature and scale of the improvements in overall public transport connectivity and accessibility that CAM delivers. This provides for clear 'measures of success' against which the scheme can be assessed throughout the scheme development and business case stages.

The Mayor's Interim Transport Strategy Statement outlined a number of key measures for CAM. These are:

- Delivering high quality, high frequency, reliable services, making it the mode of choice and taking away a reliance on cars;
- Delivering maximum connectivity, network coverage, and reliable journey times;
- Forming part of a more active and sustainable travel choice which encourages walking and cycling at the start and end of journeys;
- Providing sufficient capacity for growth and supporting transit-led development;
- Flexibly adapting to future needs; and,
- Using emerging technologies, including connected and autonomous vehicles.

The development of the CAM proposition as set out in this SOBC delivers against these key transport-related output measures and these, in turn, will support the achievement of the wider outcomes encapsulated in the CAM objectives.

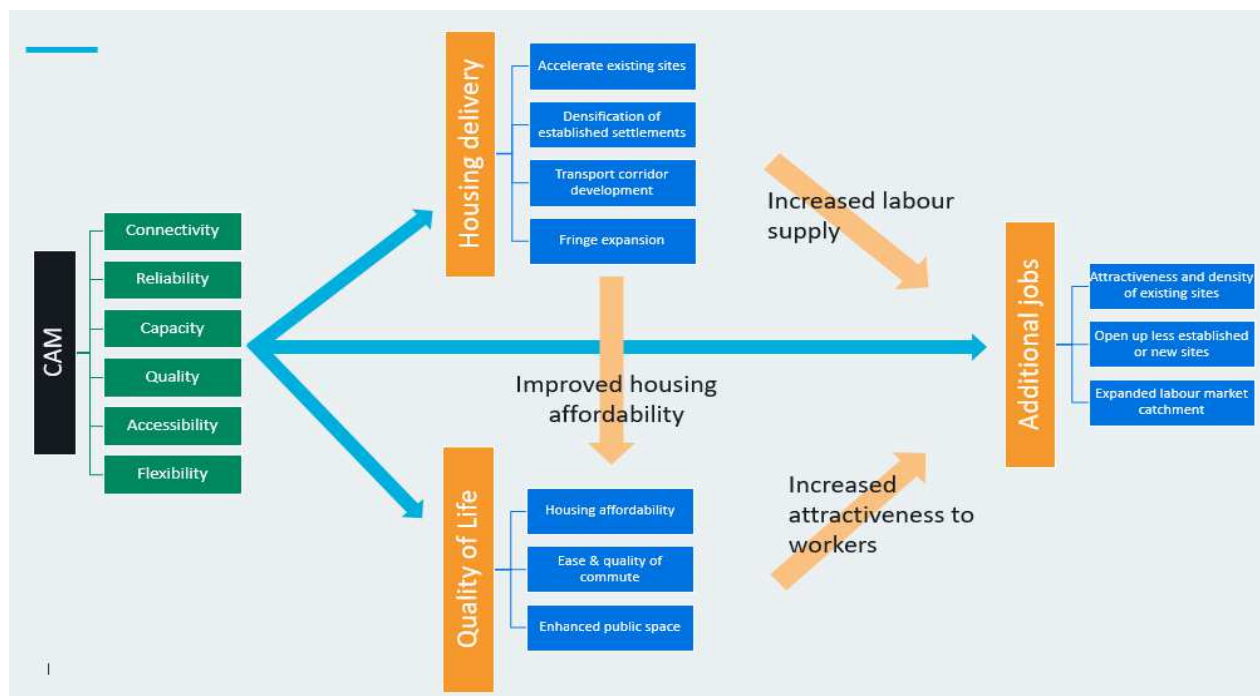
Strategic Assessment - How CAM will deliver additional jobs, housing and growth

CAM will transform the quality of public transport provision for the benefit of existing residents and businesses. However, the scale of investment required can only be justified if it will support additional growth in jobs and housing within Greater Cambridge, significantly increasing the overall size of the economy above which would not be possible without CAM.

We consider that CAM has the potential to deliver up to 100,000 additional jobs, together with up to 60,000 additional dwellings which be required to support this level of employment growth.

The mechanisms through which transport can support additional growth are summarised in Figure 4.

Figure 4: How CAM will Support Growth



CAM will support the delivery of additional jobs through a number of ways. These include:

- supporting the delivery of additional housing that is fundamental to providing the expanded labour market supply required to support employment growth;

- improving the quality of life through addressing the housing shortfall and delivering affordable homes;
- enabling better and more reliable commutes across the Greater Cambridge area;
- making existing employment sites more accessible to workers and other businesses and supporting a higher density of development;
- providing the potential to open up less established or wholly new employment sites; and
- enhancing the degree of ‘clustering’ and agglomeration of economic activity which make Greater Cambridge uniquely attractive to businesses and inward investors, a self-perpetuating process in which high-value knowledge-intensive businesses want to locate in larger and more successful clusters.

There are several ways in which CAM can support the delivery of additional housing. CPIER recommended the development of a ‘blended’ spatial strategy to support the level of growth required. CAM would support each of the spatial development options set out in CPIER:

- **Densification.** This applies to both jobs and housing, where there is significant scope for densification in and around the city ‘fringe’ (in contrast to central Cambridge where options within the historic core are very limited). Densification will support the development of an expanded cluster of high-value knowledge intensive sectors within a better connected urban area;
- **Fringe Growth.** There will be opportunities for additional housing development to be delivered sustainably within and beyond the current city ‘fringe’, whereby development can be developed at a high density within the catchment of CAM stops – and therefore connected to the city and locations across Greater Cambridge;
- **Transport Corridors.** CAM can support the development of expanded and new settlements on high-quality transport corridors. This offers the potential for significant new housing development in locations that have high public transport accessibility to all key employment areas in Greater Cambridge, and where the developments themselves can be developed to a higher-density and more sustainable manner.

Importantly, the land use scenarios presented above which CAM could support would also mean that growth and development pressures in other parts of Greater Cambridge, less well-suited to sustainable growth and potentially more sensitive, would be reduced. CAM can therefore ensure that additional growth can be accommodated in a manner that is likely to be more acceptable to stakeholders.

The Economic Case – Will CAM deliver Value for Money?

The Economic Case establishes whether CAM represents overall *value-for-money* (whether the benefits of the scheme outweigh the costs) and whether it is *affordable* on an ongoing basis (whether system revenues cover operating costs).

The economic assessment is underpinned by estimates of scheme capital and operating costs, forecasts and CAM demand, revenue and benefits, and the development of an economic appraisal prepared in line with DfT guidance which provides for an overall assessment of economic performance. Fundamentally, this appraisal assesses and values the benefits of the additional growth that CAM has the potential to deliver.

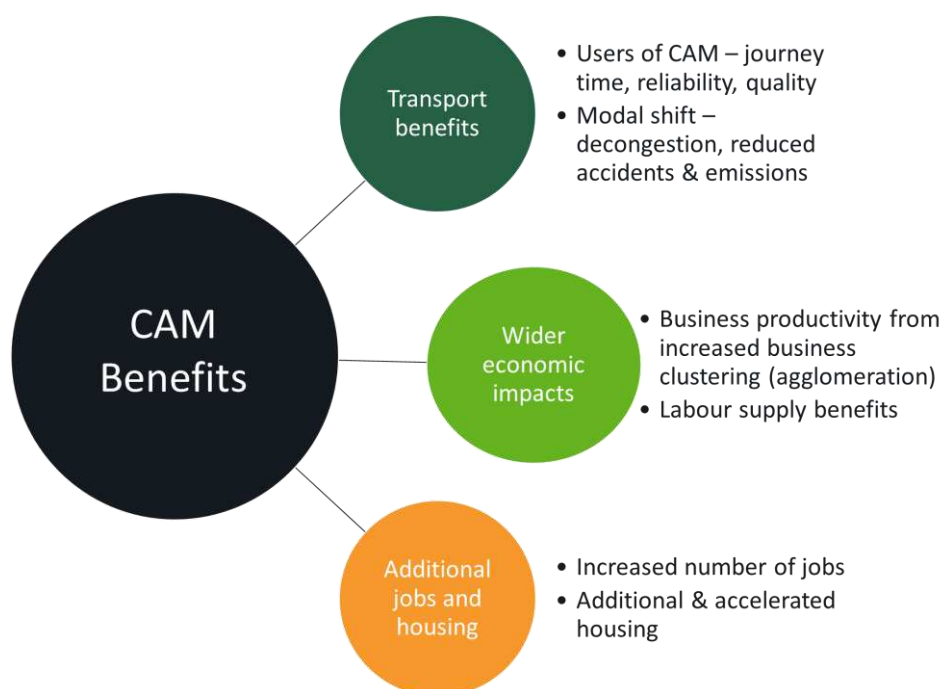
Benefits Considered

Under DfT WebTAG guidance, the benefits from transport interventions can be considered under three different ‘levels’ of analysis. These reflect the different economic impacts of

transport investment, and the level of confidence in the analytical methods used to appraise these impacts, as outlined in WebTAG Unit A2-1¹.

These benefits are summarised in Figure 5.

Figure 5: Overview of different types of benefits delivered by transport schemes.



Level 1 benefits include the direct impacts of transport investment on journeys. These primarily include the savings in generalised journey time – to both existing and new users – generated by a transport scheme. Level 2 benefits include the wider ‘connectivity’ benefits arising from transport investment. These include the ‘agglomeration’ or ‘clustering’ benefits that arise from firms and workers being located ‘closer’ to one another as a result of improvements in transport connectivity, together with labour supply effects and benefits from increased market competition.

Level 3 benefits refer to a range of benefits arising from the relocation of economic activity and a change in land use. These include *employment effects* – where transport investment results in additional local employment growth which would not otherwise be delivered, *dependent development* – where transport investment ‘unlocks’ additional development which would not otherwise have been delivered and *dynamic clustering* – where the increased concentration of economic activity from the above increases the productivity of firms within these areas.

Basis for Economic Appraisal

The vision for CAM is that it will comprise a comprehensive ‘regional’ network, extending to St Neots, Alconbury, Haverhill and Mildenhall, of approximately 142km in length.

¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712878/tag-unit-a2-1-wider-impacts-overview-document.pdf

However, in estimating the patronage, together with the transport and wider economic benefits (Level 1 and 2) for CAM, the economic assessment is based on a smaller network that extends as far as the proposed GCP 'inner corridors' to Cambourne, Granta Park and Waterbeach New Town, together with Newmarket Road P&R and Trumpington and St Ives on the existing Cambridgeshire Guided Busway. The reason for focusing upon this network is that:

- There is a much greater level of scheme development that has taken place for these sections, and therefore greater certainty about their routes and scheme costs;
- The transport model only has sufficient geographic coverage to meaningfully forecast demand for the network above. The lack of geographic coverage, uncertainty about specific routings and the fact that the case for the development of these corridors will be based, to a large extent, on future housing growth that is not represented in current transport models, makes the forecasting of demand and benefits for the wider network using existing transport models inappropriate, and the use of any alternative approach would be too speculative to provide meaningful evidence;
- In economic terms, it is necessary to understand and delineate the benefits that accrue from the development of different elements of the network. It is essential that the economic assessment presented in this report helps to make the incremental case for delivering the 'core', central infrastructure (and associated costs) that are addition to the schemes coming forward as part of the 'Reference Case' scenario.
 - These refer to the GCP 'inner corridor' schemes to Cambourne, Granta Park and Waterbeach, which form an integral part of the CAM network, and are being developed by the GCP as 'discrete' projects subject to their own options, scheme development, business case and powers and consents processes.
 - The same principle also applies to the 'outer corridors', where it is also important that the economic case for the 'core', central infrastructure is not conflated with that of the 'outer corridors', as the development of these corridors will also need to be justified on a case by case basis.

We have also made a high-level assessment of the overall economic case for the full network. This is based on indicative capital costs for the 'outer corridors', and an assessment of the additional levels of housing and employment growth (Level 3 benefits) they could support.

Scheme Capital Costs

The overall costs of delivering the full CAM network would be in the order of £4,000m, as set out in Table 2.

Table 2: Summary of CAM Capital Costs

Network / route sections	Cost (£m, 2018 prices)	Scope
'Core' CAM infrastructure	2,360	<p>Bespoke cost estimates have been developed for the SOBC based on the feasibility design. Costs include:</p> <ul style="list-style-type: none"> • approximately 12km of twin-bore tunnels • four tunnel portals • two underground stations, at the City Centre and Cambridge Station • Systems costs and charging infrastructure costs • New at-grade surface infrastructure • conversion of approximately 4km of the existing Cambridgeshire Guided Busway

		<ul style="list-style-type: none"> • Vehicles • Depot costs • Scheme development costs • Inclusive of Optimism Bias at 66%
Greater Cambridge Partnership 'inner corridors'	530	<p>Cost estimates based on published cost estimates for all schemes except Waterbeach, where a unit rate has been applied.</p> <ul style="list-style-type: none"> • Cambourne – Cambridge; • Cambridge Biomedical Campus – Granta Park; • Cambridge Science Park – Waterbeach New Town; and • additional P&R capacity at Trumpington or a new P&R site at Hauxton <p><i>Note that CAM will also integrate with GCP proposals for the East Cambridge corridor, where a preferred scheme has yet to be identified.</i></p>
Combined Authority 'outer corridors'	800 – 1,610	<ul style="list-style-type: none"> • Cambourne to St Neots (13km) • Newmarket Road P&R to Mildenhall (30km) • Granta Park to Haverhill (16km) • St Ives to Alconbury (15 km)
Total	3,690 – 4,500	

CAM Demand Forecasts

Our approach has used evidence from transport modelling, the Cambridgeshire and Peterborough Independent Economic Review (CPIER) and recent growth trends to inform our assessment of CAM patronage and the magnitude of benefits it could deliver.

The Cambridge Sub Regional Model 2 (CSRM2) forms the strategic multi-modal transport model for Cambridgeshire, maintained by CCC with the geographic coverage of the county. Based on a modelled transport network (both highway and public transport), and the locations of housing and jobs, it forecasts demand volumes and journey times across the transport network for a 2031 model year. We have used CSRM2 to estimate patronage and transport user benefits for CAM for a 2031 model year. This is supported by a spreadsheet-based forecasting model to understand how CAM demand could change in response to longer-term growth and development in line with the CPIER scenarios, which forecast a significant level of population and employment growth over and above that committed in the Local Plans.

Table 3 presents our annual demand forecasts for the CAM network, for 2031 and 2051 under Local Plan and CPIER 'central case' growth scenarios. These are informed by the CSRM2 2031 CAM model run, under Local Plan growth assumptions, combined with our spreadsheet-based forecasting tool.

These forecasts are with respect to a 'Greater Cambridge' CAM network stretching to St Ives, Cambourne, Trumpington P&R, Granta Park and Newmarket Road P&R. Demand from the 'outer corridors' would be additional to this, and would depend primarily on the level of development occurring along these corridors.

Table 3: CAM Annual Demand Forecasts

Scenario	2031 demand <i>million trips per year</i>	2051 <i>million trips per year</i>
Local Plan	15 – 18	19 – 23
CPIER Central Case	18 – 22	27 – 33

Demand has been benchmarked against current public transport usage in Greater Cambridge (e.g. the guided busway and existing P&R), and against the demand on other UK metro systems. Our assessment is that the demand ranges reported for CAM are reasonable and plausible. However, the modelling and forecasting work to date has been relatively high-level, and further model development will be required to support updated demand forecasts as part of any future Outline Business Case (OBC).

The forecasts suggest that that approximately 44% of CAM demand will originate from users who would otherwise have travelled by car for the entirety of their journey. This demonstrates that CAM will offer an attractive and viable alternative to car users, reflective of the transformational nature of the scheme.

The analysis of demand on each CAM corridor suggests that the assumed SOBC service frequency provides sufficient capacity to accommodate forecast demand. Again, as part of any further scheme development there would be further assessment to validate this, and to refine and optimise the service pattern and frequency assumptions.

CAM Revenues and Operating Costs

Ongoing Affordability

Based on a 2031 'Local Plan' demand forecast of 15 – 18 million trips per year, we would expect CAM to generate annual revenues of approximately £30 – 35 million per annum, based on an assumed revenue yield per trip of £2.

Our estimate of CAM operating costs is £25 – 30 million per annum. This suggests that, at a more prudent end of the demand range estimate, CAM revenues would be sufficient to cover operating costs.

CAM Transport and Wider Impacts Benefits

The assessment of transport (Level 1) and wider (Level 2) benefits are underpinned by the transport modelling, and have been forecast and valued in accordance with DfT guidance. The benefits are shown for a 60-year appraisal period.

The assessment of transport and wider impacts benefits are based on:

- a 'Greater Cambridge' CAM network, including both the 'core', central infrastructure and the GCP 'inner corridors'; and
- the *incremental* benefits delivered by the 'core' infrastructure, over and above those of the GCP 'inner corridor' schemes which are assumed to be part of the Reference Case.

The benefits are shown in Table 4.

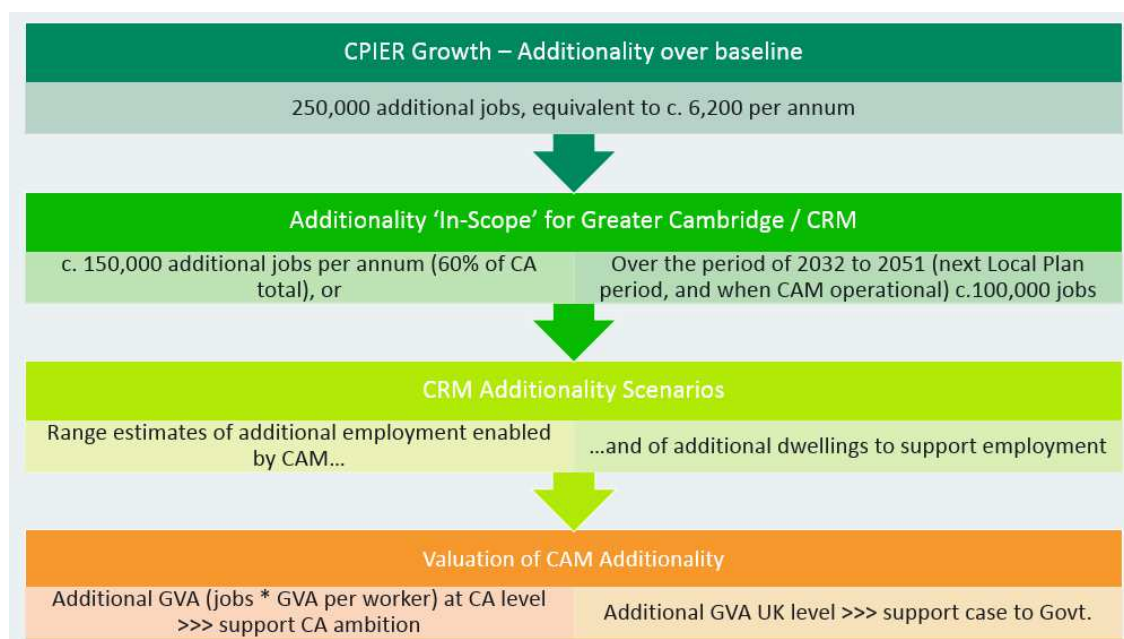
Table 4: Summary of CAM Transport Benefits

Network	£mill, 2010 PV
Transport benefits (Level 1)	520 – 645
Wider Impacts (Level 2)	475 - 575
Total	995 – 1,220

CAM Additionality Benefits

For the estimation of ‘additionality’ benefits a more bespoke approach, grounded in the CPIER scenarios has been adopted, as summarised in Figure 6.

This approach is based on the c. 250,000 additional jobs that the CPIER report identifies would be delivered under its ‘central’ employment projection compared to a ‘business as usual’ scenario. The 250,000 figure is at the Combined Authority level, and covers the period from now to 2051. Taking account of the Greater Cambridge geography and the assumed opening date of CAM, our assessment is that approximately 100,000 of these 250,000 jobs (and up to 60,000 homes) can be considered ‘in-scope’ for the additionality assessment.

Figure 6: Summary of Additionality Approach

The valuation of additionality then rests on two key assumptions. Firstly, the quantum of additional jobs and housing that CAM has the potential to deliver, and hence the ‘attribution’ of related GVA uplift to the scheme. This provides for an assessment of additionality at the Greater Cambridge/ Combined Authority level. Secondly, an assessment of the proportion of the **local** additionality that can be considered **net additional** at the national level. It is the national level GVA that informs the economic appraisal and value for money assessment.

Greater Cambridge Additionality

Based on the approach outlined above, we estimate that CAM could support a significant number of additional homes and jobs which would not otherwise be delivered. Our range estimates for the additional housing, employment and GVA that CAM could support within Greater Cambridge is outlined in Table 5.

Table 5: Scenarios for additional housing, jobs and GVA in Greater Cambridge supported by CAM

CAM-enabled development (% of 100,000 jobs by 2051)	Additional jobs by 2051	Additional housing units by 2051	Additional GVA per annum in 2051 (£m 2010 prices, undiscounted, single-year estimate)	Present Value of additional GVA (£m, 2010 PV, over 60 year appraisal period)
100%	c. 100,000	Up to c.60,000	6,100	66,300
75%	c. 75,000	Up to c. 45,000	4,600	49,800
50%	c. 50,000	Up to c. 30,000	3,000	33,200
25%	c. 25,000	Up to c. 15,000	1,500	16,600

It should be noted that, if only 50% of the c. 100,000 ‘in-scope’ jobs are deemed attributable to CAM, this would still imply that CAM would support up to 30,000 additional homes and £3.0 billion of additional GVA annually in Greater Cambridge – equivalent to £33bn in Present Value terms over 60 years.

In our view, this represents a realistic and prudent level of additional growth that could be supported by a CAM network stretching to St Ives, Waterbeach, Newmarket Road P&R, Granta Park, Trumpington P&R and Cambourne, subject to suitable sites being identified through the planning process and the Non-Statutory Spatial Plan.

Levels of housing and employment growth above this could be supported by an expanded network, with additional extensions to Alconbury, Mildenhall, Haverhill and / or St Neots. Our assessment is that the full network could support additional housing of 75% or more of the ‘in-scope’ additionality, which would deliver £4.6bn GVA per annum in 2051 and around £50bn over the 60-year appraisal period.

Additionality at the UK Level

Not all additional housing, employment and GVA presented in the scenarios above will be additional to the UK economy. In practice, a significant majority will be displaced from elsewhere in the country. Whilst this can generate productivity benefits – jobs in Greater Cambridge are typically more productivity than elsewhere, so if a job moves from elsewhere to Greater Cambridge, this will be associated with a productivity uplift at the national level² – this benefit is small compared to the GVA generated by a ‘new’ job displaced from abroad.

HM Treasury guidance therefore assumes (as the default starting position) that 100% of jobs are displaced at the national level, but in unique cases – such as Greater Cambridge – it can be argued that some jobs will be displaced from abroad, and genuinely ‘net additive’ to the UK economy. CPIER demonstrates that for many businesses in Greater Cambridge, particularly in

² This is referred to as the ‘Move to More Productive Jobs’ (M2MPJs) effect in WebTAG guidance

high-value, knowledge-intensive sectors such as scientific research and life sciences, Greater Cambridge is the only place in the UK that they would locate.

If Greater Cambridge is not sufficiently attractive, such as due to housing unaffordability or transport constraints, they would instead locate abroad – the ‘*Cambridge or overseas*’ argument – representing a significant loss to national economic output.

Experience from other transport business cases – notably Crossrail 2 and the Northern Line Extension to Battersea – indicates that employment displaced from abroad can represent 10% - 30% of that forecast to be generated by a transport scheme in a local area.

We have assumed, for the purposes of the SOBC, a 15% level of additionality at the national level that could be attributable to CAM. This has informed our Value for Money assessment.

Value for Money Assessment

Based on the appraisal results, we have developed an assessment of the overall value-for-money (VfM) performance of the CAM network. This is presented both for a ‘Greater Cambridge’ CAM network including the ‘core’ and ‘inner corridors’ only (as far as Cambourne, St Ives, Waterbeach, Newmarket Road P&R, Granta Park and Trumpington P&R), and the full ‘regional’ CAM network including the above plus the ‘outer corridors’ to Mildenhall, Haverhill, St Neots and Alconbury.

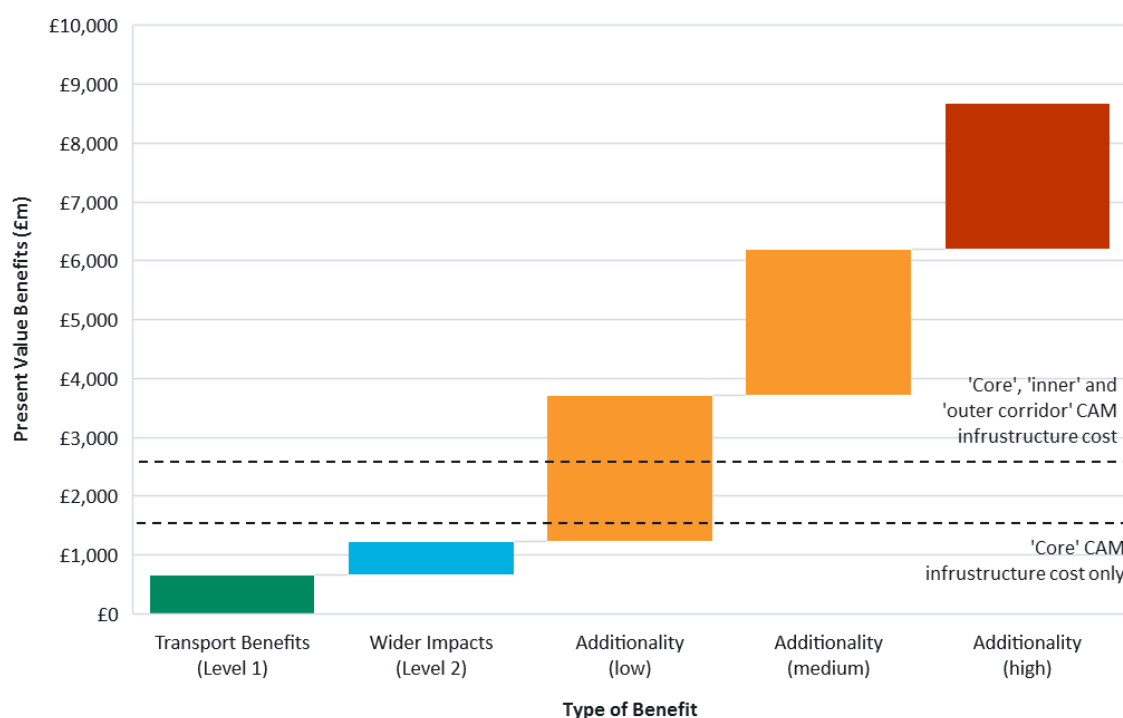
Costs Presented in VfM

The two dotted lines represent the capital costs of two network options:

- a ‘Greater Cambridge’ network extending to St Ives / Waterbeach / Newmarket Rd P&R / Granta Park / Trumpington P&R and Cambourne, with a capital cost of £2.36bn in 2018 real prices (which equates to £1.55 billion discounted to 2010 prices and values). The costs (and benefits) of the GCP infrastructure are included in the Reference Case, and are hence not represented in the diagram.
- a ‘regional’ network extending to Mildenhall / Haverhill / St Neots and Alconbury, with an assumed capital cost of £4.00 billion in 2018 real prices (which equates to £2.63 billion discounted to 2010 prices and values), inclusive of the GCP ‘inner corridor’ and CA ‘outer corridor’ scheme costs.

The operating costs and incremental revenues for the ‘Greater Cambridge’ network broadly balance in present value terms. We have not estimated the operating costs and revenues for the ‘regional’ network, but it is assumed for this assessment that the revenues delivered by the additional extensions meet their operating costs.

The costs and benefits are illustrated in Figure 7.

Figure 7: Assessment of Scheme Costs and Benefits (£m, Present Values, 2010 prices)

The analysis shows that:

- For the 'Greater Cambridge' network, the transport and wider impact benefits alone do not cover the 'core' infrastructure costs. They are, nevertheless, substantial and deliver benefits in excess of £1bn PV. However, the inclusion of 'medium' net additionality (50% attributable to CAM, of which 15% additional at the national level) would serve to increase the benefits above £6bn – almost four times higher than the costs. The implied BCR would be almost 4:1;
- For the full 'regional' network, the inclusion of additionality at an assumed 75% CAM attribution would deliver benefits of towards £9bn, compared to a full network cost (inclusive of all costs) of less than £3bn, which would deliver an implied BCR of above 3:1.

The Financial Case – How Could CAM be funded?

The Financial Case focuses on identifying potential sources of how CAM could be funded. There is now a clear expectation that a large proportion of funding for major transport investments should be secured from local sources, rather than Central Government, as seen with the funding packages that have supported the construction of Crossrail and the Northern Line Extension in London.

The focus of this Financial Case is to consider how a funding strategy could be developed utilising a range of potential funding sources to meet the capital cost of the CAM project, which is estimated at around £4,000m (2018 real prices) for the delivery of the full 'regional' network.

A robust funding strategy for large-scale transport infrastructure schemes should therefore consider finding ways of capturing the uplift in benefits enabled by the scheme as this can reduce reliance on the public purse. This approach to funding is particularly pertinent in

Cambridgeshire and Peterborough given the ambitious growth aspirations of the area, and the additional growth that can be enabled by CAM.

Policy Context

Public investment in the UK is more dependent than ever on finding sufficient funding and increasingly the ability to raise income locally is determining whether any scheme is taken forward or not. As central government funding has become increasingly constrained, the days when a public investment would be centrally funded largely on the economic, social or environmental benefits it generates have gone. In addition, devolution has focused decision making on seeking to find local sources for any particular investment.

Crossrail can be seen as setting the benchmark for establishing the case for public investment in transformative transport infrastructure and, in particular, identifying and securing an appropriate funding package. These include the following broad principles:

- A significant proportion of funding required to deliver a transport infrastructure project is from local sources;
- That the project should be able to cover its longer run operating, maintenance and ideally renewal costs;
- That a mix of local funding can be secured, supported by local businesses, developers and users; and
- That the wider economic benefits of the project are significant and that increased taxes can help recover any central government outlay (particularly through increased productivity, generating additional and higher paying jobs).

The Additionality of CAM

One of the most important aspects of any proposed investment is the question of the scale of change it can generate directly or unlock indirectly. Investment in CAM provides a step change in the capacity and capability of Greater Cambridge's transport network, supporting growth but more importantly unlocking the opportunity to transform the region's economy in a more sustainable manner.

The transformational impact of CAM and the additional scale and productivity of economic activity, in the form of additional jobs, homes and productivity, is set out in the Strategic and Economic Cases. There are a range of potential ways in which the value of additional housing, jobs and economic activity can be captured.

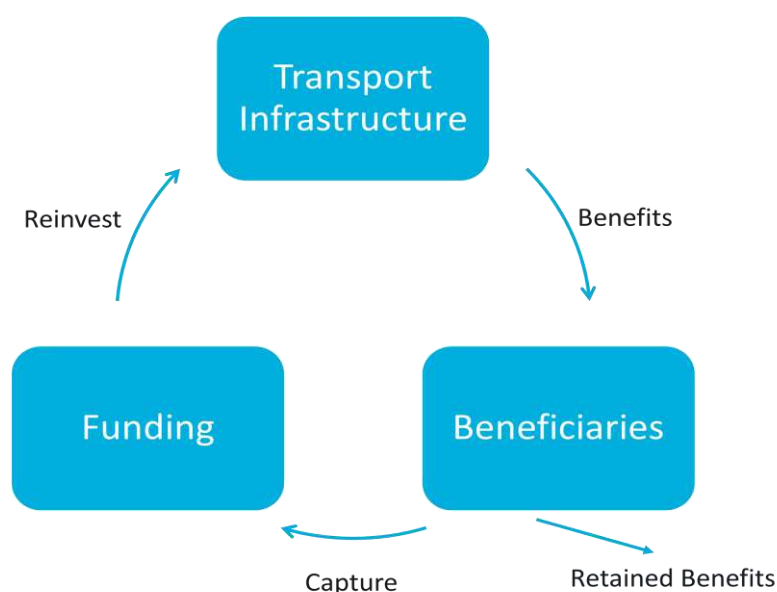
Beneficiary Pays Principle

A key concept in our assessment of funding sources is the concept of 'beneficiary pays'. This concept is based on the principle that those who benefit from the improvement in transport should contribute to its cost, where beneficiaries include both direct users of the development (such as passengers) and economic beneficiaries (such as those who obtain increased economic benefit either in capital or revenue terms from the improved transport provision). This approach creates an investment cycle where transport infrastructure generates benefits to a series of beneficiaries, with different funding mechanisms then capturing a proportion of these benefits to invest into transport infrastructure.

This process is typically led by the public sector, whereby an initial capital outlay in the form of a transport investment is subsequently repaid by additional income from the scheme beneficiaries, such as through a combination of increased fare receipts and/or Section 106 and

business rate contributions from additional housing and commercial development that would not have occurred without the scheme. Both the funding of Crossrail and the Northern Line Extension to Battersea Power Station are based, at least in part, upon this principle.

Figure 8: Beneficiary Pays Cycle



A step-change improvement in transport accessibility, connectivity and capacity enabled by CAM will result in a range of beneficiaries, whether passengers who benefit from the improvement in service or developers who benefit from increased land values near the stations. An overview of beneficiaries of the mass transit options in Cambridge is set out in Table 6, including how they may benefit from the project.

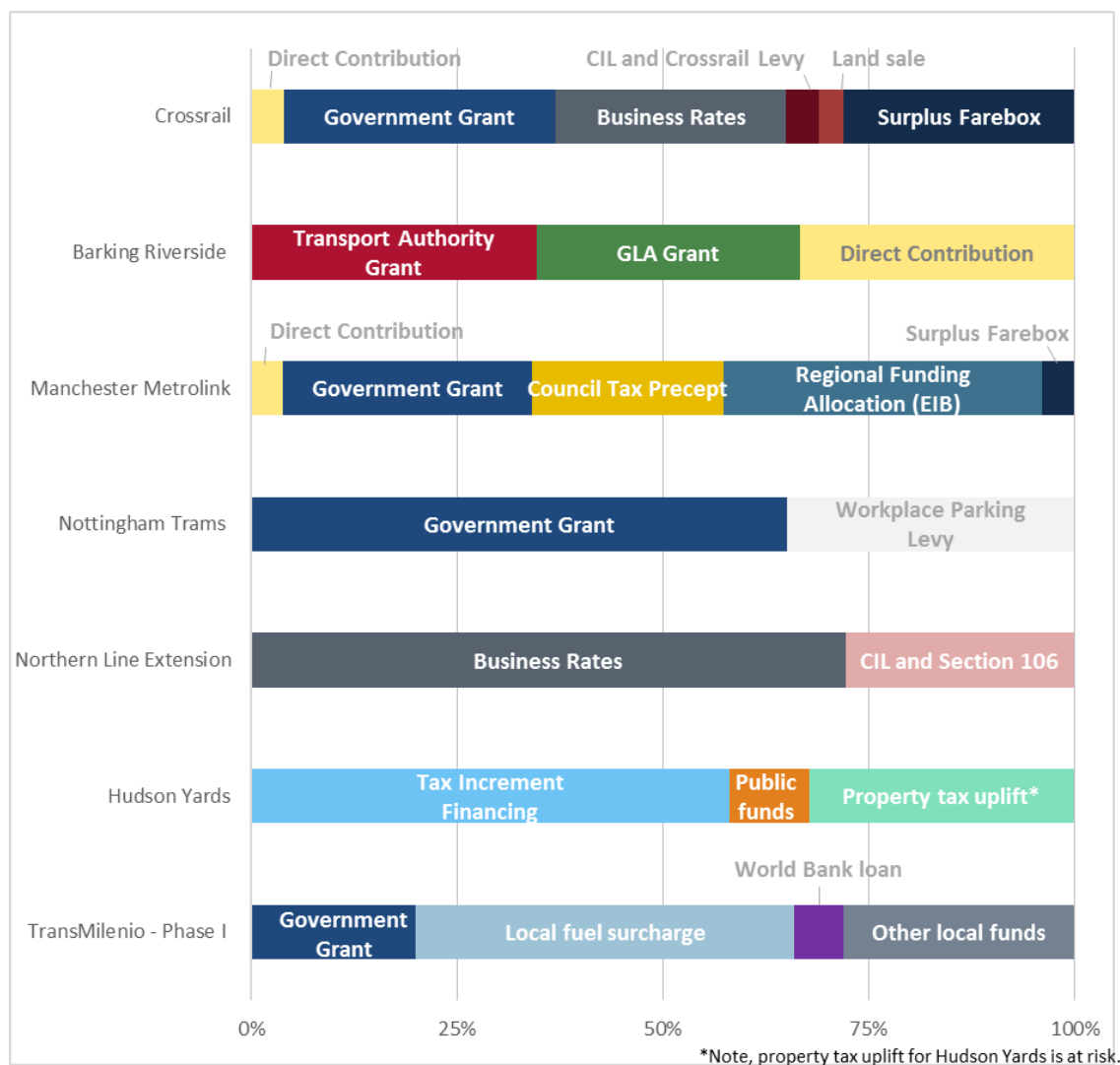
Table 6: Potential Beneficiaries of Transport Infrastructure

Benefactor	How they benefit from transport	Potential capture mechanisms
Developers and land owners	Increased land value as more businesses and/or residents look to relocate to the area. This benefit translates into a financial benefit as higher land values can result in higher density developments and/or an increase to rental values and/or sale incomes.	<ul style="list-style-type: none"> Developer / Direct contributions CIL/MCIL/SIT Land Value Capture Stamp duty retention
Businesses/ Workers	Agglomeration as greater productivity and lower costs arising from the concentration of economic activity. The increased concentration has a productivity 'bonus' that is shared between businesses and workers that can lead to increased revenues and/or reduced costs. In addition, businesses can benefit from being able to draw from a wider pool of prospective employees who can more easily access their business.	<ul style="list-style-type: none"> Business rate uplift retention Business rate supplement Workplace parking levy
Residents	Better connectivity and increased mobility providing access to more jobs and amenities and (if they own their property) through an uplift in land values.	<ul style="list-style-type: none"> Council tax supplement Council Tax retention

Benefactor	How they benefit from transport	Potential capture mechanisms
Transport Users	Reduced journey times, improved reliability and/or increased frequency. These benefits allow users to access a wider pool of jobs and can lead to productivity gains where both may result in financial benefits to the user.	<ul style="list-style-type: none"> • Intelligent charging/ • Parking levy • Operator access fee • Farebox surplus
The Road Maintainer	Reduced road usage as people increasingly travel by public transport, walking or cycling as opposed to by private car. In this instance, it may reduce the need to expand the road network around Cambridge to meet growing demand.	<ul style="list-style-type: none"> • Shadow Tolls

Case Studies

The funding strategy developed for CAM will be bespoke, aligned to beneficiaries and cognisant of the specific opportunities and challenges within the Greater Cambridge context. The case studies shown in Figure 9 overleaf show that promoters in different contexts have developed funding strategies based on a different blend of funding sources.

Figure 9: Funding strategies from Recent Transport Investments

Overview of Funding Sources

A number of funding sources with the potential to support CAM have been identified. These focus on funding that can be generated locally, and is informed by the case studies alongside the additionality driven by CAM and the concept of beneficiary pays.

Each funding mechanism is described in the main report, and an initial qualitative assessment of these funding mechanisms outlined above has been undertaken to highlight the advantages and challenges across the different potential sources. This qualitative assessment is set out in the main body of the SOBC.

Following the SOBC, it will be important to consult with the various local public and private bodies to gauge views on funding options in order to help filter the funding sources presented and identify the most feasible funding strategy. Preparing and presenting evidence that directly illustrates the benefits from CAM during this consultation will increase the chance of support for the scheme. For instance, when introducing a BRS in London, a wider economic benefits assessment of Crossrail was undertaken to demonstrate that the benefits received by

businesses in each borough was greater than the financial support they were being asked to provide.

Further developing the funding strategy will be a priority next steps in taking the CAM proposition. Next steps will include:

- Consulting with local stakeholders, local business groups and developers on the feasibility of the options outlined in the Financial Case;
- Continuing the ongoing dialogue with UK Government to set out the additionality benefits of CAM at the UK-level and discuss the potential for securing the ability and powers to leverage local funding sources and / or the ability to secure funding from Government.
- Further analysis of the practicality of introducing the funding options identified and the scale of funding that could be raised;
- To consider in more detail how to bridge any remaining funding gap, including further assessment of Land Value Capture mechanisms; and
- To assess financing issued, outline options and discuss with financing experts on requirements to establish a robust financing package (for example to mitigate risk).

The Commercial Case – How will CAM be procured and operated?

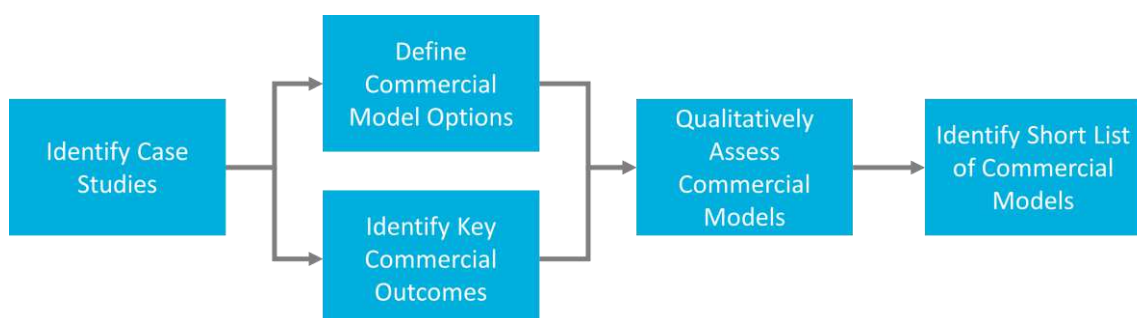
Approach

The Commercial Case should ensure that the Promoting Authority is able to oversee the delivery of the project and the output specification, in terms of quality, service level and performance, and hence ensure the scheme delivers the transport benefits and wider outcomes envisaged and meets its overall objectives.

The delivery of a successful project is dependent on its commercial viability. The delivery of CAM should be delivered in a way that: allocates risk appropriately across contracts; incentivises the intended outcomes in terms of performance, efficiency and innovation; facilitates the delivery of the project to time and budget; and secures the targeted economic, social and environmental benefits of the project as discussed with stakeholders and agreed with decision makers.

The approach undertaken as part of the Commercial Case is summarised in Figure 10.

Figure 10: Commercial Case Approach



Commercial Models

Based on case studies we have outlined four possible commercial models against the delivery responsibilities. Option 1 is a fully publicly led option, in which the CPCA or the contractors engaged by the CPCA deliver the project. Option 2 is similar to Option 1, with the exception that the 'operations and maintenance' responsibility is contracted to a private contractor. Option 3 is a 'design, build, operate and maintain' contract with the private sector, where there are several different variants in the structure of how the contracts are tendered. Option 4 is a 'design, build, finance, operate and maintain' contract to the private sector where, similarly to Option 4, there are several different variants in the structure of how the contracts are tendered.

Figure 11: Commercial models by Delivery Responsibilities

	Option 1 Public Led	Option 2 Private O&M	Option 3 Private DBOM	Option 4 Private DBFOM
Planning & Design	Public	Public	Private	Private
Construction				
Vehicles		Private	Public	Public
Operations & Maintenance				
Ownership of Assets		Public	Public	Public
Funding/Finance	Public	Public	Public	Public/Private
Case Study	Northern Line Extension and West Midlands Metro	Crossrail	Manchester Metrolink	Nottingham Express Transit

Initial Assessment of Delivery Options

An initial qualitative assessment of these commercial models has been undertaken against the criteria below.

Table 7: Key Commercial Outcomes

Key Commercial Outcome	Description
Public Balance Sheet	Limit the impact on the public balance sheet and maximise third party funding options
Risk and Responsibilities	Efficient allocation of roles, risks and responsibilities between delivery parties
Interfaces and Integration	Limit the number of interfaces in the commercial structure and facilitate integration with other services
Procurement Compliance	Ensure compliance with procurement rules
Competition	Maximise the opportunity for competition to drive the best Value for Money of the public sector
Timescales	Facilitate the delivery to optimal timescales

Findings

CAM is a fundamental requirement for the CPCA to reach their growth ambitions over the next few decades. Each commercial delivery model has strengths and weaknesses, with trade-offs dependent on the extent to which project engineering, operational and financing risks are shared between the private and public sectors. Future work will therefore establish the preferred commercial model to deliver CAM at OBC stage.

The Management Case – The Delivery of the CAM Project

Overview

The purpose of the Management Case is to demonstrate that the preferred option can be delivered successfully. It provides details about the resources the Sponsor expects will be required to deliver the proposal and arrangements for managing budgets. It identifies the organisation responsible for implementation, sets out when agreed milestones will be achieved, and identifies a date when the proposal will be completed.

As the CAM project is only at the SOBC stage of development, the Management Case has been developed to an initial, outline level. It sets out the proposed sponsorship, governance and delivery agencies for CAM, alongside the processes required for stakeholder management and communications, change control and risk. The Management Case will be completed more fully as part of a future Outline Business Case. The implications of the Management Case should feed into the appraisal and must be reflected in the future versions of the economic, commercial and financial cases within the OBC.

Conclusions and Next Steps

This SOBC demonstrates that CAM has the potential to transform the connectivity and quality of Greater Cambridge's transport network, and support the long-term growth ambitions of the CPCA and GCP in a sustainable manner. CAM would deliver value-for-money and be operationally affordable. The Strategic and Economic Case for CAM is therefore compelling.

There are a range of potential funding and financing sources that could fund the delivery of the project, and developing the funding strategy further will be a key focus of the next stage of project development. Similarly, there are a number of different delivery models for the implementation of CAM, outlined in this report, that would be developed as the scheme progresses.

The next step, subject the necessary approvals, will be the development of an Outline Business Case (OBC) for the scheme where the design, technical work and analysis presented in this report would be progressed to the point of identifying a preferred scheme. The OBC process would also involve extensive stakeholder and public consultation, which would inform the development of the scheme and ensure it best meets local objectives.

1 Introduction

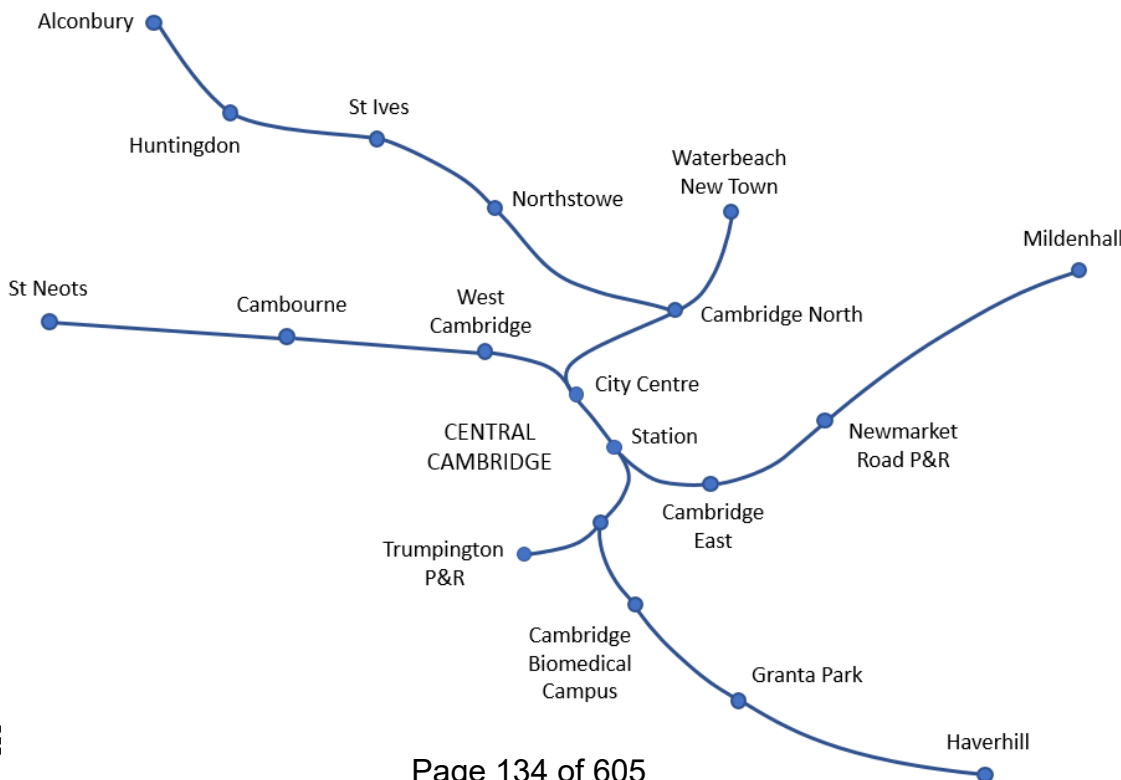
Background and Context

- 1.1 The Greater Cambridge Mass Transit Options Assessment Report, published in January 2018, identified a concept network for a metro system serving Greater Cambridge and connecting key locations across the region. The network was developed to address key transport constraints and support the ambitious growth ambitions of the region. The concept envisaged tunnelled sections, where required, to secure segregated running within and across the city.
- 1.2 This Strategic Outline Business Case, or SOBC, is intended to set out the case for investment, and provide decision-makers with the evidence on whether, and how, to take the scheme forward to Outline Business Case stage (OBC).

Cambridgeshire Autonomous Metro (CAM)

- 1.3 The Cambridgeshire Autonomous Metro (CAM) will provide a high-quality, fast and reliable transport network that will transform transport connectivity across the Greater Cambridge region. The vision for the project is an expansive metro network that seamlessly connects Cambridge City Centre, key rail stations (Cambridge, Cambridge North and future Cambridge South), major city fringe employment sites and key ‘satellite’ growth areas, both within Cambridge and the wider region. It would be operated by high-quality, electrically powered vehicles, segregated from traffic through a tunnel under Central Cambridge, to ensure frequent, reliable journeys.
- 1.4 Figure 1.1 outlines the key corridors proposed to be served by the Cambridgeshire Autonomous Metro.

Figure 1.1: CAM Network Map



Strategic Outline Business Case

- 1.5 This report sets out the Strategic Outline Business Case (SOBC) for the Cambridgeshire Autonomous Metro (CAM). The purpose of the SOBC is to establish the case for investment in the CAM network, based on HM Treasury's Five Case Business Case model.
- 1.6 This SOBC seeks to demonstrate that CAM:
- is supported by a robust case for change that aligns with wider objectives – the '**strategic case**';
 - represents value for money – the '**economic case**';
 - is commercially viable – the '**commercial case**';
 - is financially affordable – the '**financial case**'; and
 - is achievable – the '**management case**'.
- 1.7 As part of the scheme development undertaken for the Strategic Outline Business Case (SOBC) there has been substantive work to develop this concept to a 'feasibility' design level. Design and technical development work has been undertaken to demonstrate that the scheme is feasible and deliverable, focusing upon the core, tunnelled infrastructure, since this acts as both the critical 'enabler' of the wider CAM network, and is most complex in terms of identifying design solutions which are potentially feasible, suitable and acceptable.
- 1.8 The Strategic Case for CAM centres on its ability to enable and accelerate additional economic growth within Greater Cambridge, through supporting the sustainable delivery of additional jobs, housing, and GVA through investment to alleviate the region's transport constraints. The Strategic Case demonstrates that a combination of limited transport capacity and accessibility undermines future development, exacerbates housing unaffordability, and puts future growth at risk.
- 1.9 The Economic Case demonstrates how delivering this additional growth, alongside transforming the quality of public transport provision, delivers significant benefits at both the regional and national level that justify the expenditure of the scheme. It outlines how, when the benefits of this additional growth dependent of CAM are captured, the scheme represents good value-for-money.
- 1.10 At SOBC stage, the Financial, Commercial and Management Cases are developed to a more outline level of detail than the Strategic and Economic Cases, reflecting the early stage of scheme development. However, the Financial Case sets out the principles that will underpin the development of a funding strategy, and identifies a range of potential funding mechanisms. The SOBC sets out the overall case for investment, and more work on funding involving a range of stakeholders has recently commenced. The Management and Commercial Cases outline how (and by whom) the scheme is proposed to be planned, developed, procured and operated. This will be reviewed and developed further if the scheme is progressed to Outline Business Case (OBC).

Each case is clearly set out as a respective chapter within this SOBC.

2 Strategic Case

Introduction

- 2.1 This Chapter outlines the ‘case for change’ for CAM. It discusses the strengths and opportunities for the Greater Cambridge economy, the key transport and housing constraints that act to limit the region’s potential, and the ability for CAM to provide the transport capacity and accessibility to support growth into the future.
- 2.2 It comprises four parts:
- **Part A: The Opportunity for Growth** explores the opportunity and ambition for growth in Greater Cambridge, and the identified challenges which, unless addressed, will act to constrain this economic potential;
 - **Part B: The Case for Change** outlines how the strategic case for the scheme is rooted in local and national policy, aligns with and can shape the region’s plans for future growth and development, and is effectively targeted at the region’s transport constraints;
 - **Part C: The CAM Vision, Objectives and Scope** outlines the network vision and scheme objectives for CAM, together with the scope of the scheme and options assessment process;
 - **Part D: The Benefits of CAM** summarises the benefits of CAM, and how it delivers against the scheme objectives.
- 2.3 Greater Cambridge is currently experiencing record levels of growth, delivering tens of thousands of new jobs to the region, reaffirming its position as one of the UK’s most productive and dynamic areas. However, without investment to improve transport capacity and connectivity, future growth is at risk.
- 2.4 The Cambridgeshire and Peterborough Independent Economic Review (CPIER) demonstrates that the *success of Cambridgeshire and Peterborough is of national importance*. This Chapter outlines how CAM can support the region’s sustainable growth, and therefore benefit the UK *as a whole*.

Part A: The Opportunity for Growth

Introduction

- 2.5 The “Greater Cambridge” economy is going from strength-to-strength. Over the past two decades, it has grown at an average of 2.5% annually – significantly greater than the national average – with employment growth helping to increase income per head by 11% in real terms between 2011 and 2016³. Much of this growth has occurred in knowledge-intensive sectors, often with close ties to the University of Cambridge.
- 2.6 Under the recent ‘Devolution Deal’ between the Cambridgeshire and Peterborough Combined Authority (CPCA) and the Government, ambitious new regional growth targets have been set, including doubling GVA over the next 25 years. Achieving this requires a marked acceleration in current growth rates, which will be challenging as the region’s housing, transport and digital infrastructure are rapidly becoming major constraints on future growth. Investment in strategic infrastructure will be vital to relieving these constraints and delivering the target level of growth.
- 2.7 This Section explores the Greater Cambridge economy in more depth, and outlines the region’s potential for growth. Helping to realise this growth potential underpins the Strategic Case for CAM.

Figure 2.1: Map of Greater Cambridge



³ Cambridgeshire and Peterborough Independent Economic Review, September 2018

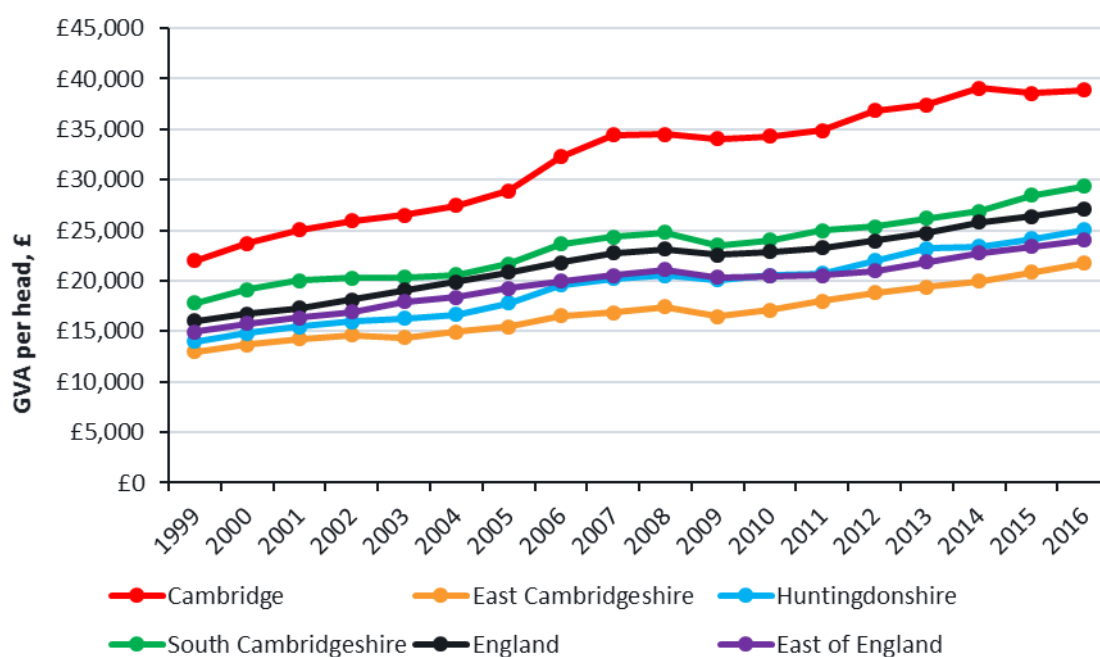
The Greater Cambridge Economy

- 2.8 Greater Cambridge, defined as the area encompassing the City of Cambridge, South Cambridgeshire, and parts of Huntingdonshire and East Cambridgeshire, is a thriving region⁴. It is home to more than 459,000 people, a world-leading university, and a highly productive and dynamic economy. Cambridge acts as the centre of “Silicon Fen”, a leading global cluster of biomedical, software, programming and life science firms, which sustain the region’s high-tech economy and compete on a national and international stage. Historic Cambridge, together with the towns and villages of surrounding South Cambridgeshire and Huntingdonshire, offer an outstanding quality of life which underpins the region’s success, and attracts talent from across the world.

High levels of productivity

- 2.9 These characteristics support an economy which is one of the most productive in the UK. This is particularly the case in Cambridge and South Cambridgeshire, as illustrated in Figure 2.2, where the GVA per head is £39,000 and £29,000 respectively, significantly higher than the England average. Over the past 20 years, Cambridge has shown particularly strong productivity growth, notably higher than the other ‘Greater Cambridge’ local authorities, largely because of its concentration of high-skill, high-value employment.

Figure 2.2: Regional, balanced, Gross Value Added (GVA), by Local Authority area



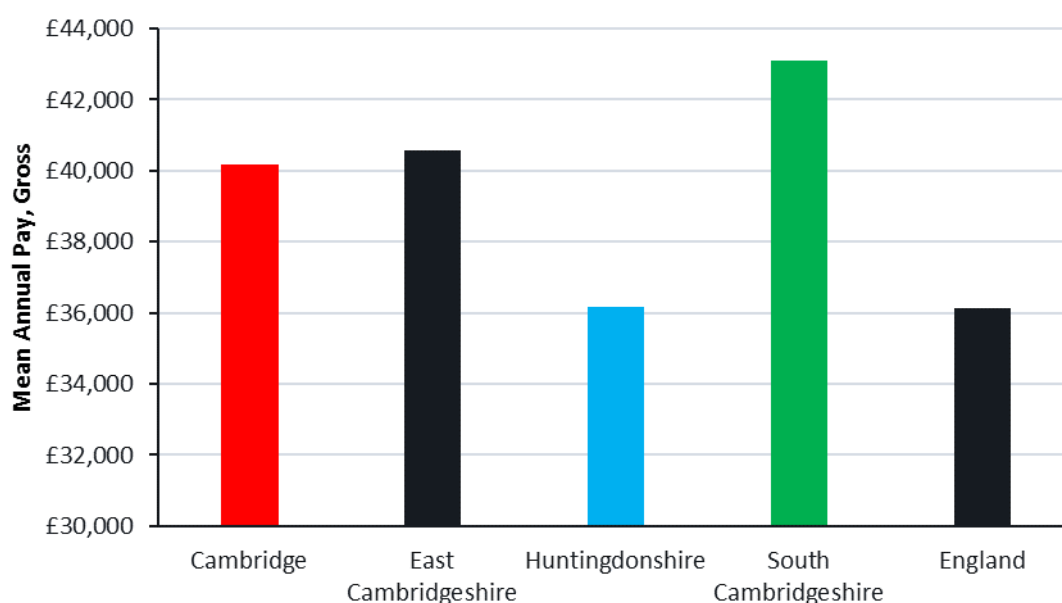
Source, Office for National Statistics, Regional gross value added (balanced) reference tables

- 2.10 High levels of productivity support a high-wage economy. Figure 2.3 indicates that all districts in Greater Cambridge have higher levels of pay than the England average. Notably, South

⁴ Area as defined by the CPIER report. Note, that the Greater Cambridge Partnership (GCP) defines ‘Greater Cambridge’ as including only the City of Cambridge and the surrounding South Cambridgeshire district. By this definition Greater Cambridge encompasses a population of approximately 280,000 people.

Cambridgeshire and East Cambridgeshire both have higher levels of mean annual pay per head than Cambridge, despite both having lower GVA levels. This is because of the high levels of ‘in-commuting’ from these areas to Cambridge city, where employment is concentrated.

Figure 2.3: Gross Mean Annual Pay per head, 2016



Source: Office for National Statistics, Annual survey of Hours and Earnings

- 2.11 Several key characteristics stand out in terms of explaining Greater Cambridge’s success: a skilled workforce, a culture of innovation and knowledge-sharing, and high levels of clustering and agglomeration.

Skilled, well-educated workers

- 2.12 Employment in professional, scientific and technical sectors in Greater Cambridge is more than double the national average. These sectors heavily rely on access to a well-educated, highly skilled workforce for their success. Within the City of Cambridge, 44% of the population hold an NVQ4 or above qualification, almost double the national average of 27%, while 34% hold degree-level qualifications (BA / BSc or higher), compared to the national average of 17%⁵.

- 2.13 The University of Cambridge, and associated academic start-ups, are key ‘attractors’ of skilled workers to the region. Connecting such firms with skilled labour is key to Greater Cambridge’s success: the Cambridge and Peterborough Independent Economic Review (CPIER) noted that the availability and quality of the workforce in Cambridge is critically or very important for 44.6% of businesses who have chosen to locate in the city. Many of these workers live outside the City of Cambridge, and depend on a well-functioning transport network to commute to the region’s business and science parks where employment is concentrated.

An innovative, collaborative culture

- 2.14 Greater Cambridge’s extensive networks of academic staff, skilled workers and postgraduate students fosters a culture of co-operation, knowledge sharing and innovation, known as the “Cambridge Phenomenon”. Collaboration and innovation, driven by the clustering of high-tech firms, skilled workers and academics is key to generating the products and ideas that the region so successfully exports elsewhere. This innovation is evidenced by the fact that within

⁵ Office for National Statistics, 2011 Census

Cambridge there are 341 patent applications per 100,000 people⁶, more patents per person than the next six cities combined⁷.

- 2.15 Firms choose to locate in Greater Cambridge – despite the high cost of doing so – due to the availability of skilled, innovative staff, and the high concentration of other knowledge-intensive (KI) firms. Firms benefit from being located close to one another, either physically or through good transport connectivity, as it facilitates collaboration and competition. This allows firms to learn and benefit from each other’s best practices, reduce costs by sharing resources, and have access to an extensive pool of skilled labour. One respondent to the CPIER summarised the advantages of locating in Cambridge as:

“Lots of diverse and interesting companies. Plenty of growth and opportunities. A number of strong clusters for people to build careers. A pleasant local environment with good facilities” CPIER, page 52

- 2.16 In Cambridge, the concentration of professional, scientific and technical activities is approximately two and a half times higher than the English average, and the city is home to over 1,000 technology and biotechnology companies (1,400 when providers of services and support organisations are included), including 61 bio-technology firms⁸. Certain pockets of the city act as ‘clusters’ for specific sectors: the Cambridge Science Park is home to more than 70 software and technology firms⁹; the Cambridge Biomedical Campus a network of healthcare facilities and life sciences and pharmaceutical companies and start-ups.
- 2.17 In total, over 60,000 people work in KI sector companies in the Greater Cambridge Region. The largest knowledge-intensive firms in this region include¹⁰:
- *ARM Holdings*, a multinational semiconductor and software design company with over 1,600 employees in Cambridge;
 - *Aveva Group*, a global information technology and software design company that employs just under 1,700 people in Cambridge;
 - *AstraZeneca*, a multinational pharmaceutical and biopharmaceutical company with over 2,500 staff employed in Cambridge, and expected to open its new global HQ at the Cambridge Biomedical Campus in 2020;
 - *Dialight plc*, an electronics business specialising in light-emitting diode lighting, which employs over 2,100 people in nearby Newmarket;
 - *Marshall of Cambridge*, an aircraft maintenance, modification and design company located at Cambridge Airport, which employs 2,100 people on this site; and
 - *PDD Laboratories*, a biotechnology company which employs just under 1,500 in Cambridge.
- 2.18 Figure 2.4 highlights the recent clustering of the life sciences industry surrounding Cambridge. It clearly highlights the dense – and growing – patterns of clustering surrounding the city, and the key role of agglomeration in guiding the region’s development.

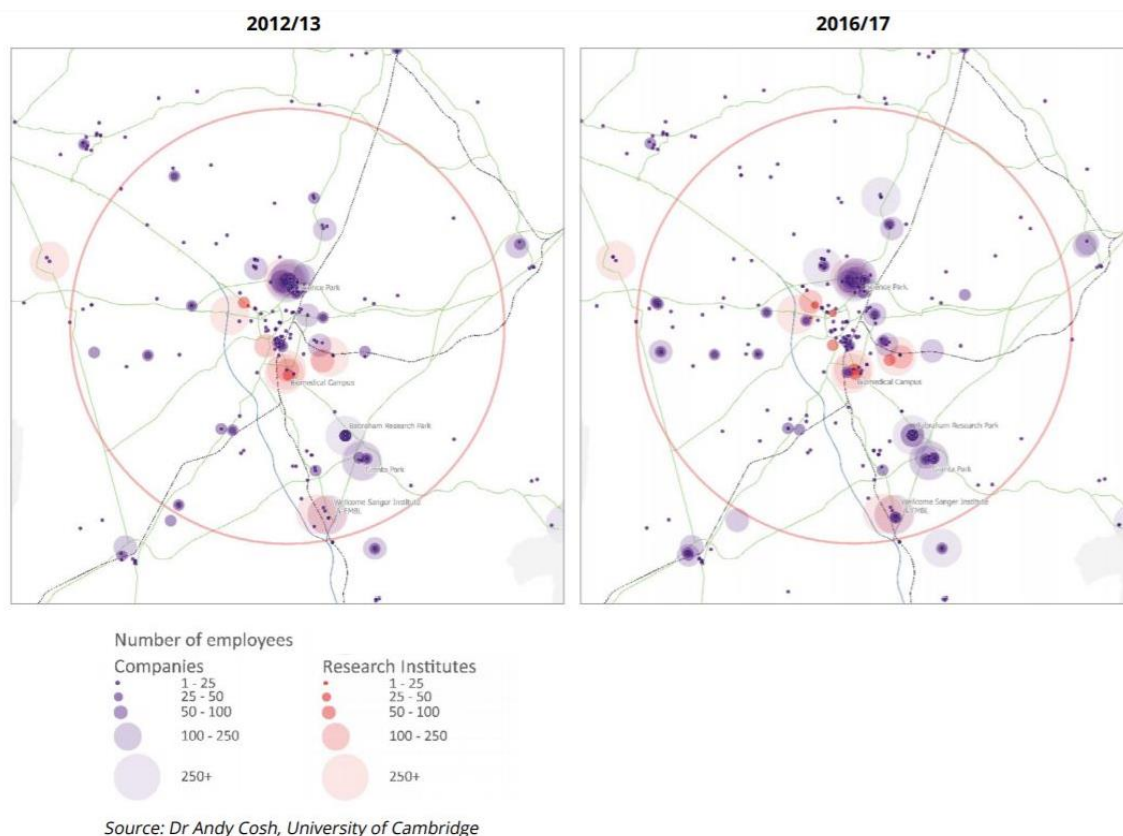
⁶ Cambridgeshire and Peterborough Independent Economic Review (CPIER)

⁷ Centre for Cities, Cities Outlook 2014

⁸ Cambridgeshire and Peterborough Independent Economic Review (CPIER)

⁹ [Cambridge Science Park](#), November 2018

¹⁰ University of Cambridge, [Link](#)

Figure 2.4: Life sciences companies and research institutes within 10 miles of Cambridge

Source: reproduced from CPIER

Cambridgeshire and Peterborough's Ambitions for Growth

- 2.19 The Cambridgeshire and Peterborough Combined Authority and the Greater Cambridge Partnership share a strong commitment to supporting growth and unlocking the region's potential. Under the 2017 'Devolution Deal', the region's newly-elected mayor, James Palmer, committed to doubling regional GVA by 2040. This will require accelerating current growth rates, from 2.5% to 2.8% per annum, but more fundamentally will require a significantly greater rate of growth of housing delivery compared to current Local Plan targets.

The Cambridgeshire and Peterborough Combined Authority

- 2.20 The Cambridgeshire and Peterborough Combined Authority (CPCA) was created in 2017, following the publication of a "Devolution Deal" with Government in March 2017. Led by a directly-elected Mayor, James Palmer, the CPCA is responsible for newly-devolved powers from Government regarding strategic issues that cross council boundaries, including transport, planning, housing, education and capital investment. Since April 2018, it has also taken on the functions of the former Greater Cambridge, Greater Peterborough Local Enterprise Partnership.

Aspirations of the Combined Authority

- 2.21 The Cambridgeshire and Peterborough "Devolution Deal" was developed to better support and realise the region's economic growth potential. Granting the region greater powers from Central Government will allow it to build upon recent successes by targeting economic and transport investment at a local level. The Cambridge and Peterborough Combined Authority has set several clear, ambitious targets for the region, including:

- Doubling the size of the local economy over the next 25 years, boosting regional GVA from £22bn to £40bn;
- Accelerating house building rates to meet local and UK need, delivering 72,000 new homes over the next 15 years, including several major new settlements;
- Delivering much needed transport and digital links;
- Creating an area that is internationally renowned for its low-carbon, knowledge-based economy;
- Transforming public service delivery to be much more seamless and responsive to local need;
- Enhancing the region's position as a global leader in knowledge and innovation, further developing its key sectors including life sciences, information and communication technologies, creative and digital industries, clean tech, high-value engineering and agri-business; and
- Improving the quality of life for all by tackling areas suffering from deprivation.

2.22 The new powers given to the Combined Authority to help achieve these goals include a 30-year, £600 million investment fund to grow the local economy, £170 million for new homes, responsibility for chairing a review of 16+ skills provision, joint responsibility with the government and the Employment and Skills board to co-design the new National Work and Health programme, and more effective joint working with the Department of International Trade (formerly UK Trade and Investment) to develop a Joint Export Plan.

2.23 Additionally, the Mayor, as the Chair of the Combined Authority, will have responsibility for a new transport budget, a key route network of local authority roads and powers over strategic planning (including control over a £100 million housing and infrastructure fund and the responsibility to create a non-statutory spatial framework).

2.24 Fundamentally, the Combined Authority recognises the essential need to invest in housing and transport infrastructure to achieve sustainable growth while improving the quality of life for people who live and work in Cambridgeshire and Peterborough.

“Cambridgeshire and Peterborough recognise that for the Combined Authority to meet and exceed its ambitious targets for growth and wealth creation it needs to connect people and places” Cambridgeshire and Peterborough, Devolution Deal, HM Government

The Greater Cambridge City Deal and the Greater Cambridge Partnership

2.25 The Greater Cambridge City Deal, established in June 2014, is an agreement between the region of Greater Cambridge and Central government to provide up to £500m of central government funding to “enable a new wave of innovation-led growth, by investing in the infrastructure, housing and skills that will facilitate the continued growth of the Cambridge Phenomenon”¹¹. To deliver this package, the Greater Cambridge Partnership (GCP) was established to coordinate and deliver the City Deal programme.

¹¹ Greater Cambridge City Deal, available at: <https://www.gov.uk/government/publications/city-deals-greater-cambridge>

Aspirations of the Greater Cambridge Partnership

2.26 Covering the area defined by the Cambridge and South Cambridgeshire local authorities, the GCP's key aims include:

- Accelerate delivery of 33,500 new homes;
- Creation of 45,000 new jobs;
Provision of £1bn of local and national public-sector investment, enabling an estimated £4bn of private sector investment in the Greater Cambridge area; and,
- Delivery of a new governance arrangement, joint decision making and the framework, funding and assurance to enable growth to take place.

2.27 Overall, the City Deal – and the GCP – both recognise that whilst growth to date has been widely celebrated, it has contributed towards a shortage of housing and worsening traffic congestion that threatens future economic growth. It identifies that Greater Cambridge must grow physically – with new housing and employment on fringe sites – whilst maintaining connectivity between key economic hubs to continue to offer the high quality of life that contributes so significantly to the area's attractiveness and success.

The Shared Growth Agenda

2.28 Both the Mayoral 'growth agenda', and the Greater Cambridge Partnership and City Deal, share a joint agenda around supporting sustainable growth while maintaining quality-of-life through investing in transport, housing and skills. These shared priorities are summarised in Table 2.1.

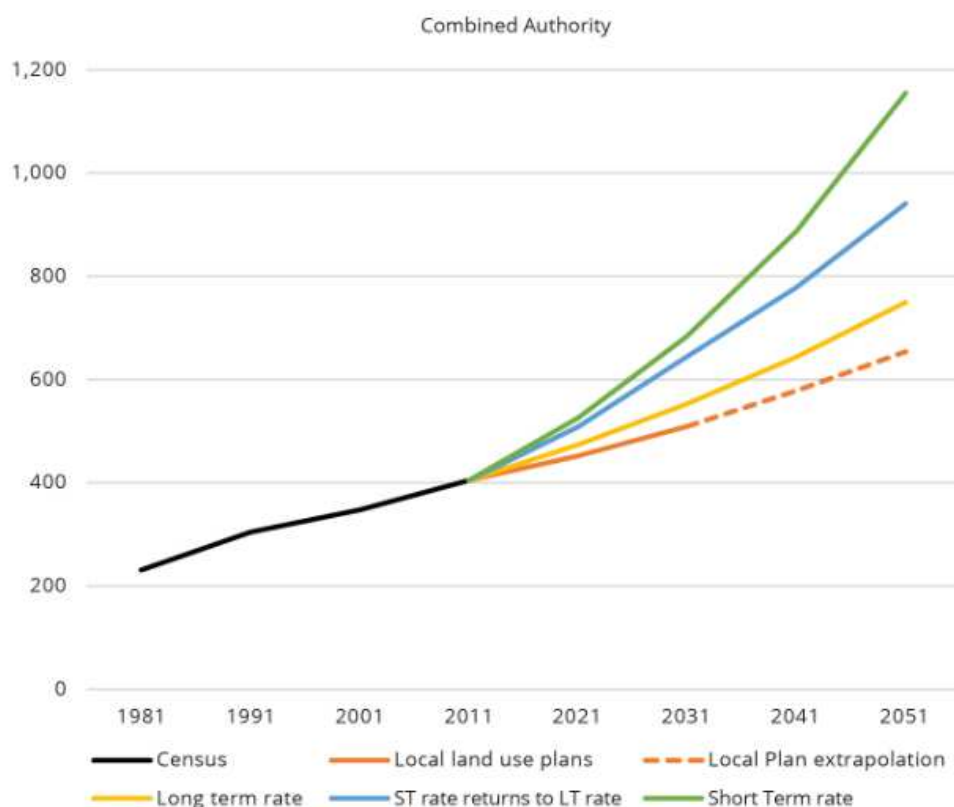
Table 2.1: Shared Mayoral and GCP / City Deal Priorities

Theme	Mayoral Priority	GCP and City Deal priority	Outcomes
Transport	<ul style="list-style-type: none"> • Encourage mode shift away from the private car • Improve the quality of the highway network • Develop a large-scale public transport network • Improve movement throughout the city 	<ul style="list-style-type: none"> • Encourage sustainable travel, removing cars and traditional busses from local Cambridge roads • Deliver better, greener transport 	<ul style="list-style-type: none"> • Reduce congestion, and minimise the damaging impacts of air pollution • Safer and more comfortable car journeys • Wider usage of the public transport system • Continue to increase productivity
Jobs and skills	<ul style="list-style-type: none"> • Encourage growth and economic agglomeration • Encourage international investment • Improve access to jobs and education 	<ul style="list-style-type: none"> • Connect markets and jobs to the 'talent' they need • Support job and apprenticeship growth in the region 	<ul style="list-style-type: none"> • Provides world class jobs for residents • Encourages economic growth and prosperity • Allows a more productive economy and spreads access to opportunities • Provides good future opportunities for young people

Housing	<ul style="list-style-type: none"> • Build new affordable homes • Accelerate delivery of homes • Link new settlements • Improve air quality and the quality of public realm spaces 	<ul style="list-style-type: none"> • Plan for additional new homes on rural exception sites • Accelerate the delivery of homes in local plans by 2031 • Connect rural sites to the city centre • Improve sustainability of, and interconnectivity between, communities 	<ul style="list-style-type: none"> • Unlocks future development sites • Promptly unlock future development sites • Connect new settlements to the core and improve the development viability of rural sites • Create strong and healthy communities and an overall better quality of life for residents
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Realising the Ambition: The Cambridge and Peterborough Independent Economic Review (CPIER)

- 2.29 The Cambridge and Peterborough Independent Economic Review (CPIER) was published in September 2018. It provides an evidence-based, independent assessment of the Cambridgeshire and Peterborough economy and its potential for growth, together with important support for several strands of this SOBC.
- 2.30 Critically, CPIER developed a number of scenarios for the volume of housing, employment and productivity growth required to double the size of the Cambridgeshire and Peterborough economy. Figure 2.5 outlines the employment growth scenarios presented in CPIER; the 'central case' scenario is represented by the blue line, and envisages growth from approximately 400,000 jobs in 2011 to 930,000 in 2051, compared to a 'business as usual' scenario of 640,000 jobs, based on Local Plan extrapolation, represented by the orange line. Combined with an 'ambitious but achievable' productivity increase of 0.8% per year, the 'central case' employment forecast will allow the region's GVA target to be met.
- 2.31 Investment in infrastructure, including transport, will be critical to facilitating this growth, as recognised by the Combined Authority and the GCP. CAM has therefore been developed first and foremost to provide the transport capacity and accessibility required to support the region's ambitions for growth, and overcome the factors that act to constrain it.

Figure 2.5: CPIER Employment Projections under different growth scenarios

Source: Dr Ying Jin, University of Cambridge, reproduced from CPIER, page 20

- 2.32 CPIER therefore provides a valuable evidence base which we have used to support the development of the SOBC. Key themes in CPIER, and how they relate to CAM, are summarised in Table 2.2.

Table 2.2: CPIER Themes and their Relevance to this SOBC

CPIER Theme	Relevance to SOBC
<ul style="list-style-type: none"> Identifies the baseline position of the Combined Authority, and the unique strengths of the Greater Cambridge economy 	<ul style="list-style-type: none"> Evidence informs Strategic Case
<ul style="list-style-type: none"> Identifies that the future success and growth of the CA and Greater Cambridge economy is of both regional and national importance Argues that the growth potential of the region is considerable, in particular of knowledge-intensive (KI) sectors – and that since much of this growth should be considered ‘net additional’ at the national level – a ‘Cambridge or Overseas’ approach should be taken 	<ul style="list-style-type: none"> Provides the underlying rationale for the development of CAM within the wider sub-regional policy context Informs CAM objectives Provides the evidence that, where CAM can overcome constraints on growth, a proportion of the GVA uplift can be considered additional at the ‘national’, and simply ‘local’, level
<ul style="list-style-type: none"> Sets out how the Devolution Deal target of doubling GVA can be achieved – including a ‘central projection’ for jobs whereby the regions jobs would increase from 400,000 in 2011 to 930,000 by 2051. This compares against a ‘business as usual’ (Local Plan extrapolation) increase in jobs to approximately 640,000 Establishes that achieving this level of employment growth will need to be supported by the delivery of 6,000 – 8,000 homes per year 	<ul style="list-style-type: none"> Provides an evidence-based starting point for the ‘growth and additionality’ scenarios within the SOBC Economic Case Informs the indicative level of additional housing (above ‘business as usual’) that is required to support the employment additionality

<ul style="list-style-type: none"> Identifies the key challenges faced if the target of jobs (and hence the related target of doubling GVA) is to be achieved, including: <ul style="list-style-type: none"> – accelerating housing delivery – improving transport accessibility – maintaining and enhancing quality-of-life 	<ul style="list-style-type: none"> Challenges are set out and described in the Strategic Case, and help frame the CAM objectives. The role of CAM in addressing these challenges, and hence supporting the region's growth, is outlined later in the Strategic Case
<ul style="list-style-type: none"> Identifies several 'spatial strategy' options that can best deliver sustainable housing and employment growth. Recommends a 'blended spatial strategy' which would increase the total size of the economy while ensuring an equitable balance of growth across the CA region 	<ul style="list-style-type: none"> Description of how CAM can support additional growth in jobs and housing, and how these relate to the spatial planning options identified in CPIER, as set out in Part D of the Strategic Case. Assessment of how CAM can support greater equity across the Combined Authority (also Part D).

Challenges to Growth

- 2.33 Both the Combined Authority and GCP recognise that if Greater Cambridge's potential for growth is to be realised, several key challenges must be tackled. Failure to efficiently tackle these challenges will act to constrain growth and undermining the region's success, whilst threatening the region's outstanding quality-of-life which is key to attracting skilled firms and workers.

Transport capacity and accessibility

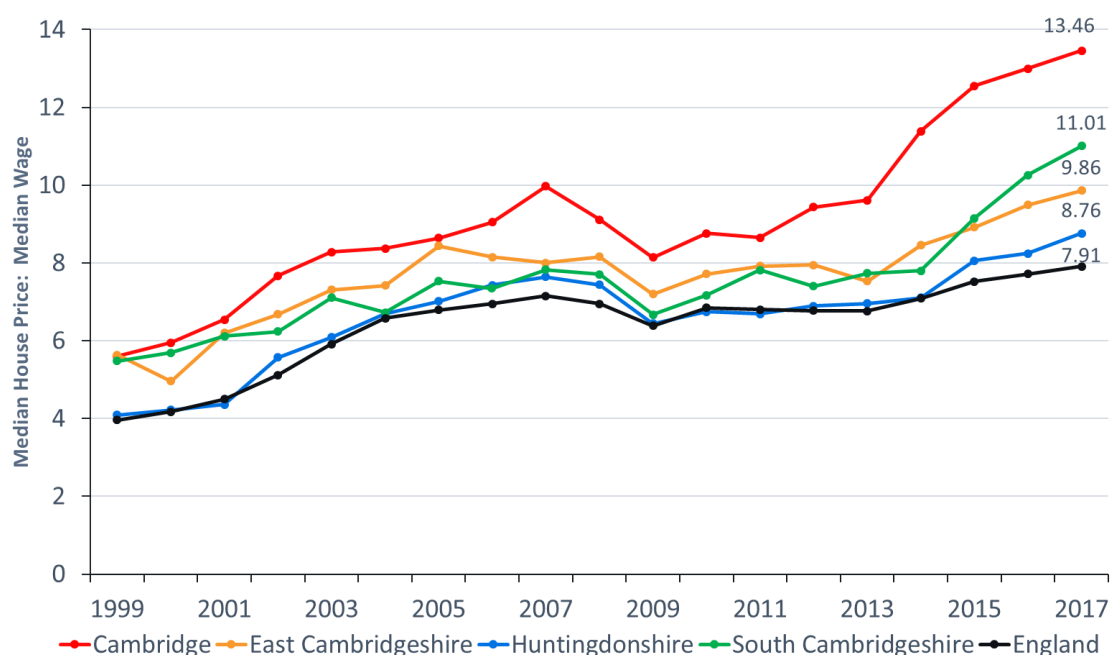
- 2.34 Transport infrastructure acts as a key *enabler* of economic growth and housing and commercial development. Individuals and firms choose to locate in areas well-connected by road and/or public transport links, enabling them to travel to work and for leisure, and access their markets and workers. Poor transport capacity and connectivity therefore acts as a barrier to growth, contributes to traffic congestion, and therefore undermines new development, particularly in 'peripheral' areas, from taking place.
- 2.35 While Cambridge benefits from an extensive transport network, including connections to the strategic highway network and local and regional rail and bus services, many key routes within the city suffer from severe traffic congestion. Committed transport schemes, as discussed in Part B, do not efficiently tackle this 'last mile' problem, in part due the constraints of Cambridge's historic streetscape in securing segregated routes for public transport. This results in slow, unreliable journey times, resulting in longer commutes and wasted time for businesses, which are expected to further deteriorate as the region's population increases.
- 2.36 Good bus accessibility is also limited for employment hubs outside the City Centre, such as the Cambridge Biomedical Campus, which lack good 'orbital' connectivity to wider Greater Cambridge. Since much of city's future growth is expected to occur at such sites, as discussed on page 48, this places increasing pressure on the highway network and undermines the attractiveness of the region as a place to locate a business.
- 2.37 These transport constraints matter, and ultimately constraint growth, for two key reasons:
- they undermine future development from taking place, which worsens the region's housing affordability crisis;
 - they exacerbate spatial inequalities, as people cannot travel effectively to work elsewhere; and
 - they undermine the region's quality-of-life and 'offer', and therefore deter firms and workers from locating here.

- 2.38 These factors are discussed in turn below. Detail on the exact nature of the region's transport constraints is discussed in Part B: The Case for Change.

Greater Cambridge's housing crisis

- 2.39 Cambridge's recent economic success has been accompanied by rapid population growth, which has not been matched by housing stock availability. Since 2012, employment has grown by over 15%, whilst housing stock has grown by under 5%¹². This has led to a pronounced housing shortage, high house prices and low levels of housing affordability.
- 2.40 Currently Greater Cambridge is one of the least affordable places to live in the UK. As shown in Figure 2.6, all areas within Greater Cambridge have higher house price to wage ratios than the England average. This is particularly the case in Cambridge and South Cambridgeshire, where there has been a rapid rise in house prices over the past five years. At the time of writing, the average house price in Cambridge City was £397,000. This is nearly double the UK average of £223,000 and is approximately 13 times local earnings (as opposed to the UK average of 7 times).

Figure 2.6: Median house price: median wage ratio in Cambridge, South Cambridgeshire and England



Source: Office for National Statistics, Ratio of house price to workplace-based earnings (lower quartile and median), 1997 to 2017 (annual data for year ending Q3)

- 2.41 The 'Cambridge Futures' study, which is widely cited in the CPIER report, has modelled the impact that this increase in prices will have should current trends continue. This study found that the increased cost of living, driven through higher housing costs, could cause employment growth to slow beyond 2021 and decline beyond 2031. This phenomenon is described as "overheating" and "burn out".
- 2.42 To prevent "burn out", the CPIER recommends significant investment into housing and the requisite infrastructure required to connect new homes with employment and leisure facilities. CPIER is clear on the need to develop housing that is genuinely affordable for those

¹² CPIER, page 56

at the lower end of the income scale: as growth pushes prices up, it is these people who are being increasingly forced away from Cambridge.

- 2.43 Knowledge-intensive firms typically require specialised skillsets to drive innovation, requiring workers with a range of skills, across the income spectrum. Should businesses in Cambridge be unable to access a wide labour pool, such as if workers are forced to commute increasing distances from the city, then overall economic growth will be severely constrained. The University of Cambridge, for example, frequently reports difficulties in housing support staff, post-graduates and academics, who can be forced to spend more than half their salaries on rent.

Inequality and poor opportunity

- 2.44 Although Greater Cambridge has enjoyed relative prosperity over the past two decades, significant pockets of deprivation remain. Cambridge has been described as the “UK’s least equal city”¹³, with several neighbourhoods in East Cambridge, together with in Huntingdon and the Fens, among the 20% most deprived areas in the country. Much of this inequality is spatial in nature, with clearly defined areas of high deprivation ‘cut off’ from opportunities elsewhere. The Mayor is keen to address this issue, providing the required transport connectivity to better connect people to jobs.
- 2.45 Spreading the benefits of Cambridge’s growth to the wider region can also help tackle deprivation and inequality elsewhere. CPIER notes that only 11% of the value of supplies for KI firms in Cambridgeshire and Peterborough comes from within 30 miles, while more than 27% comes from overseas. Ensuring that more supplies for these firms are sourced from the local area is a good opportunity to spread the benefits of Cambridge’s success across the wider area, creating better opportunities elsewhere in the Combined Authority while also helping to prevent ‘overheating’ of the Cambridge economy.
- 2.46 Alleviating inequality should also have significant positive implications for wider region, through improving quality-of-life for all. For example, the Police and Crime Commissioner, in his submission to CPIER, noted “*increasing inequalities worsen crime and disorder, increasing economic burden and potentially impacting growth*”¹⁴. Addressing inequality by better connecting areas of economic opportunity with deprived regions elsewhere – both within Cambridge and the wider Combined Authority area – can therefore help support growth and improve quality-of-life for all.

Maintaining the region’s outstanding quality-of-life

- 2.47 Research shows that, as individuals’ incomes rise, “quality of life” becomes increasingly important for determining the ‘attractiveness’ of a city¹⁵. As incomes rise, factors such as the quality and efficiency of the transport network, the quality of the built environment, a ‘sense of place’, and the accessibility of consumer goods and services become more important when individuals choose where to live.
- 2.48 Greater Cambridge is competing for talent on both a lifestyle and economic offer, and there are many towns and cities, both in the UK and abroad, that provide this ‘offer’. It is therefore critically important that Cambridge’s future growth maintains the region’s excellent quality-of-

¹³ Centre for Cities, Outlook 2017, <https://www.centreforcities.org/blog/focusing-inequality-best-way-tackle-poverty-uk-cities/>

¹⁴ CPIER, page 37

¹⁵ Glaeser, Kolko and Saiz (2000) Consumer City, Harvard Institute of Economic Research, Discussion Paper 1901

life to continue to attract and retain the skilled workers required to support the region's growth.

“Cambridge or Overseas”: the additionality of Cambridge employment

- 2.49 The CPIER report asserts that many firms take a “Cambridge or Overseas” attitude when considering where to locate. If Cambridge became a less attractive location, then businesses are more likely to locate abroad than to other locations within the UK. Survey evidence from the CPIER report indicates that, of those respondents who said they would likely or certainly move activity outside of Cambridge and Peterborough, significantly more indicated that they would move abroad (44.2%) than elsewhere in the UK (25.0%). One respondent commented: *“Our reliance on a highly skilled work force, which could not easily be found elsewhere, would make relocation from the C&P area [to other areas in the UK] very difficult”*¹⁶.

“Many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority” CPIER, Recommendation #3

- 2.50 This highlights the *net additionality* of Greater Cambridge to national economic output. Many jobs supported by CAM are likely to be net additional to the UK economy, rather than simply displaced from elsewhere. This underlines the importance of Cambridge as a national asset – where Cambridge succeeds, the UK succeeds.

The National Imperative: The Oxford to Cambridge Corridor

National Infrastructure Commission

- 2.51 The National Infrastructure Commission (NIC) was established in 2015 to provide the UK government with expert, impartial advice on the country's long-term economic infrastructure needs. It released its first National Infrastructure Assessment in 2018, detailing key infrastructure areas that the UK must prioritise to ensure future growth. The assessment notes the importance of digital infrastructure, sustainable development, better resilience, and stable long-term investment in transport as particular areas of focus. Notably, the report proposes that £43 billion of stable long-term transport funding is provided for regional cities¹⁷.
- 2.52 In November 2017, the NIC published its final report *‘Partnering for Prosperity: a new deal for the Cambridge-Milton Keynes-Oxford Arc’*¹⁸. In it, the NIC highlighted the potential for the Oxford-Cambridge corridor to become a world-renowned centre for science and innovation. It further highlighted Cambridge's unique strengths, including a concentration of highly-skilled workers, globally competitive business clusters and world-leading universities and research institutes. However, it also stressed that a chronic undersupply of housing and poor connectivity is putting growth – and future success – at risk.

¹⁶ CPIER, page 54

¹⁷ https://www.nic.org.uk/wp-content/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible.pdf

¹⁸ <https://www.nic.org.uk/publications/partnering-prosperity-new-deal-cambridge-milton-keynes-oxford-arc/>

“The Cambridge – Milton Keynes – Oxford arc must be a national priority. Its world-class research, innovation and technology can help the UK prosper in a changing global economy. But success cannot be taken for granted. Without urgent action, a chronic undersupply of homes could jeopardise growth, limit access to labour and put prosperity at risk”

National Infrastructure Commission

- 2.53 The Commission’s central finding was that rates of house building within the corridor need to double – delivering up to one million new homes by 2050 – if the arc is to achieve its economic potential. The NIC recommended a range of incentives to help planning authorities deliver this housing growth, but acknowledged that urban extensions and regeneration will not be enough. The NIC therefore recommended that the government establishes New Town Development Corporations to work with local authorities to deliver new and expanded settlements. It suggests that this could include a new or expanded settlement to the west of Cambridge, which would be served by East-West Rail.
- 2.54 The NIC proposed a framework for future planning and decision making that would enable the arc to achieve its economic potential. This would include:
- A 2050 “Spatial Vision” for the whole arc, which would be developed by a Strategic Partnership Board. This would be underpinned by an Industrial Strategy, developed by Local Enterprise Partnerships, and a Strategic Infrastructure Plan for the arc, developed by a Strategic Infrastructure Board. The NIC expects the centrepieces of the Infrastructure Plan would be the delivery of an Oxford-Cambridge Expressway and the East-West Rail project, which would serve new communities as well as existing towns and cities.
 - Three Strategic Statutory Plans for the three sub-regions in the arc (West, Central and East), which would be developed by Combined Authorities or similar bodies. The NIC highlights the Cambridgeshire and Peterborough Combined Authority as the best vehicle for delivering a spatial plan for the Eastern sub-region of the arc.
 - Local plans and development policies, which would continue to be delivered by local authorities, but should align with the Spatial Vision and sub-regional plans.
- 2.55 The NIC also called on government and local policymakers to work *in partnership*, to implement measures which will increase certainty on the delivery of growth. This will enable infrastructure development, including:
- Establishing long-term pipelines of strategic national and local infrastructure investments, conditional upon housing delivery and supported by firm financial commitments
 - Developing robust and credible transport plans to enable the development of the corridors’ key towns and cities. This will provide a firm basis for long-term growth and investment, including plans for a significantly upgraded public transport, integrated transport hubs and the provision of safe cycling infrastructure.
- 2.56 The NIC stressed that cities – particularly those in the Cambridge-Milton Keynes-Oxford Arc – are important drivers for national economic growth. However, they also noted that as these cities become increasingly popular places to live and work, and attract workers from a wider catchment, significant strain is placed on the infrastructure capacity that these cities possess.
- 2.57 In particular, the NIC noted that the layout and design of cities such as Oxford and Cambridge is poorly suited to the car. Despite this, 53% and 55% of daily commuting trips in Oxford and Cambridge are by car, resulting in chronic congestion, which is will likely worsen with future

growth. Congestion and overcrowding was argued to have the potential to undermine quality of life, inhibit growth and undermine the success of cities within the ‘arc’. To combat this, the NIC suggested that walking, cycling, and forms of rapid public “mass transit” should be used to make existing transport systems, generally constrained by pre-existing urban infrastructure, more efficient. The NIC is explicitly supportive of mass rapid transit plans being developed by local authorities across the ‘arc’, to help improve city-scale transport.

“Although cars are a convenient, flexible and relatively low-cost form of transport, they use up a lot more road space per person than other forms of transport. If Cambridge, Milton Keynes, Northampton and Oxford are to continue to grow, there will not be enough space on their city-level transport networks to support current levels of car use.” National

Infrastructure Commission, Partnering for Prosperity.

- 2.58 Overall, the NIC recommend that local areas are given the *certainty, freedom* and *resources* to create well-designed, well-connected new communities, integrated into the surrounding transport network. Doing so will allow them to fully realise their potential, enhancing the prosperity of the region and the country.

The Government’s Response

- 2.59 Within their response to Partnering for Prosperity, published in October 2018¹⁹, the Government welcomed the report and its recommendations, and recognised the significant, transformational growth opportunity that the arc presents for the UK economy. It supported the NIC’s ambition to deliver up to one million new, high-quality homes by 2050 in order to maximise the arc’s economic growth, and:
- supported the Commission’s finding that, in order to deliver the full economic potential of the arc, there needed to be an integrated approach to the planning and delivery of infrastructure, homes and business growth;
 - committed more than £4.5 billion in funding for new transport infrastructure within the arc, including for the Oxford to Cambridge Expressway, East-West Rail and Cambridgeshire and Peterborough’s Transforming Cities fund;
 - committed to working in collaboration with local partners to make the arc the world leading place for high value growth, innovation, sustainability and productivity; and
 - invited local authorities from across the arc to bring forward and commit to ambitious proposals for transformational housing and economic growth, including for new settlements.
- 2.60 With the right interventions and investment, the Government argued that there is a transformational opportunity to amplify the arc’s position as a world-leading economy and support the aims of the Industrial Strategy to boost the productivity and earning power of people across the United Kingdom. The Government hence designated the arc as a key national economic priority and committed to further consider the best mechanisms to maximise future growth.

¹⁹ <https://www.gov.uk/government/publications/cambridge-milton-keynes-oxford-arc-study-government-response>

Part B: The Case for Change

Introduction

- 2.61 Greater Cambridge needs better transport infrastructure to enhance connectivity, alleviate chronic congestion, and to unlock future economic growth. Improved transport infrastructure will support the region's growth, delivering benefits at the local, national and regional level, while creating a better, more efficient transport network for Cambridgeshire and Peterborough.
- 2.62 This Section outlines the transport, economic and planning context within Greater Cambridge, together with the specific transport constraints facing the region.

Transport Policy Context

- 2.63 CAM has been carefully developed to meet a range of economic, social and environmental objectives. These objectives have been developed to closely align with national and regional policy priorities, including the UK Government's Transport Investment Strategy, the Mayors Interim Transport Strategy Statement (MITSS), and the Local Plans for Greater Cambridge. This close fit means that CAM will complement schemes and projects already outlined by these key stakeholders across Greater Cambridge.

UK Government Transport Investment Strategy

- 2.64 The transport priorities at a local level are fully reflected by national transport objectives. These national objectives are set out in UK Government's statutory Transport Investment Strategy²⁰ (TIS) which was published in July 2017. The current TIS comes in response to a new National Industrial Strategy, which recognises the importance of transport as part of a package of policies and schemes for achieving greater economic growth and prosperity across the country.
- 2.65 The TIS sets out four key objectives:
- To create a **more reliable, less congested, and better-connected transport network** that works for the users who rely on it. The TIS notes UK transport systems are ageing and are facing increasing demands. In many places, the current transport network does not provide the right levels of connectivity for people and business.
 - To build a **stronger, more balanced economy** by enhancing productivity and responding to local growth priorities. The TIS notes the UK's national productivity lags other G7 countries (e.g. 36% behind Germany), and sees transport as one way of boosting productivity. It is also acknowledged that prosperity hasn't been shared evenly between different places, leaving some communities feeling left behind.
 - To **enhance the UK's global competitiveness** by making Britain a more attractive place to trade and invest. Britain is globally renowned as a leader in Research and Innovation, and Scientific fields. Foreign investment in these areas is significant, and relies upon good national and international transport links. Retaining the UK's pre-eminence in these areas

20

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/624990/transport-investment-strategy-web.pdf

will require continued investment in the transport network, enhancing “city clusters” and “international connectivity”. The TIS therefore views transport as a means of attracting job-creating investment, leveraging the UK’s industrial strengths and enabling it to trade with partners with a few frictions as possible.

- To support the **creation of new housing**. The TIS acknowledges parts of the UK face a significant challenge to provide the houses that people need in the places they wish to live. Furthermore, the Government’s Housing White Paper recognises that investing in transport infrastructure is one of best ways of unlocking development in places that are currently poorly served by our transport system.

The Vision for Transport: The Mayor’s Interim Transport Strategy Statement (MITSS) (May 2018)

- 2.66 As part of the Cambridgeshire and Peterborough Devolution Deal, strategic transport planning powers were transferred to the Combined Authority from Cambridge County Council and Peterborough City Council. Prior the adoption of a Local Transport Plan (LTP), due in Spring 2019, the Mayor has released a transport strategy statement which clarifies the Combined Authority’s transport priorities. The document recognises the CAM as a key priority, sketching a vision for how it will fit into the future transport network.
- 2.67 The document also outlines several ‘Guiding Principles’, which set out the broad goals for the region’s transport network:
- **Economic Growth & Opportunity** – Cambridgeshire and Peterborough will seek to connect its workforce with well-paying and lasting jobs, particularly those in key KI sectors.
 - **Equity** – Transport systems will actively address transport and infrastructure gaps across the region, especially those in badly served rural communities, helping all areas to become prosperous.
 - **Environmental Responsiveness & Sustainability** – A network will be developed that encourages active and sustainable travel choices, such as walking, cycling and public transport. The public transport system will be based on green energy and be of high enough quality to encourage users away from the private car.

The Cambridgeshire and Peterborough Local Transport Plan

- 2.68 Currently under development, the LTP will set out the Combined Authority’s transport policies and delivery plans, describing how developments in the transport network will feed into the wider development agenda for the region.
- 2.69 The Primary Goals of the new LTP will be;
- **Transforming public transport** – This is a multi-faceted goal, which will involve optimising the rail network, creating modern reliable and responsive mobility and bus services, and the development of the new metro system. The new metro system will help to link many elements of the public transport network.
 - **Designing integrated walking and cycling solutions** – The aim is to increase the number of, and average distance travelled by, these modes in line with best practice examples from countries such as The Netherlands. To do so, new pedestrian and cycle friendly infrastructure will need to be created, along with better public realm spaces and incentives for change.
 - **Creating and upgrading our major road network** – This will cater for longer distance car and freight journeys, providing vital connectivity with the strategic road network and key origins and destinations outside of the region.

- **Expanding access** – By connecting people with jobs and services businesses will be able to grow, helping to address social exclusion in tandem with the development of new housing and development sites.
- **Travel choice** – The plan aims to ensure that every home and business in Cambridgeshire and Peterborough has easy access to either a metro stop, rail station, on-demand bus or mobility service, or car share. Through technology, real-time information about these services will be provided, encouraging people and businesses to make use of the public transport system instead of currently popular private transport methods.
- **Ensuring reliability** – By prioritising the predictability of Cambridgeshire and Peterborough’s public transport system and road networks users should be encouraged to make consistent use of the services available.
- **Improving safety** – The new plan aims to eradicate traffic fatalities and severe injuries in Cambridgeshire and Peterborough through education, enforcement, and designs that prioritise moving people safely rather than faster.
- **Creating a network fit for the future** – To meet the long-term needs of businesses and residents, a network must be built that is progressive and flexible, able to effectively adapt to future growth and changes in journeys across the network.

2.70 Both the MITTS, and the emerging LTP, are highly supportive of the delivery of the CAM network. Both identify CAM as an integral part of the Combined Authority’s aspirations for the region’s public transport network, and critical to providing the transport capacity and connectivity required to meet their ambitions for growth across the region.

“The Cambridgeshire Metro, in particular, will transform public transport in the region and underpins the Combined Authority’s bold vision for our major cities and market towns. It is vitally important that ongoing transport schemes and associate strategies align with and support this policy commitment to create a metro solution that:

- Delivers high quality, high frequency, reliable services, making it the mode of choice and taking away a reliance on cars;
- Delivers maximum connectivity, network coverage, and reliable journey times
- Forms part of a more active and sustainable travel choice which encourages walking and cycling at the start and end of journeys
- Provides sufficient capacity for growth and supports transit-led development
- Flexibly adapts to future needs
- Uses emerging technologies, including connected and autonomous vehicles”

Mayoral Interim Transport Statement

Economic and Planning Context

- 2.71 Recent growth has seen the historic development pattern of Greater Cambridge change significantly in recent years, with Cambridge emerging as the heart of a rapidly growing, polycentric city region.

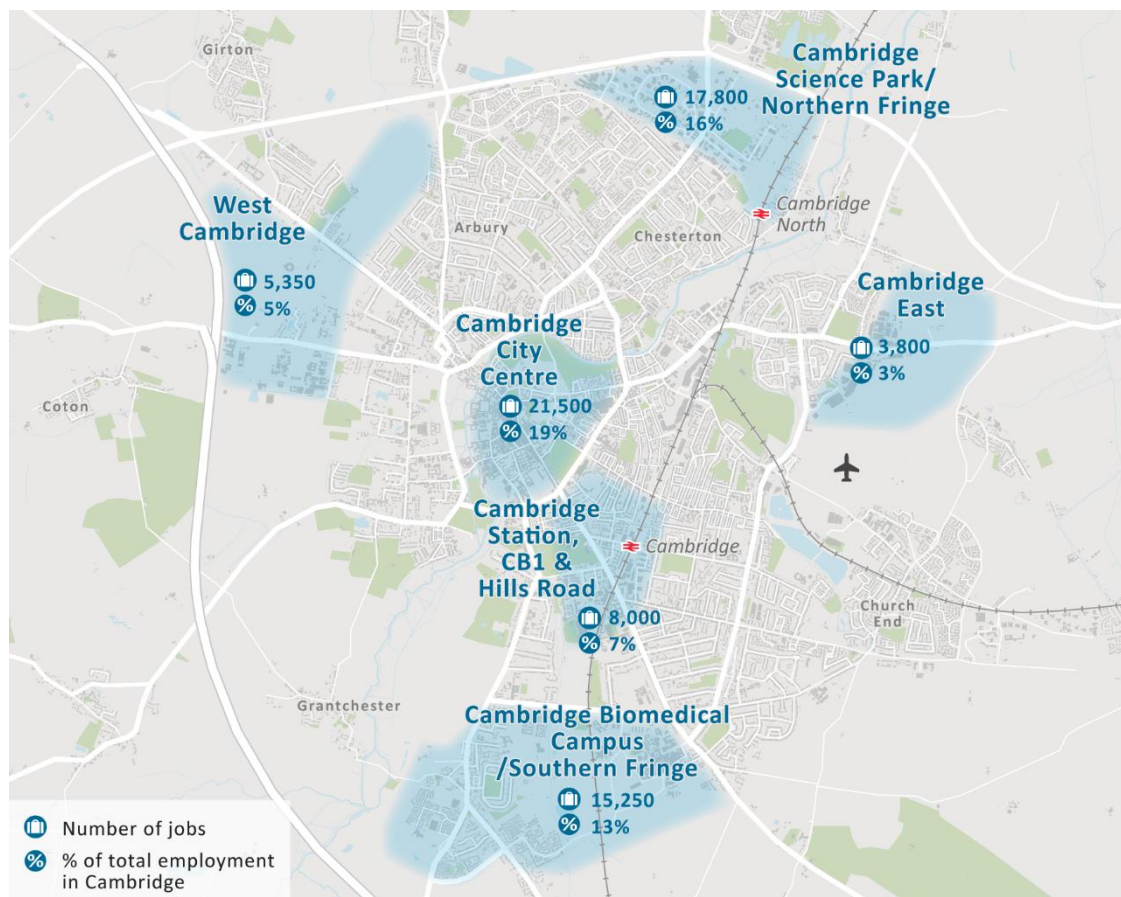
Cambridge

- 2.72 Historically, employment and economic activity in the city of Cambridge was centred around the city centre, but beginning with the construction of the Cambridge Science Park in 1971, development has increasingly occurred on the city 'fringe'. Partly reflecting the lack of available land for development in the city centre, Cambridge's development and employment has become increasingly decentralised, with employment and leisure activity focused within six districts, each of which will be served by CAM:

- Cambridge City Centre;
- Cambridge Station, CB1 and Hills Road;
- Cambridge Biomedical Campus and 'Southern Fringe';
- Cambridge Science Park and 'Northern Fringe';
- Cambridge West; and
- Cambridge East.

- 2.73 Collectively, these sites – outlined in Figure 2.7 – account for 63% of all jobs within the Cambridge urban area, and 40% of all jobs within Greater Cambridge. Growth is expected to be disproportionately located in these areas, which benefit from agglomeration and good labour market accessibility.

Figure 2.7: Key employment sites within Cambridge



City Centre

- 2.74 Cambridge City Centre is the heart of the city, forming the economic and cultural core of Greater Cambridge. It is home to the historic university, a large retail core and a range of tourist destinations (such as Kings College Chapel). A significant proportion of the university's research and office space is located here. However, much of the City Centre remains highly constrained, with limited opportunities for redevelopment or significant employment growth.
- 2.75 There is very limited scope to expand on-street capacity for public transport, including additional bus services, with access to the current bus station at Drummer / St Andrews Street highly constrained.
- 2.76 CAM addresses these constraints by expanding public transport significantly capacity underground. When completed, CAM will offer the potential to reconfigure the bus network by replacing existing bus services with new metro services underground, delivering much needed additional capacity while relieving pressure on space at street level for the benefit of pedestrians, cyclists and businesses.

Station, CB1 and Hills Road

- 2.77 The corridor radiating from the City Centre to Cambridge Station includes Cambridge Station, CB1 and Hills Road. It retains elements of a High Street offer, together with significant office space. The district (especially surrounding the station) is undergoing a mixed-use redevelopment, known as CB1, with more than 1,500 new dwellings and student units and 60,000 m² of new office and retail floor space.
- 2.78 Completion of the CB1 development will limit the potential for future large-scale development of the station. Along the Hills Road corridor there are proposals for continued incremental development, including mixed-use redevelopment of the Clifton Road Industrial Estate, with approximately 550 new homes.
- 2.79 The CAM network will directly support future development in the CB1 area by providing a fast, frequent, high-quality link between this area, Cambridge City Centre, and other key employment areas (such as the Biomedical Campus and Science Park).

Cambridge 'fringe' sites

- 2.80 Recent years have seen Cambridge's growth occur increasingly at development sites on the city 'fringe', and future growth is expected to increasingly be concentrated at such sites in the future. These include:
- the **Cambridge Biomedical Campus**, home to Addenbrookes' Hospital, Cambridge University Hospital, Medical Research, Council Laboratory of Molecular Biology, the current global HQ of AstraZeneca, and one of the world's leading clusters of life sciences, medical research and health innovation firms. It is expected to gain another 14,000 jobs by the mid-2020s;
 - the **Cambridge Science Park and Northern Fringe**, home to a large cluster of IT, programming and software development firms, and forming one of Europe's longest-serving and largest centres for commercial research and development. There are proposals for development surrounding Cambridge North station, and longer-term proposals for redevelopment of the 'Waterworks' site are currently subject to an application for Government Housing Infrastructure Fund (HIF) funding;
 - the **West Cambridge Site and North West Cambridge**, the former a large concentration of academic and laboratory space for the University of Cambridge, and the latter a large mixed-use, predominately residential development with a focus on affordable housing for university post-graduates and key workers; and

- **Cambridge East**, where the site currently occupied by Cambridge Airport is safeguarded under the Cambridge Local Plan for future (post-2031) development of up to 12,000 new homes and 25,000 new jobs.

2.81 These future development sites, and proposed growth, is outlined in Figure 2.9 overleaf.

Greater Cambridge

2.82 Several large-scale ‘satellite’ developments are also planned within Greater Cambridge and will be served by the CAM network. These include ‘new towns’ at **Northstowe** and **Waterbeach**, together with urban extensions at **Cambourne West** and **Bourn Airfield**, and continued expansion of ‘campus’ sites at **Babraham**, **Granta Park** and the **Wellcome Genome Campus**.

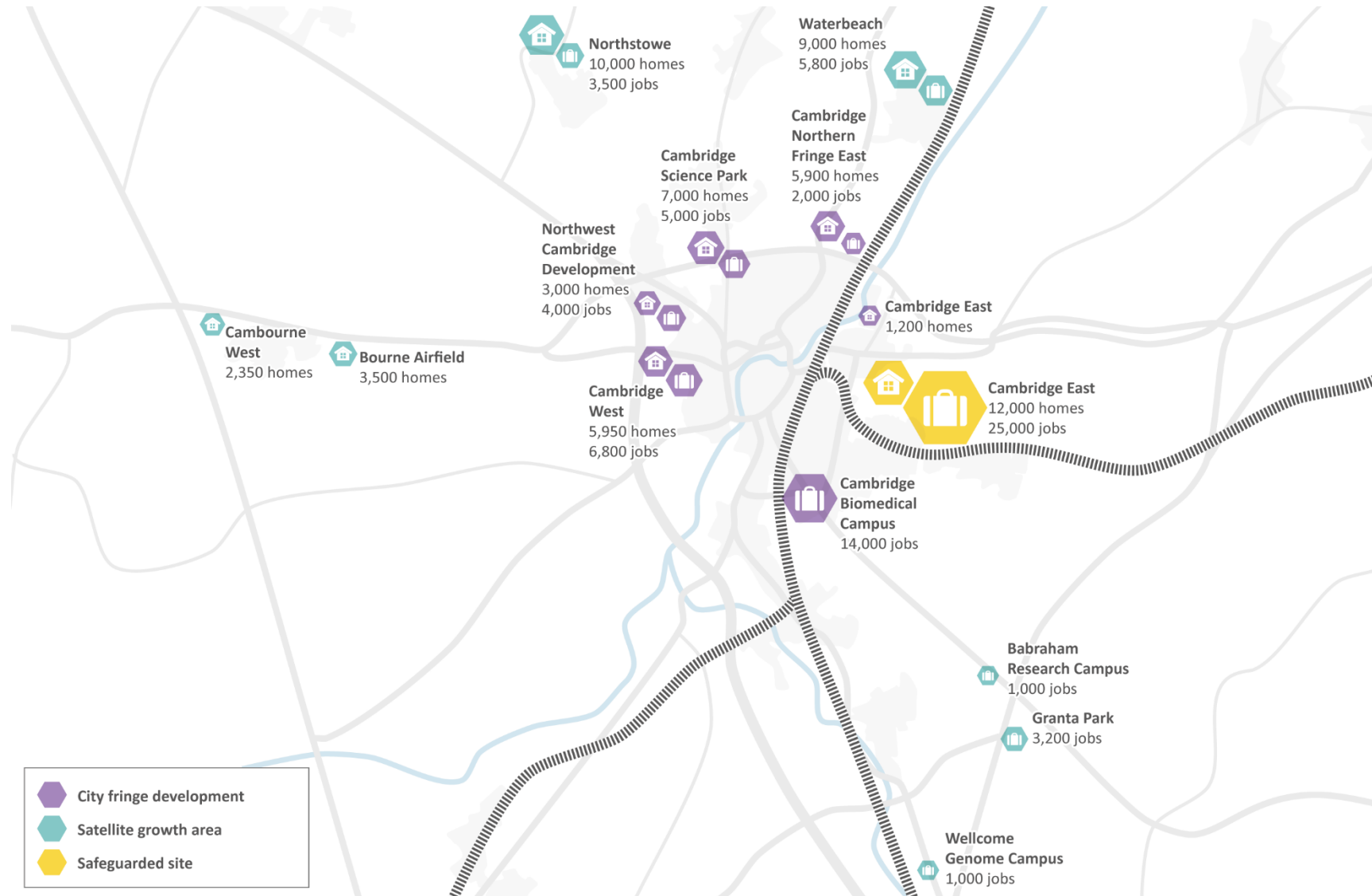
2.83 These developments will support the aims and aspirations of the Combined Authority, providing much-need additional housing to support the region’s growth and tackle housing unaffordability, together with additional jobs, particularly in supporting sectors to Cambridge’s knowledge-intensive economy.

2.84 CAM will support the development of such sites by significantly enhancing their accessibility with Cambridge and the wider region. Such sites are critical to tackling the housing shortage in Cambridge, yet many currently lack good public transport to opportunities within Cambridge, undermining development and contributing towards worsening highway congestion. CAM will help provide the transport capacity and accessibility to allow these sites to be brought forward for development and maximise the overall quality and density of development.

Figure 2.8: Waterbeach Barracks development



Figure 2.9: Future Development within Greater Cambridge



Growth Elsewhere

- 2.85 Large-scale growth is also proposed elsewhere, both within Cambridgeshire and Peterborough, in Central Bedfordshire, and on the Suffolk and Essex borders. The National Infrastructure Commission aspiration, as outlined in Para 2.53 and supported by Government, is for the delivery of one million new homes across the Oxford to Cambridge arc by 2050, a significant proportion of which are expected to be delivered within Cambridgeshire and Peterborough together with surrounding districts.
- 2.86 Several major development sites have been identified, and expected to deliver tens of thousands of new homes over the coming decades. Whilst CAM is not currently proposed to serve each site directly, it will provide a significant improvement in the accessibility of Cambridge – and its key employment markets – to such sites, therefore supporting the viability and density of development.
- 2.87 These sites include:
- **Alconbury Weald**, located to the north of Huntingdon on the A14 corridor, is expected to deliver 5,000 new homes on a former RAF site, together with significant employment growth within the Alconbury Enterprise Campus, supported by Enterprise Zone status. This will include flexible research and development, office and production space and substantial business rate reductions from Government to encourage development;
 - **North Uttlesford Garden Community**, located on the M11 corridor near Whittlesford, is at an early planning stage and not currently part of the Local Plan, but has the potential to deliver up to 5,000 new homes as part of a new ‘garden community’;
 - **RAF Mildenhall**, currently occupied by a US Air Force base, is expected to be vacated by 2024, with future development expected to create a new community of up to 4,000 new homes within close access to the A11 and A14 corridors;
 - **St Neots East**, located on the A428 corridor, will include 3,700 new homes in an urban extension of the town near St Neots railway station and a future dualled A428;
 - **Ely North**, located on the A10 corridor approximately 17 miles north of Cambridge, is expected to include 3,000 additional homes as part of an urban extension of the town;
 - **Haverhill**, located 17 miles to the South East of Cambridge, is home to a multi-use development, with up to 1,200 new homes allocated in the Local Plan.

Planned Transport Investment

- 2.88 Reflecting Greater Cambridge’s growth, several major transport schemes have been committed to or recently delivered across the region. These schemes are outlined below.

Strategic Transport Investment

- 2.89 Several large, strategic transport schemes are currently either under development or under construction, and will deliver a significant improvement in long-distance connectivity. These include:
- The under-construction £1.5bn upgrade to motorway standard of the **A14** between **Cambridge and Huntingdon**, which will provide extra capacity and relieve congestion on a key strategic corridor;
 - Proposals for the **dualling of the A428** between Black Cat and Caxton Gibbet, with a preferred route announcement expected in 2018 and a construction start in 2021/22. In the longer-term, this would form part of a new Expressway between Oxford, Milton Keynes and Cambridge;

- Proposals for **East-West Rail**, including a new railway link between Bedford and Cambridge, with a route currently subject to consultation²¹;

2.90 While the latter two projects described above are at a relatively early stage of development, they have the capability to radically transform travel across the wider region and the Oxford – Cambridge corridor, supporting housing growth, relieving congestion on strategic routes and expanding labour market catchments. However, they will do little to improve local connectivity, relieve ‘local’ congestion or enhance ‘last mile’ accessibility to Cambridge’s key employment sites.

Regional Transport Infrastructure

2.91 Under the Greater Cambridge City Deal, several new mass transit links (the “GCP schemes”) are currently under development by the Greater Cambridge Partnership:

- **A428 Cambourne to Cambridge:** a new, segregated public transport route between Cambourne and Grange Road in Cambridge, expected to open as ‘first phase’ of CAM in 2024;
- **A1307 Three Campuses to Cambridge:** improvements to the bus, walking and cycling network between the Cambridge Biomedical Campus, the Babraham Research Campus and Haverhill, including a new, segregated public transport link between the Biomedical Campus (forming part of the future CAM network) and a new Park-and-Ride site at the A11 / A505 junction at Granta Park;
- **A10 Ely to Cambridge improvements:** upgrades to the A10 between Milton Interchange, Waterbeach and Ely, including dualling, together with a new Park-and-Ride site at Waterbeach linked to Cambridge by a new, segregated public transport link (forming part of the future CAM network);
- **Cambridge East:** improvements to the broad Newmarket Road corridor from Central Cambridge, expected to integrate into the CAM network once a preferred option is identified;
- **Milton Road:** introduction of new bus lanes and segregated cycleways along Milton Road;
- **Histon Road:** bus priority measures such as bus lanes, smart signals and side road closures to reduce delays caused by signals and improve reliability;
- **Rural Travel Hubs:** these are bespoke rural transport interchanges to connect residents with public transport and cycling/walking routes. Piloted in South Cambridgeshire, these aim to reduce the levels of private car journeys into Cambridge from rural villages.
- **Cambridge South Station:** a new railway station serving the Cambridge Biomedical Campus, catering for employees at the Campus and providing improved links to London.
- **“Greenways”:** commuter cycle routes from surrounding towns and villages within a ten-mile radius; and
- **Improved cycle infrastructure** within the city, including the Chisholm Trail linking Cambridge North to Cambridge Station and the Biomedical Campus, including a new bridge over the River Cam; and
- **Cambridge South Station:** a planned new rail station serving Addenbrookes and the Biomedical Campus, which is expected to open in 2025.

2.92 The Greater Cambridge Partnership is also pursuing a package of eight measures as part of the **City Access Strategy**, as shown in Figure 2.10, to tackle congestion in Cambridge. These will help to prioritise sustainable and active travel over the use of the private car, making it easier for people to travel by bus, rail, cycle or on foot. The Strategy aims to achieve a reduction in

²¹ <https://eastwestrail.co.uk/haveyoursay>

peak-time traffic levels in Cambridge by 10-15% by 2031, helping to boost economic growth and quality of life.

- 2.93 While these schemes will markedly improve journey times across Greater Cambridge, particularly on radial routes expected to be served by guided busway and Park-and-Ride services, they only represent part of the solution to alleviating transport constraints and supporting Cambridge's growth. Notably, by **failing to deliver segregated, reliable transport corridors through the City Centre**, they cannot provide the required transport capacity and accessibility required to fully support the region's growth.

Figure 2.10: Greater Cambridge Partnership City Access Strategy



Key Transport Constraints

- 2.94 Despite the significant transport investment planned across Greater Cambridge, there will remain significant constraints on the region's transport network without CAM. Failure to invest will undermine the region's growth, result in worsening traffic congestion, and undermine the region's quality-of-life.

- 2.95 These constraints include:

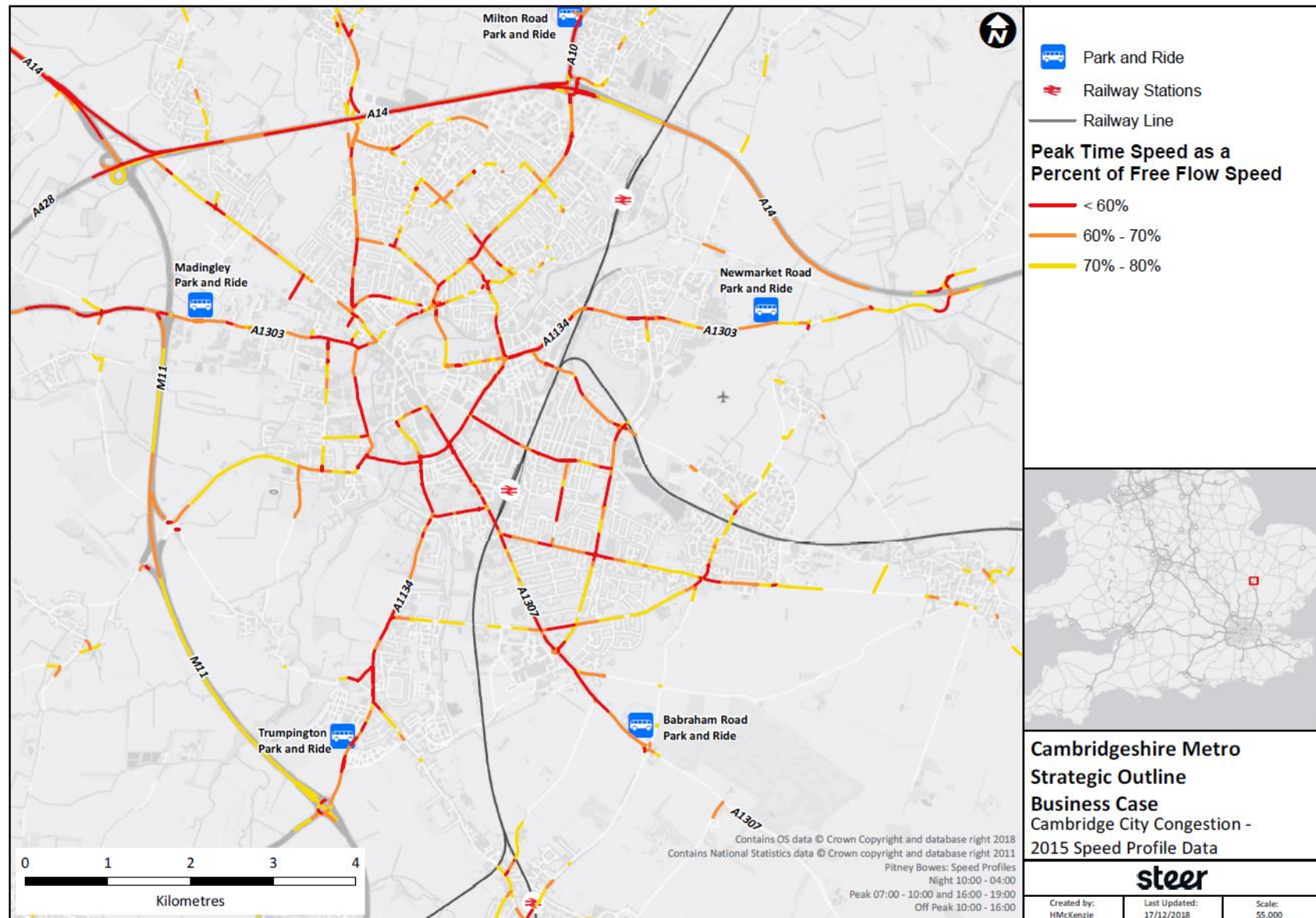
- Severe traffic congestion on key radial corridors, resulting in slow journey times and poor reliability;
- Limited accessibility to major employment sites located on Cambridge's urban fringe; and
- Constraints on movement for vehicular modes (including public transport), due to the historic streetscape within the City Centre.

- 2.96 CAM will effectively tackle these constraints, improving the transport network to support the region's growth through the provision of tunnelling to provide reliable, segregated public transport links across Cambridge. This section explores these constraints in more depth, before explaining why CAM is well placed to tackle them.

Severe traffic congestion on radial corridors

- 2.97 Many of Cambridge's key road corridors suffer from chronic congestion, impacting journey times and reliability both by private car and by bus. Figure 2.11 outlines current levels of congestion within the city.

Figure 2.11: Congestion within Cambridge city



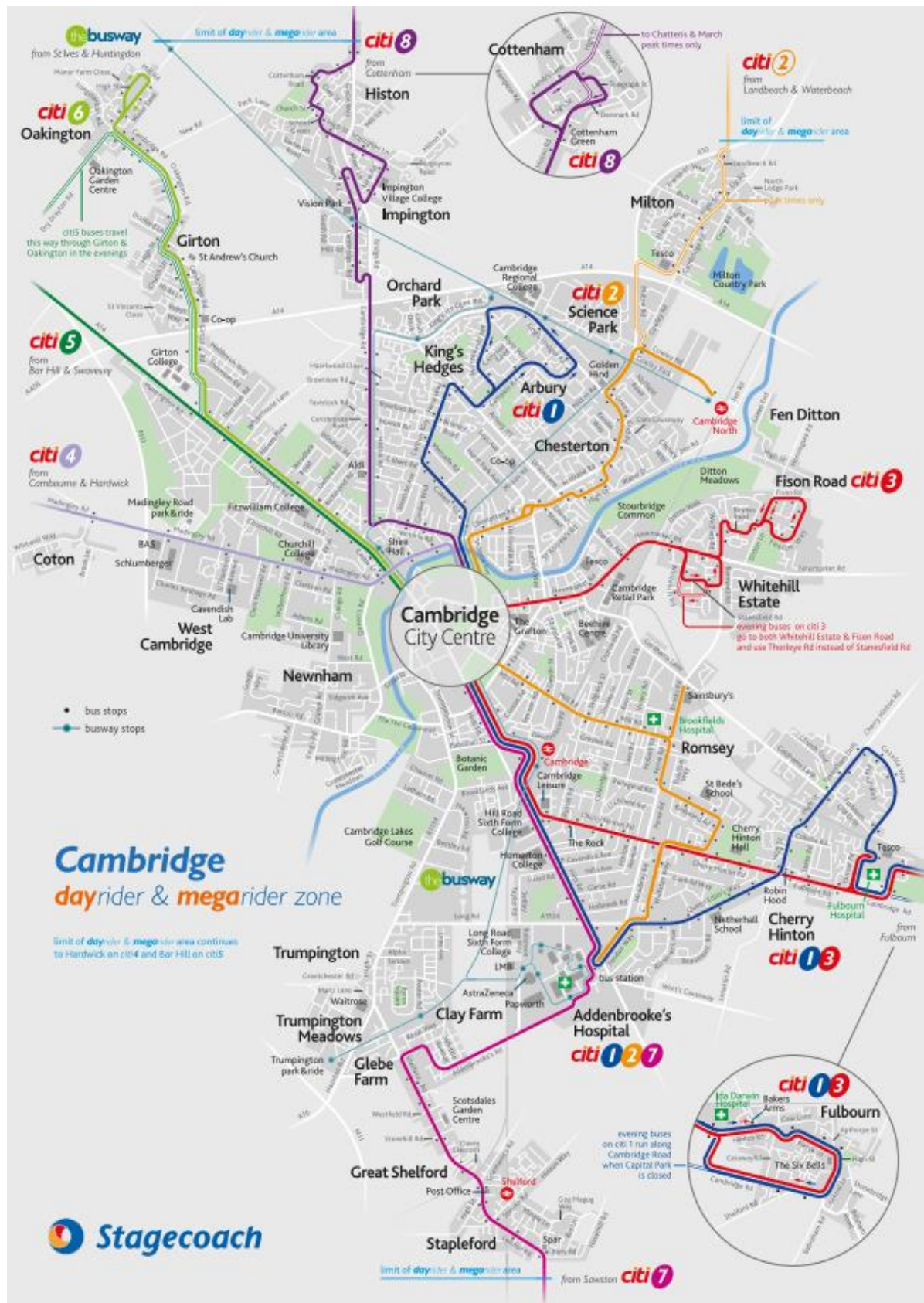
- 2.98 Many journeys, including those along key routes such as between the City Centre and Cambridge Station, are already faster and more reliable on foot than by car or public transport. Average journey times between market towns and new settlements outside the city, such as St Ives and Cambourne, are often slow and unreliable, particularly in the peak – deterring people from making the journey and commuting to productive jobs within the city and its environs.
- 2.99 Future growth, in the absence of investment, will place further pressure on the region’s highway network. The Greater Cambridge Partnership estimate that, if current trends continue, by 2031 traffic levels within the city will increase by over 30% in the morning peak and time spent in congestion will more than double. This will have a marked impact on the attractiveness of Greater Cambridge as a place to live and work – undermining the region’s growth aspirations – and resulting in worsening air quality.
- 2.100 Many of the Greater Cambridge Partnership schemes, such as Cambourne to Cambridge, will deliver segregated public transport corridors from market towns and new settlements in Greater Cambridge. Whilst these will help to improve journey times and provide viable alternatives to congested radial corridors, they do not provide a wholly segregated link within the *City Centre*. Such cross-city links are key to providing accessibility to ‘fringe’ sites, as discussed below.

Limited accessibility to ‘fringe’ sites

- 2.101 Cambridge is a polycentric city, with only 19% of employment located within the City Centre. Future employment growth is also expected to be disproportionately concentrated on the city’s “fringes”, either at large employment hubs such as the Cambridge Biomedical Campus, or in new communities at North West Cambridge, Cambourne or Waterbeach.
- 2.102 The city’s existing public transport network is poorly configured for such future trips and commuting patterns, which are likely to be more “orbital” than “radial” in nature. As Figure 2.12 shows, Cambridge’s bus network is overwhelmingly focused on the City Centre, with every high-frequency route passing through it, but offering limited connectivity to ‘fringe’ sites. Similarly, rail services are focused at Cambridge station, a twenty-minute walk south of the City Centre.
- 2.103 Commuting over longer distances by public transport to such “fringe” sites is hence often slow and challenging. Such journeys usually require entering the city centre, where congestion is at its worst, changing route, and exiting from the city centre again. Consequently, many commuters are forced to rely on their car: currently 60% of trips to the Cambridge Biomedical Campus and 63% of trips to Cambridge Science Park are made by private car, compared to just 12% and 33% for the City Centre and Cambridge station / CB1 area respectively²².
- 2.104 Public transport accessibility must therefore significantly improve at such sites for sustainable growth to be achieved. Without improved accessibility, traffic congestion will continue to worsen, and growth put at risk as such ‘fringe’ sites become increasingly difficult to access from the rest of Greater Cambridge.

²²Greater Cambridge Mass Transit Options Assessment Report, page 26.

Figure 2.12: Cambridge 'city' bus network



Source: Stagecoach East. Note other operators' services are not shown. Busway services and rail services are shown with a thin blue and grey line respectively.

Physical constraints within Cambridge

City Centre Constraints

- 2.105 One of the key causes of congestion in Cambridge is the limited capacity of its highway network, both for general traffic, bus services, and pedestrians and cyclists. This is particularly the case in the City Centre, where an historic street network, pre-dating the car, cannot accommodate modern traffic flows or provide sufficient space to fully segregate public transport services. Even if traffic volumes were to be significantly reduced, such as through adoption of an ambitious demand management or City Access user charging programme, many of these physical constraints would still remain.
- 2.106 Some of these constraints are outlined in Figure 2.13. Magdalene Street, which bisects the Grade I listed buildings of Magdalene College, is only wide enough for one vehicle at a time, but provides the only access point into the city centre from the north-west. This route is shared by local bus services and traffic accessing the City Centre, is frequently congested, and unable to support additional bus services.
- 2.107 This issue is emblematic of a wider capacity problem. East-West connectivity to the city centre is limited by three University Colleges that back onto the River Cam, an area known as 'The Backs' famous for its historic vistas. There is approximately 850m separating the only two vehicular access points to the west of the city, Magdalene Bridge and the Silver Street bridge, which forms a barrier for movement for public transport services accessing the City Centre.

Figure 2.13: Connectivity challenges within the City Centre



- 2.108 Similarly, the historic shopping streets surrounding Market Square, such as Sidney and Trinity Street, are part-pedestrianised, have a high density of pedestrians and cyclists, and insufficiently wide to support bus services. Instead, bus services are forced to operate via a longer route Hobson Street / Manor Street or Emmanuel Street, lengthening journey times and resulting in buses stopping further from Market Square.
- 2.109 This particularly results in slow journey times for passengers traversing the City Centre, such as from the Cambridge Science Park or West Cambridge to the Cambridge Biomedical Campus. Additionally, the nature of the stopping arrangements on Emmanuel Street and St Andrews Street – with extremely limited provision for bus stands and stops – leaves limited capacity to support additional buses.

Constraints on current Guided Busway services

- 2.110 The Cambridgeshire Guided Busway, which opened in 2011, demonstrates some of these constraints. Carrying approximately four million passengers per year²³, this 25km long guideway connects Cambridge North to St Ives, and Cambridge Station to Trumpington and the Cambridge Biomedical Campus, using a concrete 'track' separated from the local highway network. This ensures that buses can travel from the outskirts of Cambridge to St Ives without suffering from traffic congestion, offering a significant journey time saving over general traffic on this 'leg' of the journey.
- 2.111 However, busway services rely on largely unsegregated running between northern Cambridge, the City Centre, and Cambridge station. All buses travelling into the City Centre are required to leave the guided busway and join the congested local highway network, resulting in extended journey times and adversely impacting reliability.
- 2.112 For example, services are currently timetabled to take 25 minutes to travel between St Ives Bus Station and the Science Park stop, a distance of 12 miles and average speed of 29mph, on a largely segregated alignment. In comparison, they are timetabled to take an identical period of time in the peak to travel from the Science Park to Cambridge station, a distance of 3.5 miles and average speed of just 8mph, with recent performance data indicating that 27% of services run more than 5 minutes late. Insufficient segregation for such public transport services within Cambridge therefore presents a real barrier to efficient movement through and across the city.

The need for CAM

- 2.113 These constraints of severe traffic congestion, poor accessibility and physical constraints within the City Centre, are unique, and cannot be effectively tackled by more 'traditional' transport interventions such as improved bus and rail services or demand management techniques in the form of City Access.
- 2.114 Several rail improvements are already proposed in and around Cambridge, including frequency and capacity enhancements, a new station at Cambridge South serving the Cambridge Biomedical Campus, and in the longer-term the East-West Rail link to Bedford, Milton Keynes and Oxford. However, these do not provide a significant enhancement in 'last mile' connectivity to key destinations within Central Cambridge, or adequately provide connectivity to 'fringe' employment sites. For example, despite proposed interventions:

²³ Data provided by Stagecoach, current operator of Cambridgeshire Guided Busway.

- Cambridge's rail station will remain more than 20 minutes' walk from the City Centre, or a bus journey along a congested corridor with little further potential to enhance journey times or reliability (Hills Road);
- the rail network does not directly serve major employment sites at West Cambridge or Cambridge East, and there are no feasible options for it to do so;
- many large market towns and new settlements (such as Northstowe) are not directly connected to the rail network, and there are unlikely to be feasible options to connect them to it.

2.115 Cambridge's historic streetscape, and the physical constraints it creates, will also undermine the ability for the city to be served effectively by improvements to bus services. Even under an 'ambitious' demand management or City Access programme, where user charging is implemented to significantly reduce peak highway demand and congestion, significant constraints which prevent adoption of a more comprehensive, efficient bus network. Narrow, constrained streets in the City Centre, as outlined in Figure 2.11, would still act to limit the opportunities to enhance bus and guided bus services, since:

- many streets are pedestrianised or part-pedestrianised, and unsuitable for enhanced bus services, forcing services to take indirect, suboptimum routes;
- a significant majority of traffic is 'essential' delivery and servicing traffic, which could not easily be displaced elsewhere, and where extensive filtered permeability has already been implemented;

2.116 These constraints mean that there are few opportunities to optimise or enhance bus operations through Central Cambridge, or facilitate additional services required to meet forecast peak demand. While the development of the GCP corridor schemes to Cambourne, Granta Park and Waterbeach will facilitate improved journey times and reliability on radial routes to the edge of Cambridge, they will do little to secure segregated, reliable operations within the City, and hence provide the comprehensive, reliable transport network required to fully support the regions' growth.

2.117 Bus priority measures, including bus lanes and junction priority such as that being delivered along Histon and Milton Road, will also lead to improvements in bus journey times and reliability, but fail to provide the transformational improvement required to capacity and connectivity required to support the region's growth. Competing demands for road space, including for dedicated cycling infrastructure as well as general traffic, and physical junction constraints, inevitably limit the extent to which reliable, seamless public transport services can be provided on surface streets.

2.118 It is these specific constraints, combined with the significant growth of Greater Cambridge, that build the case for CAM and for tunnelling under the City Centre.

Developing the case for tunnelling

Future housing and employment growth is largely focused on developments on the Cambridge 'fringe' and in new and expanded settlements in Greater Cambridge, which are key to the region's continued growth.

These developments rely on efficient connections to the City Centre and each other for their success, but the unique constraints of the city centre streetscape mean it is extremely challenging to provide a network to efficiently support these requirements.

Targeted mode shift and demand management could result in a more than doubling of current bus demand through the City Centre, which would be extremely difficult to support through additional services.

Furthermore, it would be impossible to deliver a significant improvement in the journey times or reliability of services crossing the City Centre, and hence improve the accessibility of 'fringe' sites from elsewhere in the region, with incremental improvements to bus priority or further demand management.

These unique constraints imposed by the urban geography of the city mean that it will be extremely difficult to adapt to future transport requirements on an incremental basis. This suggests a more radical rethink of how transport capacity is provided will be required.

Tunnelling is likely the only option which will allow for transport capacity to be efficiently increased while delivering significant improvements to journey time reliability and connectivity.

Part C: Vision, Objectives and Scope of CAM

2.119 The Vision for CAM is to develop a comprehensive transport network to help enable growth and development that is fundamental to Greater Cambridge being able to realise its full economic potential and, by extension, deliver additional growth at the UK level.

2.120 CAM has been developed to overcome the key constraints within the Greater Cambridge transport network that limit transport connectivity now, and to provide a step-change in network coverage capacity and connectivity to accommodate and shape future growth.

CAM Scheme Objectives

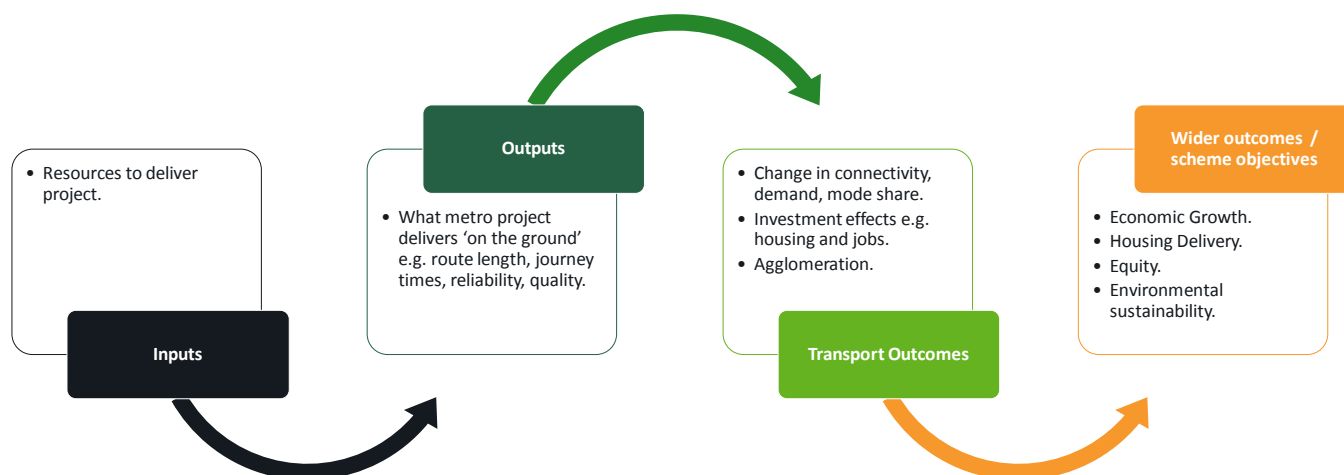
2.121 CAM has been designed to support the shared CPCA and GCP priorities and outcomes around economic growth, accelerating housing delivery, promoting equity and encouraging sustainable growth and development. These outcomes have directly informed the development of four overarching CAM scheme objectives. Under each of the four outcome-related objectives there are a number of sub-objectives. These are presented in Table 2.3.

Table 2.3: CAM Scheme Objectives

Objective (outcome-related)	Sub-objectives
Promote economic growth and opportunity	<ul style="list-style-type: none"> • Improve transport connectivity • Improve journey time reliability • Promote agglomeration • Support new employment by enhancing access to and attractiveness of key designated employment areas • Increase labour market catchment
Support the acceleration of housing delivery	<ul style="list-style-type: none"> • Direct high-quality public transport access to key housing sites (existing designations) • Serve and support new areas for sustainable housing development • Provide overall transport capacity to enable and accommodate future growth
Promote Equity	<ul style="list-style-type: none"> • Promote better connecting other towns within Cambridgeshire and Peterborough to Cambridge • Improve opportunities for deprived residents
Promote sustainable growth and development	<ul style="list-style-type: none"> • Improve local air quality • Promote the low carbon economy • Support environmental sustainability

2.122 The purpose of the sub-objectives is to establish meaningful criteria that allow the measurement and assessment of how CAM contributes to the achievement of individual sub-objectives and, by extension, contributes to the overall outcomes.

2.123 The process by which CAM can contribute to the achievement of wider outcomes is set out in a 'logic map', shown in Figure 2.14 below. Logic mapping is used to identify the broad mechanisms by which, in this case, a transformational transport improvement can contribute the outcomes such as GVA, jobs and housing delivery, given that these outcomes cannot be measured and attributed directly to CAM.

Figure 2.14: Logic map of the CAM assessment framework

2.124 The logic mapping sets out the relationship between:

- **Inputs** - These are the resources and costs required to deliver the project.
- **Outputs** - These are the transport outputs that are delivered 'on the ground', such as enhanced frequency, reliability, capacity, journey times, network coverage and quality that together transform the overall connectivity and accessibility of public transport in Greater Cambridge. The change in connectivity and accessibility can be measured and quantified through transport modelling and analysis.
- **Transport Outcomes** - These relate to the behavioural responses of a range of economic actors to the change in public transport connectivity. This includes the response transport users (demand and modal shift outcomes), developers (of housing and employment land), existing businesses (reduced business costs, agglomeration benefits, access to expanded labour markets), and inward investment effects (decisions on whether to locate or expand in Greater Cambridge rather than competing locations). Many of these impacts can be measured through established approaches (demand responses and expanded labour market catchment through transport forecasting, and agglomeration through a wider impacts assessment). Other impacts can be assessed through an understanding of the importance of transport accessibility for the viability and attractiveness of housing development, or of the range of factors that play a part in inward investment decisions. respond
- **Wider Outcomes** – These are the outcomes such as additional housing, jobs and GVA that CAM has been developed to support. These are intrinsically harder to directly measure, and hence the logic-mapping process sets out the process by which CAM can support these outcomes, and the contribution of CAM inferred and assessed.

2.125 A summary of the performance of CAM against scheme objectives is presented in Part D of the Strategic Case. The objectives have also informed the development of the CAM specification, and the assessment of CAM against modal alternatives.

Objectives and Measures of Success

2.126 It follows from the logic mapping process that the scale of contribution of CAM against the scheme objectives (economic growth, housing delivery, etc.) flows from its contribution to the 'transport outputs' in terms of the nature and scale of the improvements in overall public transport connectivity and accessibility that the scheme delivers. This therefore provides the measures of success against which the scheme can be assessed throughout the scheme development and business case stages.

- 2.127 The Mayor's Interim Transport Strategy Statement outlined a number of key measures for success for the future metro. These are:
- Delivering high quality, high frequency, reliable services, making it the mode of choice and taking away a reliance on cars;
 - Delivering maximum connectivity, network coverage, and reliable journey times;
 - Forming part of a more active and sustainable travel choice which encourages walking and cycling at the start and end of journeys;
 - Providing sufficient capacity for growth and supporting transit-led development;
 - Flexibly adapting to future needs; and,
 - Using emerging technologies, including connected and autonomous vehicles.
- 2.128 An assessment of how CAM delivers against these outputs is presented in Part D.

CAM Network and Infrastructure Requirements

Overview

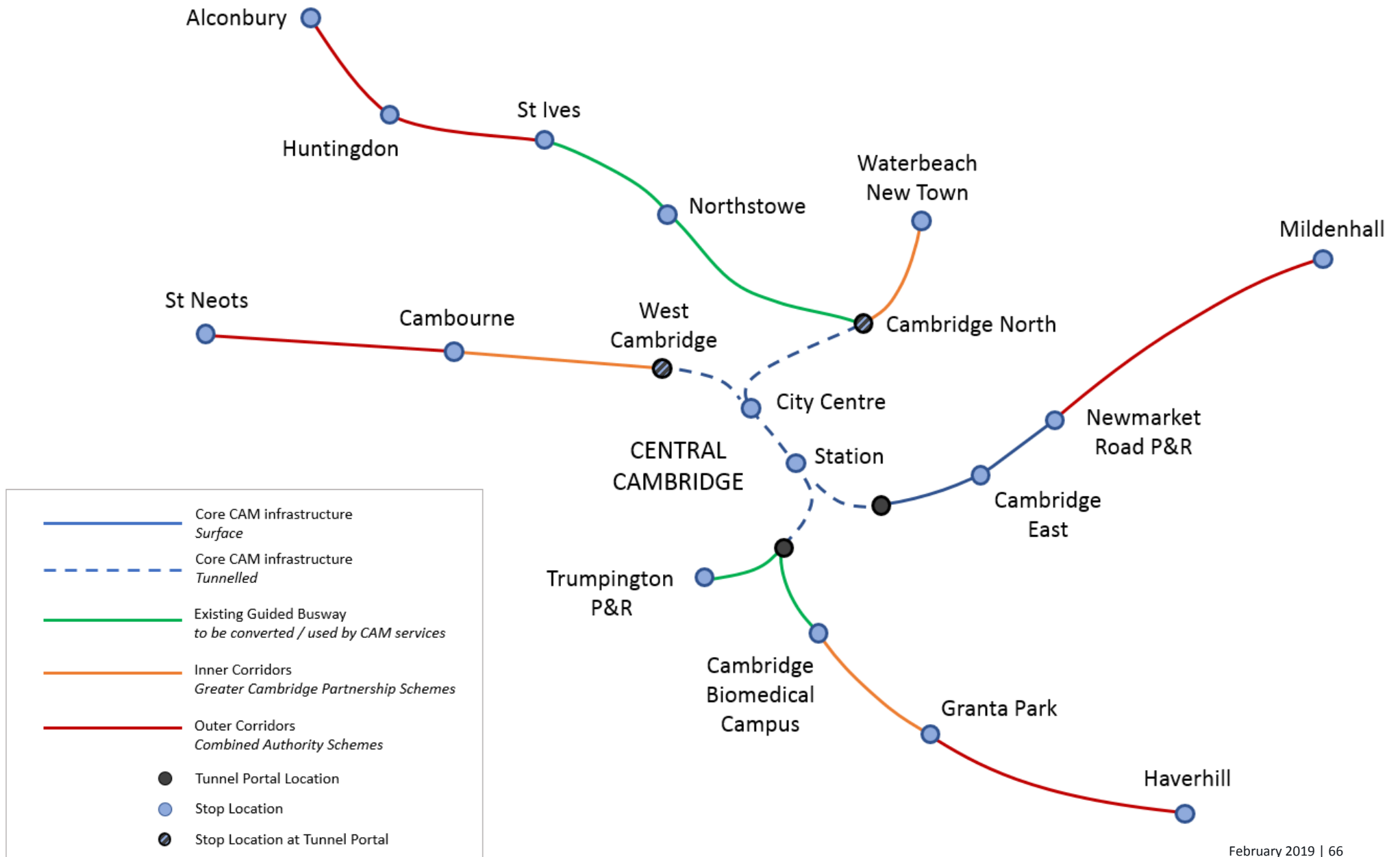
- 2.129 The CAM network is comprised of a number of segregated, public transport routes, which collectively deliver a comprehensive, largely segregated mass transit for Greater Cambridge.
- 2.130 The overall network vision envisages a network of up to 142 km, of which would comprise a 'Greater Cambridge' network of around 68 km (connecting the existing and proposed GCP 'inner corridor' schemes to the city centre and each other, via new tunnelled infrastructure through the City Centre), and around 74km of 'outer corridors' extending to St Neots, Alconbury, Mildenhall and Haverhill.
- 2.131 This is summarised in Table 2.4, with the geography of the network outlined in Figure 2.15.

Table 2.4: Summary of CAM Infrastructure Components

Infrastructure	Description	Route length (km)
Existing Cambridgeshire Guided Busway (CGB)	<p>23km of the existing segregated corridors provided by the CGB between St Ives <> Cambridge North and Cambridge Station <> Cambridge Biomedical Campus / Trumpington P&R sections would accommodate CAM services.</p> <p>Approximately 4km of existing busway will be converted to accommodate CAM vehicles without the need for vehicles to be fitted with guidewheels.</p>	23 (of which 4 will be converted)
Greater Cambridge Partnership 'inner corridors'	<p>The GCP has developed proposals for new fully segregated transport corridors covering:</p> <ul style="list-style-type: none"> • Cambourne to Cambridge: a segregated link between Cambourne and the West Cambridge Site/ Grange Road, via a future development at Bourn Airfield and served by a new Park-and-Ride site • A1307 South East Corridor: a segregated link between a new Park-and-Ride site at Granta Park, adjacent to the A11 / A505 junction, and the Cambridge Biomedical Campus, via Sawston and Great Shelford. • A10 Waterbeach New Town to Cambridge: a segregated link between Waterbeach New Town and the Cambridge Science Park, via a new Park-and-Ride site serving the A10 corridor. <p>These corridors will be developed to be fully compatible with CAM. The GCP is also currently developing proposals for a future segregated corridor to Cambridge East, for which a preferred scheme is yet to be identified, but development of which is aligned to that of the CAM network²⁴.</p>	30
'Core' CAM infrastructure	<p>Segregated CAM infrastructure within the 'core' area, which would comprise:</p> <ul style="list-style-type: none"> • 12km of tunnelled sections linking from Cambridge North (linking to the existing GCB northern section), Cambridge Station (linking to the existing GCB southern section) and West Cambridge (linking to the planned Cambourne to Cambridge corridor). The link to the Cambridge Station also supports the development of a segregated route to the east. • 2.5 km of new at-grade segregated infrastructure providing a link to the east (to Newmarket Road P&R) 	15
Combined Authority 'outer corridors'	<p>New CAM routes serving:</p> <ul style="list-style-type: none"> • Cambourne - St Neots (13km) • Newmarket Road Park and Ride – Mildenhall (30km) • Granta Park – Haverhill (16km) • St Ives – Alconbury (15km) 	74
Total		142

²⁴ At the 11 October 2018 Greater Cambridge Partnership Executive Board, the GCP Director of Transport set out the context to the Better Public Transport Project – Waterbeach to Science Park and East Cambridge Corridors. The Executive Board approved the commencement of work on the A10 Waterbeach to Science Park and East Cambridge corridors, and endorsed the approach to align the high-quality public transport corridors with the emerging CAM concept.

Figure 2.15: Schematic of CAM network and different infrastructure components



Route Development – ‘Core’ CAM Infrastructure and ‘Inner Corridors’

- 2.132 The *Greater Cambridge Mass Transit Options Assessment Report*²⁵ identified a concept network for CAM including tunnelling, where required, to secure segregated running within and across the city. As part of the scheme development undertaken for the SOBC, there has been substantive work to develop this concept to a ‘feasibility’ design level. This design and development work has focused upon the ‘central’, tunnelled section, as this is the critical enabler of the overall CAM network, and also the most complex in terms of identifying design solutions which are potentially feasible, suitable and acceptable.
- 2.133 The purpose of this option design and development work is twofold:
- to ensure that there is a potentially feasible, suitable and acceptable option (or options) that provide the confidence that the scheme is viable; and
 - to provide for an assumed scheme definition, which provides the basis for the costing and forecasting for the SOBC.
- 2.134 Further scheme and option development, including additional technical work and public and stakeholder consultation, will be undertaken as part of any subsequent Outline Business Case for the CAM network. The option development work undertaken to date, for the purposes of developing the SOBC, has focused on demonstrating the engineering feasibility and deliverability of the scheme. It has examined potential station location options (serving both the City Centre and Cambridge railway station), tunnel portal locations (which interface with the existing Cambridgeshire Guided Busway and segregated public transport routes to Cambourne, Granta Park and Waterbeach currently being developed by the Greater Cambridge Partnership), together with a number of tunnel routing options connecting these corridors to the two central stations.
- 2.135 The option development process has resulted in the identification of a simple network whereby the stations at the City Centre and Cambridge rail station would be located on a common tunnel section, directly served by services from each of the six radial corridors, as outlined in Figure 2.15. The station design has been developed to ensure that any journey combination would be either direct or require a simple interchange on the same platform.

Interfaces with Greater Cambridge Partnership Schemes

- 2.136 CAM interfaces directly with the segregated public transport schemes currently being developed by the Greater Cambridge Partnership to Cambourne, Granta Park and Waterbeach New Town (marked in orange in Figure 2.15) since it is planned that CAM services will travel along these corridors prior to running through the City Centre tunnels, avoiding the need for interchange. These interfaces are in four locations:
- at the West Cambridge Site, where the proposed segregated public transport corridor to Cambourne interfaces with the western CAM tunnel portal;
 - at the Cambridge Biomedical Campus, where the proposed segregated public transport corridor to Granta Park interfaces with the existing Cambridgeshire Guided Busway;
 - at Cambridge East, where the eastern CAM tunnel portal connects to a proposed segregated public transport corridor to East Cambridge;

²⁵ <https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/futureinvestmentstrategy/Camb ridge%20Mass%20Transit%20Options%20Assessment%20Report%20Final%202.pdf>

- in the environs of Cambridge North and the Cambridge Science Park, where the proposed segregated public transport corridor to Waterbeach New Town interfaces with the existing Cambridgeshire Guided Busway.

- 2.137 For the development of this SOBC, we have worked with the Greater Cambridge Partnership and other stakeholders (such as the University of Cambridge and the Cambridge Biomedical Campus) to establish the *principles* of these interfaces, and to ensure that there are feasible options to deliver the required segregation.
- 2.138 This is based on a set of common, shared assumptions of the required alignment for CAM (such as gradients, corridor widths, curvature, etc) from which discussions are ongoing to identify a preferred, segregated route at each interface. This dialogue is not intended to define, in detail, what the precise solution is. Rather, it is intended to develop sufficient options and flexibility such that there is confidence that the desired outcome (an end-to-end segregated route) can be achieved. Detailed design of the interfaces and adoption of a preferred alignment at each interface will be undertaken during development of any future Outline Business Case, following public and stakeholder consultation.
- 2.139 The solutions at these interface points will also need to consider what the nature of operations are before CAM, during construction, and under the 'end-state' where CAM is fully operational. Again, these issues have been considered in partnership with the GCP to help map out how the phasing of infrastructure, vehicles and operations could come forward in a manner that ensures that high-quality transport services are provided across these phases.

Scheme Development – Outer Corridors

- 2.140 There is a stated ambition that the CAM network should extend to service locations such as St Neots, Haverhill and Mildenhall. These corridors would service existing towns that have the potential for significant growth, and can potentially support the development of new settlements. As part of the SOBC, we have developed indicative costs based on potential routes that could serve these corridors.
- 2.141 There has not, to date, been any feasibility design work on these corridors as part of the SOBC. This could commence as part of (or as a parallel activity alongside) the OBC development, and would need to be aligned with the ongoing work on spatial planning and local plan development.

CAM Operations

Metro Service Levels

- 2.142 CAM will provide for a high frequency 'metro-style' level of service. This, in effect, would provide for a 'turn up and go' level of service whereby passengers can turn up at stops in the expectation that there would be a service within a few minutes. In practice, this means a service frequency of a minimum of a service every ten minutes, though the service level would be better on many parts of the network.
- 2.143 While the detailed service levels and patterns would be refined over the course of further scheme development, the analysis undertaken for the SOBC assumes that a service frequency of 12 vehicles per hour (one every five minutes) would operate during the peaks on each of the 'inner corridors', which in turn provides for a frequency of 36 vehicles per hour through the core section (between the Cambridge Station and the city centre). The analysis for the SOBC suggests that the forecast demand is sufficient to justify this level of service.

- 2.144 The expectation is that, as growth occurs over time, the level of services would increase to accommodate this growth. The options for how CAM could accommodate significant planned growth over time are set out later in this section.


High-Quality Interchange


- 2.145 It is currently envisaged that the full CAM network would operate as three ‘lines’, each with an initial peak frequency of at least 12 services per hour in the peak, and at least six services per hour in the off-peak. Each CAM stop would therefore benefit from a service every five minutes in the peak to Central Cambridge, providing the high-frequency, turn-up-and-go service required.
- 2.146 All CAM would provide direct services to the city centre and Cambridge Station and a number of cross-city destinations (e.g. to Cambridge Biomedical Campus from the north). There will be a requirement to interchange between services for some cross-city movements. Where passengers are required to interchange this will be achieved via a same-platform interchange in the City Centre without the need to use stairs, lifts or escalators, minimising any inconvenience for passengers.

High Quality Vehicles and Stops

- 2.147 CAM would operate with high-quality, zero-emission trackless metro vehicles, powered by electric batteries recharged overnight and at route termini throughout the day, without the need for overhead wires. Vehicles would offer a high level of ride comfort, comparable to tram operation, with a maximum speed of approximately 55mph (88kph).
- 2.148 There are several low-floor, ‘tram style’, fully battery powered electric vehicles ‘on the market’ which could be used to support CAM services. The supplier market is developing rapidly as manufacturers and technology companies are responding to opportunities that ‘trackless metro’ offers, and the ambition that a number of public authorities have to develop and enhance their public transport networks based on an affordable, flexible and scalable technology.
- 2.149 The vehicles on the market include the latest technology around electric operation and charging, and many vehicle manufacturers (usually in conjunction with technology partners) are piloting and testing the technology that will allow for autonomous and driverless operation, connected vehicles allowing platooning and dynamic network management which offer the prospect of more efficient and effective operation in the future.
- 2.150 Examples of such vehicles are shown in Table 2.5 below.

Table 2.5: Summary of potential CAM Vehicle Options

Manufacturer (bold) and brand name (italics)	Image
Vanhool: <i>EquiCity</i> <ul style="list-style-type: none"> Available with battery-electric operation Vehicle length 18m (single articulation) Passenger capacity c. 105 Operating in Belfast, Hamburg, Geneva, Palma and numerous 	

<p>Vanhool: <i>EquiCity</i></p> <ul style="list-style-type: none"> • 24m version of above (double articulation) • Passenger capacity c. 180 • Operating in Metz, Linz, Luxembourg, Martinique and elsewhere 	
<p>Irizar: <i>ie Tram</i></p> <ul style="list-style-type: none"> • Fully electric • Vehicle length 18m (single articulation) • Passenger capacity c. 155 • Operating in the Amiens over 4 routes in the city utilising 43 vehicles, with a total project cost (including infrastructure) costs of €122 million. 	
<p>CRRC: <i>Autonomous Rapid Transit (ART)</i></p> <ul style="list-style-type: none"> • Fully electric • Vehicle length 31m (double articulation) • Passenger capacity c. 300 • Operating on pilot corridor in Zhuzhou, China 	

Stops

- 2.151 Each CAM stop would include waiting facilities, covered cycle parking, ticket vending machines and smartcard readers and real-time information provision. Stops would be high-quality, providing shelter from the elements, and present an attractive, iconic and recognisable impression of the CAM system.

Guidance

- 2.152 Vehicles would be guided through tunnelled infrastructure by an optical guidance system within the tunnelled sections of the CAM network. Image processing by cameras on-board CAM vehicles allow it to follow markings along the CAM alignment, which linked to an on-board computer, guides the vehicle through the steering column.
- 2.153 Such optical guidance systems are well-proven, and the technology has been in operation in several European cities since the early 2000s, including Rouen, Nimes, Bologna, Castellon and Essen. Optical guidance is currently proposed for the segregated Cambourne – Cambridge and Granta Park – Cambridge Biomedical Campus corridors, under development by the Greater Cambridge Partnership, which will form part of the CAM network.
- 2.154 Such guidance mechanisms can readily be migrated towards driverless operation.

System Capacity to Accommodate Future Growth

- 2.155 It is essential that the CAM network provides a level of service and network coverage which is both commensurate with the expected level of demand in the early years of operation, but is also able to accommodate increased demand in future, including from housing and employment growth, and from future expansion of the network.
- 2.156 Our demand analysis, presented in the Economic Case, shows that the assumed initial service levels are sufficient to accommodate forecast demand.
- 2.157 In the longer term, to support additional demand arising from additional population and employment growth over and above 'Local Plan', and for further substantial modal shift. The capacity of the CAM system can be significantly increased by threefold or more. This could be achieved through several means:
- Increasing **service frequencies** – the tunnelled core could also support increasing the service frequency to up to 60 services per hour, or one a minute, equivalent to a capacity of up to 66%.
 - Operating **longer vehicles** – we have assumed a vehicle length of 18m, although comparable transit vehicles are available on the market with a length of 24m. This equates to a capacity increase of approximately 40%;
 - '**Platooning**' vehicles – vehicles could also operate in 'platoon', travelling in convoy a short distance apart from one another. Platforms on the CAM network have been planned with a 60m length, to enable 3x18m or 2x24m vehicles to operate as a 'platoon', increasing the capacity by up to 200%;
- 2.158 These approaches enable the capacity of the CAM network to be increased incrementally, in line with forecast demand. Increasing capacity will require additional vehicles and incur additional operating costs, although this will be balanced by the additional revenues associated with any such increase in demand.
- 2.159 Platooning vehicles would require further development of convoying and platooning technology, and associated legal powers, to permit usage on CAM infrastructure. Platooning systems are technically feasible today²⁶, but are not commercially available, although on-road trials of platooning of heavy goods vehicles have been successful in mainland Europe²⁷, and are expected to be trialled on the UK motorway network²⁸. Such technologies are fully expected to become available in the medium-term, during the development of CAM.
- 2.160 Up to three 18m vehicles could be 'platooned', and accommodated within 60m-long CAM platforms, representing a tripling of capacity compared to operating vehicles singly. Vehicles could continue to be operated by a driver (in the first vehicle), although could transition to full autonomous operation in the longer term. Platooning has the advantage that the number of vehicles being platooned can be easily changed at the start and end of routes, allowing for capacity to be easily enhanced during peak periods.

²⁶

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/637361/truck-platooning-uk-feasibility-study.pdf

²⁷ <https://www.theguardian.com/technology/2016/apr/07/convoy-self-driving-trucks-completes-first-european-cross-border-trip>

²⁸ <https://www.telegraph.co.uk/news/2017/08/24/fleets-driverless-lorries-will-trialled-britains-motorways-next/>

- 2.161 Alternatively, or in combination with platooning, vehicles of a longer length could operate. VanHool ExquiCity vehicles are already commercially available in a length of 24m, increasing capacity by approximately 40%, although would require dispensation from the Department for Transport to be operated²⁹. The Autonomous Rapid Transit (ART) has a vehicle length of 31m, and passenger capacity of around 300.

Future Autonomous Operation

- 2.162 CAM presents the opportunity to adopt rapidly emerging autonomous vehicle technology, as and when it becomes sufficiently mature for mainstream use. It has been developed to maximise segregation, which in addition to creating a faster, more reliable network, will increase the ease at which autonomous operation can be introduced. The initial piloting and then running of driverless vehicles will be easier to implement within a more controlled (i.e. segregated from general traffic) environment. Autonomous, driverless operation of CAM could deliver significant operational savings, as well as help Cambridge become a 'city of firsts' in creating a high-quality, high-capacity and automated mass transit system.
- 2.163 It should be noted, however, that the CAM concept is not *dependent* or in any way predicated on autonomous operation. It is intended that CAM will operate with a driver initially, before transiting to driverless operation as and when the requisite technology matures.

Options Assessment

Background

- 2.164 As part of the identification and development of a 'preferred option' it is necessary to identify a longer-list of potential options, 'sift' the long list to identify a shortlist of better performing options and then undertake an assessment to identify a single preferred option for the purposes of the SOBC.
- 2.165 The Greater Cambridge Mass Transit Options Assessment Report³⁰, published in January 2018, concluded that mass transit infrastructure within Greater Cambridge could play an important role in developing an integrated, high-quality transport network which supports the region's growth aspirations. As part of this work a long-list was considered, and a shortlist identified which comprised CAM, tram and the Affordable Very Rapid Transit (AVRT) concept. The shortlisted options were assessed based on their potential to meet the objectives³¹, their likely infrastructure cost and value-for-money, the ongoing affordability (whether revenues are likely to cover operating costs), whether the capacity is sufficient to cater for long-term demand growth, and deliverability.
- 2.166 The study found that, of the three options, CAM and tram had the potential to deliver the improvements in transport capacity, reliability and connectivity required to achieve the region's economic growth, housing and sustainability objectives. AVRT was also considered the least deliverable of the options. The report concluded that CAM would be more affordable and deliver better value-for-money than tram, delivering similar transport benefits (in terms of capacity, connectivity and accessibility) for significantly less capital cost, and that CAM would be more operationally viable due to its lower unit costs and greater operational flexibility.

²⁹ Current Government legislation limits bus lengths to 18m

³⁰ [Greater Cambridge Mass Transit Options Assessment Report](#)

³¹ While the scheme objectives have been developed further for the SOBC, the underlying rationale for CAM and the outcome-related objectives it seeks to support are ostensibly the same.

Modal Assessment

- 2.167 As part of the development of the SOBC, further work has been undertaken to review, test and validate the findings of the 2018 study. The outcome of this assessment confirmed that CAM is the preferred technology option for the mass transit network.
- 2.168 The central conclusions which support the identification of CAM as the preferred option over tram are:
- The capital costs and ongoing affordability means that it would not be viable to deliver a tram system over the equivalent network coverage envisaged by CAM. There is not the scale of density of demand support a tram network extending beyond the city fringe, and any such proposition would be unlikely to represent value-for-money and would be unaffordable on an ongoing basis.
 - CAM is therefore the **only viable option** for a metro-type network that extends beyond the city fringe.
 - A tram network would potentially be viable over a 'city' network broadly covering the Cambridge urban area (i.e. as far as the city fringe), but:
 - Any 'city' tram network would, by definition, require interchange between each of the existing and planned inner corridors (i.e. from the existing Guided Busway, Cambourne, Granta Park, etc) and would therefore be less attractive to passengers than the direct services that would operate with CAM;
 - A 'city' network would therefore deliver lower benefits at a greater overall cost than a CAM network.
 - The overarching objectives of CAM are to support long-term housing and jobs growth. The vast majority of this housing, and a significant number of jobs, will need to be located in areas served by the extended CAM network. CAM is the only option that provides a potentially affordable means of accommodating this growth by providing direct connectivity to key travel destinations in Cambridge.
 - CAM also provides greater flexibility in terms of routing and service levels, so that the network and services can be developed and scaled to support growth and development over time, as and when required.
 - Future phases of CAM, by virtue of being able to operate on a simple, controlled-access, road carriageway, would be significantly easier to be incorporated into future developments across Greater Cambridge as they are built out, compared to the fixed track infrastructure required for tram systems which is significantly more expensive to deliver and requires greater government powers and consents.

Part D: Strategic Assessment of CAM

2.169 This section summarises the strategic benefits of CAM in delivering a transformational improvement in public transport provision. It outlines how, as a consequence, CAM helps deliver against wider objectives including supporting additional employment and productivity growth, accelerated housing delivery and increasing equity.

2.170 This then inform our assessment of how CAM performs against the stated scheme objectives.

Transport Benefits

2.171 In Part C, the mechanisms by which the realisation of the CAM outcome-led objectives (e.g. around economic growth, housing delivery) was related to the transport outputs delivered by CAM was set out through the 'logic mapping' process.

2.172 The key outputs and measures of success for CAM have been established and set out in the Mayoral Interim Transport Statement. These are set out in Table 2.6, with an assessment of how can delivers against each of them.

Table 2.6: How CAM Delivers against Transport Outputs / Measures of Success

Key output / measure of success (from MITTS)	How CAM specification meets requirement
Delivering high quality, high frequency, reliable services, making it the mode of choice and taking away a reliance on cars;	CAM will: <ul style="list-style-type: none"> • Provide a step-change in the quality, frequency and reliability of public transport within the region; • Encourage significant modal shift; • Reduce reliance on private cars by, for example, transforming connectivity between where people live and the 'city fringe' employment areas.
Delivering maximum connectivity, network coverage, and reliable journey times;	CAM will: <ul style="list-style-type: none"> • Support the development of an extensive public transport network linking previously poorly connected across the Greater Cambridge area; • Ensure reliable journey times by providing complete segregation in Central Cambridge, and overcoming the key constraints imposed by the historic city core.
Forming part of a more active and sustainable travel choice which encourages walking and cycling at the start and end of journeys;	As part of CAM sustainable 'last mile' connections will be provided through: <ul style="list-style-type: none"> • The provision of cycle facilities at stops • Provision of attractive cycle and pedestrian infrastructure and wayfinding to stops
Providing sufficient capacity for growth and supporting transit-led development;	CAM will: <ul style="list-style-type: none"> • Provide the long-term capacity required to support substantial growth across Greater Cambridge • Provide the connectivity, capacity and accessibility that can support the development of expanded and / or new settlements along its route.
Flexibly adapting to future needs; and,	CAM provides flexibility to adapt to future needs through providing:

	<ul style="list-style-type: none"> • Operational flexibility to ensure that services cater for demand • Route flexibility to allow the network to develop to support future growth and development. • Capacity to support long-term growth • Ability to adapt to the opportunities afforded by autonomous and connected technology.
Using emerging technologies, including connected and autonomous vehicles.	CAM is being developed to be fully capable of responding to the opportunities that autonomous and connected technology can provide, including reduced operating costs and increased operational flexibility and efficiency.
Delivering high quality, high frequency, reliable services, making it the mode of choice and taking away a reliance on cars;	CAM will transform the attractiveness of public transport and make it an attractive and viable alternative to the private car, enabling growth to take place in a sustainable manner.

Economic Benefits

How Would CAM Contribute to the Growth of the Greater Cambridge Economy?

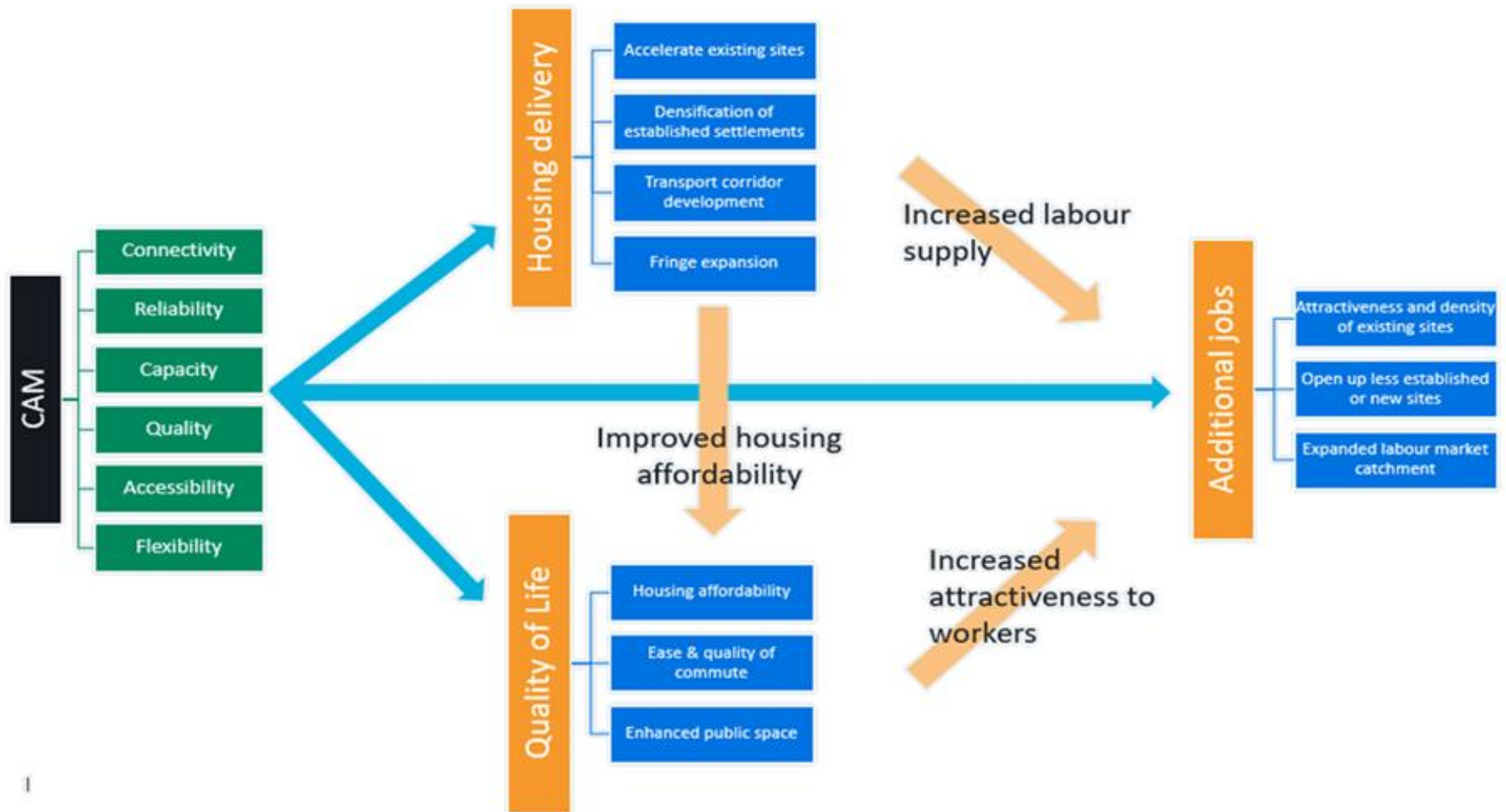
- 2.173 CAM will transform the quality of public transport provision for the benefit of existing residents and businesses. However, the scale of investment required can only be justified if CAM supports additional growth in jobs and housing within Greater Cambridge, delivering an overall level of development, growth and economic activity significantly above that which would be possible without CAM.
- 2.174 In the following sections the potential of CAM to contribute to the Greater Cambridge economy is outlined. The greater connectivity provided by CAM will benefit the economy through several mechanisms, which are described below.
- 2.175 Ultimately, as one of the most productive and specialised economies in the UK, growing the Greater Cambridge economy has the potential to bring significant benefits at both regional and national scales.

Supporting additional employment growth

- 2.176 There are several mechanisms by which CAM will support additional job growth across Greater Cambridge. These mechanisms are summarised in Figure 2.16.
- 2.177 CPIER identifies the need to accelerate housing supply and to maintain and enhance quality of life as factors important for attracting and retaining skilled labour. CAM will help to achieve both of these objectives. By spreading better connectivity beyond Cambridge City Centre, it will unlock additional sites for housing development. By providing an additional, high quality public transport option, the quality of the public realm is likely to improve.
- 2.178 Attracting and retaining skilled labour is fundamental for driving economic growth in Greater Cambridge. CPIER suggests that in the knowledge-intensive sectors, many businesses in Greater Cambridge adopt a 'Cambridge or Overseas' attitude, meaning that if they were not located in Greater Cambridge they would be located outside the UK. This means that additional jobs (and the resulting economic input) lost if CAM is not constructed are not only lost to Greater Cambridge, but the UK as a whole. Many of these businesses are attracted to Greater Cambridge because of the quality of the workforce. Maintaining and enhancing the quality of this workforce is therefore of both regional and national interest.

- 2.179 Critically, CPIER identifies that many additional firms and jobs within KI and related sectors are likely to be 'additional' to the UK economy, and would choose to locate overseas rather than elsewhere in the UK. In cases such as Greater Cambridge, with high levels of FDI and KI jobs it can be assumed that between 10-30% of jobs will be 'net additional' to the UK economy. We have quantified the benefits of additional jobs and the UK level within the CAM economic case.
- 2.180 Additionally, by enhancing regional connectivity, CAM will make more jobs accessible for more employees living in the local area. All businesses require a range of skillsets, and providing access to a wider potential pool of employees should ensure that there is a better 'fit' between opportunities and jobs. By spreading connectivity across the Greater Cambridge area CAM has the potential to provide employment for individuals living in areas with poor labour market accessibility.

Figure 2.16: How CAM supports future growth in Greater Cambridge

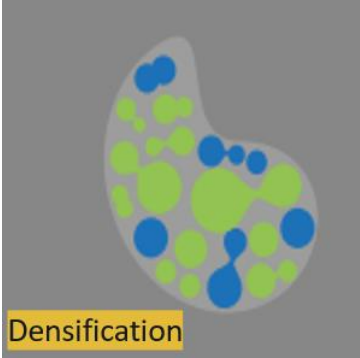
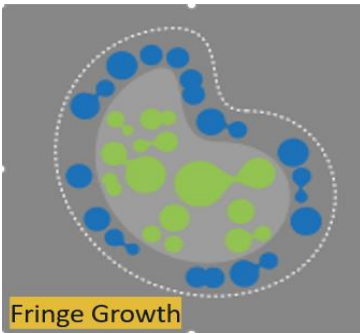



Supporting housing growth

- 2.181 CAM will provide enhanced public transport accessibility between areas of existing economic activity and planned growth, broadly linking the city centre (including around Cambridge Station), the large-scale city fringe sites, and satellite centres (such as Cambourne and Waterbeach). It also has the potential to expand further towards market towns (St. Neots, Haverhill, Newmarket and Mildenhall).
- 2.182 CAM will help to support and shape future spatial planning options. The Combined Authority is developing a Non-Statutory Framework for publication in 2019, and Cambridge City and South Cambridgeshire have started the process of developing a Local Plan which would cover the period from 2031 (the end of the current plan period) to 2046 or beyond.
- 2.183 Subject to CAM being progressed beyond SOBC stage, it will help to inform and shape some of the spatial strategy options within these plans. By providing better accessibility to a wider area CAM will open opportunities for development across the Greater Cambridge area.
- 2.184 Additionally, the ‘placemaking’ benefits brought by CAM are likely to attract more skilled workers to the area. Placemaking refers to the process of shaping public realm spaces to maximise their shared value³². Providing high quality, ‘flagship’ public transport solutions such as CAM is likely to enhance Cambridge’s reputation as a city with a good quality of public realm, therefore encouraging highly skilled workers to locate to the area.
- 2.185 Within the CPIER report different high-level spatial planning options were identified; these were densification, dispersal, fringe growth and transport corridors. The CPIER report recommended that a blended spatial strategy be developed, comprising elements of each of these, but also highlighted the pros and cons of each strategy in economic (contribution to economic growth) and sustainability (impact on use of different modes). The details of these options are summarised in Table 2.7.
- 2.186 Essentially, CAM can provide the connectivity to support accelerated housing delivery and jobs growth through densification, fringe growth and transport corridor-led development. The least sustainable land use option identified was ‘dispersal’ which CAM, by its nature, would do less to support.
- 2.187 A key benefit of CAM is that, by accommodating higher levels of growth and development in sustainable locations, the pressure and requirement for growth in other less suitable and more sensitive areas would be relieved. CAM can therefore help deliver growth in a manner that is economically and inviolately sustainable, while also being potentially more acceptable to stakeholders.

³² Project for Public Spaces, <https://www.pps.org/article/what-is-placemaking>

Table 2.7: Details of Spatial Development Options (from CPIER).

Spatial Development Option	Summary of CPIER findings	Potential role of CAM
 <p>Densification</p>	<ul style="list-style-type: none"> This option is most consistent with a 'networks-based' approach to developing the economy – supporting the agglomeration of knowledge-intensive sectors. Densified accommodation is popular with young people, due to close access to amenities There is limited potential for densification within the city of Cambridge. Densification would be most feasible in new development sites towards the edge of cities. Densification is associated with the lowest increase in car use and is therefore the most sustainable transport option. 	<ul style="list-style-type: none"> CAM will transform transport connectivity and therefore support greater agglomeration between the key employment (and academic and research) areas of the city centre, fringe sites and related sites. CAM will attract additional employment to the area by making existing employment sites more attractive (to businesses through better access to labour, and to workers) and developable at higher densities. CAM can open up major new development sites, making them more viable and attractive to businesses and investors, and supporting high density employment and housing. <p>Overall, CAM can help forge a better integrated and more agglomerated economic area that will support the growth of the Knowledge-Intensive economy.</p>
 <p>Fringe Growth</p>	<ul style="list-style-type: none"> Has the potential to create new economies which 'feed' off the economic strength of Cambridge Could allow denser developments than options within the city centre This option is likely to work best as part of well-planned urban extensions 	<ul style="list-style-type: none"> CAM has the potential to open major new city fringe sites. Good public transport accessibility will be a major factor in determining whether such sites can come forward, and of the density, rate and mix of development that can be supported. These sites have the potential to be both housing and employment sites.
 <p>Transport Corridors</p>	<ul style="list-style-type: none"> This approach should be considered a way of expanding the productivity of urban areas to the wider region Maintains the strength of the city core, and ensures that all future dwellings are within reach of employment sites Leaves large 'green wedges' between the transport links, helping maintaining the countryside quality of life If public transport links are set up before development, it would encourage wider use of these modes Would require careful coordination between infrastructure and development projects 	<ul style="list-style-type: none"> CAM will provide the public transport capacity, accessibility and connectivity required to support 'transport corridor' development. This could include the expansion of existing settlements and the development of new settlements. The planning of CAM in conjunction with new settlements would allow for the integrated planning of housing, transport and 'place' to deliver the quality of life required to encourage skilled workers to locate in the area.

Supporting productivity growth

- 2.188 Productivity across the Greater Cambridge area is already high and driving it higher will be a challenge. However, CAM should support increased productivity in several ways.
- 2.189 The most significant of these will be through encouraging ‘agglomeration benefits’. Agglomeration benefits occur when firms are located close to one another and can take advantage of efficiencies gained from this proximity. These benefits can broadly be divided into two categories:
- **Static clustering** benefits. This is a ‘proximity effect’ which occur as the ease of making a journey within a ‘cluster’ of existing businesses is improved. This allows sharing of common resources, increased scale and specialisation, and knowledge spill-overs.
 - **Dynamic clustering** benefits. This is an inward investment effect, whereby more productive resources are attracted into the economy, encouraging an increase in the quantity of economic activity in each place. Dynamic clustering attracts high-skilled workers to the area, incentivises local people to invest in education and skills, and stimulates business investment.
- 2.190 Greater Cambridge already benefits from these ‘agglomeration impacts’, such as knowledge spill-over from the university. However, CAM will link together key ‘clusters’ around the city, decreasing the relative distance between them. Additionally, CAM will support the expansion of existing and new employment sites as the urban area around Cambridge expands.
- 2.191 The development of CAM will allow the ‘densification’ of Cambridge by better connecting the city to the city fringe employment sites (static clustering effect) and encouraging additional jobs to locate in the city (and near surrounds) due to CAM making the area a more attractive place to locate, expand and invest.
- 2.192 Improving the transport network will also expand the potential ‘pool’ of labour and jobs from which employers and employees can select from. This should allow better ‘skills matching’ as people with the ‘right’ skills can be paired with the ‘right’ jobs. All businesses require a range of skillsets to function effectively, providing a wider labour pool increases the probability they will be able to source them. CAM will improve connectivity between areas of Greater Cambridge which are currently poorly served by the public transport network, expanding this potential ‘pool’.
- 2.193 CAM will also improve the operational efficiency of businesses, through providing fast and reliable connections from employment sites, between sites (encouraging business to business activity), to markets and suppliers across (and beyond) the Combined Authority area and, indirectly, to key gateways such as Stansted Airport. CAM will also serve to relieve congestion on the road network, further benefitting businesses through reduced delay and better reliability. These effects are quantified within the Economic Case through the estimation of journey time savings.

Social and Equity Benefits

- 2.194 A key concern about the rapid growth of the Greater Cambridge economy is that the benefits of growth are overly-concentrated in and around Cambridge itself and that lower skilled and lower paid workers are increasingly being ‘priced out’ of Cambridge.
- 2.195 CAM will not, on its own, address the equity issues that are identified across the Combined Authority region, but will potentially help in a number of specific areas including:

- Improving the affordability of housing, by addressing supply-side constraints and therefore reducing the mismatch in growth between jobs and housing.
- Making areas within the commuting hinterland of Cambridge significantly more attractive as places to live, through providing an attractive and affordable public transport option.
- Encouraging increased economic activity and jobs in locations such as satellite centres (Cambourne, Waterbeach) and market towns (St Neots, Huntingdon) through providing significantly enhanced connectivity between these locations and the economic 'hub' in and around Cambridge. CPIER identified a key opportunity for supply-chain activities (much of which is sources from overseas) to develop and locate within the wider Combined Authority area.
- Providing enhanced journey opportunities to deprived residents, many of whom may not have a car available. Such journey opportunities can increase access to employment opportunities, education, leisure and health facilities.

Assessment Against Scheme Objectives

2.196 Table 2.8 summarises the performance of CAM against the scheme objectives.

Table 2.8: Performance against scheme objectives

Objective / sub-objectives	Description of Economic Linkage	Transport metric	CAM Assessment
<i>Promote economic growth and opportunity</i>			
Improve transport connectivity	Connectivity supports access to labour, access to markets and suppliers, B2B linkages, and access to gateways.	Change in overall generalised journey times by public transport and car	<p>CAM will transport connectivity to and across the city. The overall improvements in public transport journey times are valued at £425 – 525m PV.</p> <p>Sample improvements in public transport journey times include:</p> <ul style="list-style-type: none"> • Cambridge West to Cambridge Central Station, 22 minutes today, 6 minutes with CAM; • Cambridge North to Cambridge Bio-Medical Campus (CBC), 32 minutes today, 12 minutes with CAM; and, • Newmarket Road P&R to City Centre, 25 minutes today, 10 minutes with CAM. <p>CAM is forecast to 7.5 million vehicle trips per annum per annum. Reductions in travel time on the road network is estimated at £90m PV.</p>
Improve journey time reliability	Journey time unreliability (car & PT) is a key problem in and around Greater Cambridge and imposes costs on businesses	Improvement in journey time reliability by public transport and car	<p>Journey time unreliability is a critical issue for business and people, and many journeys will be subject to greater delay in the future as growth places additional strain on transport networks. On a good day, a peak-time journey along the Maddingley Road in Cambridge can take 20 minutes, with congestion it can be more than double this.</p>

	and affects the quality of life for all.		CAM will be fully segregated and therefore deliver fast and reliable journey times between a range of locations across Greater Cambridge that, without CAM, would be subject to significantly unreliability.
Promote agglomeration	Drive ambition to support growth and productivity of knowledge-based economy.	Reduction in journey times between key employment centres including city centre, city fringe sites, satellite centres and market towns. This, in turn, increases the 'effective density' (the measure of agglomeration) of employment	<p>CAM will deliver additional GVA from increasing the 'effective density' of jobs. Jobs in highly innovative and knowledge-intensive sectors, which characterise employment in Greater Cambridge, are those where the agglomeration gains will be greatest. The agglomeration benefits stem from:</p> <ul style="list-style-type: none"> • 'Static agglomeration' - the additional productivity gains from as improved transport connectivity increases the benefits of business clustering, assuming a fixed level of jobs. These benefits are valued at £465 – 575m PV. • 'Dynamic Agglomeration' - occurs as the CAM can support a higher overall level of jobs in the region, which increases effective density (by increasing the actual number of jobs) and thereby increases the productivity of all firms. This is valued under 'supporting new employment'
Support new employment by enhancing access to and attractiveness of key designated employment areas	Providing transport connectivity that makes employment locations more attractive place to invest or locate, can supports higher scale and/or density of development	Step change in connectivity and capacity to key employment areas.	<p>CAM will provide the connectivity, capacity and accessibility that will enhance the attractiveness of key existing and potential future employment sites. This will also enable sites to be developed to a greater density than would be the case without CAM. Sites that will be transformed in terms of their accessibility include the City Centre, CB1 (Cambridge Station) and the major city fringe sites of West Cambridge, CBC (to the south), Cambridge Science Park (north) and future potential development sites to the East.</p>
Increase labour market catchment	Access to labour and skills is fundamental to success and growth of knowledge economy. Supports objective to match labour skills with business needs.	Expansion of labour market catchment	<p>CAM will enable existing and future employers to be able to recruit labour from a significantly larger labour pool, as it will bring a significantly larger number of workers within easy commuting access of Cambridge. significantly higher number of workers within a reasonable public commuting time.</p> <p>Supporting the growth of additional housing where CAM will provide direct connectivity between major housing settlements (e.g. Waterbeach, Cambourne) and employment sites in the city, city fringe and satellite centres.</p>

<i>Support the acceleration of housing delivery</i>			
Direct high-quality public transport access to key housing sites (existing designations)	Accelerating the delivery of housing where improved transport connectivity makes sites more attractive to developers and occupiers	Step change in connectivity and capacity to key designated housing locations.	CAM has been developed to serve major existing and proposed housing locations. The impact of CAM will depend on the phasing of development, but in many cases, will improve the viability of development sites, enable development to be accelerated and can support development at a greater density due to enhanced public transport accessibility levels and reduced requirement for parking.
Serve and support new areas for sustainable housing development	New and enhanced transport links open up new areas for housing development.	Opportunities to serve areas which could support housing, including new settlements.	<p>The major challenge to realising Greater Cambridge's economic potential is the need to accelerate housing delivery to a level well above historical levels. CAM provides an opportunity to help shape a future spatial strategy around the connectivity, capacity and route flexibility that it will provide. It can support a blended spatial strategy (as recommended by CPIER) focussing on:</p> <ul style="list-style-type: none"> • The 'densification' of existing build up areas and developments; • The expansion of existing settlements that are served by CAM through 'fringe growth'; and, • The potential for new and or expanded settlements on 'transport corridors', where CAM provides fast and reliable services from settlements into (and across) the city. <p>The full extent of the CAM network enables it to support each of these spatial strategies, as appropriate, in line with future spatial plan development. The critical feature of CAM is that it will be transformational in supporting the quantum of future housing levels required in a sustainable manner.</p>
Provide overall transport capacity to enable and accommodate future growth	Transport system has the capacity to support long-term growth	Balancing of capacity and demand, allowing for long-term growth.	<p>CAM Is designed to be flexible and responsive, so that service and route planning can be developed, over time, to accommodate and support future growth. This flexibility includes the ability to:</p> <ul style="list-style-type: none"> • increase capacity over time. • extend the network geography to support existing or new settlements
<i>Promote Equity</i>			
Promote better connecting other towns within C&P to Cambridge	Improve connectivity to Cambridge / Fringe sites to enable benefits of 'Cambridge phenomenon'	Ability to improve PT access to locations poorly served / connected	Spreading the benefits of the 'Cambridge-effect' more equitably across the CA area is a key Mayoral objective. CPIER identified that, while knowledge-intensive sectors are, and will continue to be, clustered in Greater Cambridge, there are significant opportunities for the rest of the region to benefit by increasing the share of supply chain and

	to be spread across CA area.		ancillary functions which are largely provided out-with the CA area. The connectivity provided by CAM can be an enabler of growth in KI-related sectors, which, if realised, can support jobs growth across a wider area of the CA.
Improve opportunities for deprived residents	Provide improved access to opportunities (work, education, leisure) to deprived groups, or those reliant on public transport accessibility.	Improvement in PT accessibility to areas of comparatively high deprivation.	There are pockets of deprivation across Greater Cambridge, and people across the area who may not have the skills and attainment to enable them to fulfil their own potential and, by extension, that of the area as a whole. CAM is one enabler, alongside other measures (skills and training) that can help improve the opportunities for deprived residents to participate in, and benefit from, the economic strength of the area.
<i>Promote sustainable growth and development</i>			
Improve air quality	Improve health by reducing particulates and NOx from vehicles	Modal shift from car to public transport	CAM is fully electric and zero-emission at the point of use. CAM is forecast to result in a reduction of around 7.5 million vehicle trips per annum, contributing to a significant reduction in local emissions across the area. The centre of Cambridge includes an Air Quality Management Area (AQMA). The proposed routing of CAM, in tunnel beneath the city centre, directly reduce the vehicular traffic that would otherwise drive (buses, cars, taxis) in the centre. CAM also offers the potential to significantly enhance the urban realm and enable a supporting city centre movement strategy that gives greater priority to pedestrians and cyclists.
Promote low carbon economy	Reduce carbon impact of transport	Reduction in Car km	CAM is forecast to result in a reduction of around 7.5 million vehicle trips per annum, contributing to a significant reduction in carbon.
Support environmental sustainability	Support growth of the CA area while minimising growth in (or reducing) car trips	Reduction in Car km	CAM will support environmental sustainability through: <ul style="list-style-type: none"> • Promoting modal shift and sustainable travel; and, • Encouraging more sustainable patterns of land use.

3 The Economic Case

Introduction

- 3.1 This Chapter sets out the Economic Case for the CAM. The purpose of the economic case is essentially to provide an assessment of whether the scheme:
- is financially sustainable, in that system revenues exceed operating costs;
 - represents value-for-money with the benefits of the system exceeds the scheme costs over the lifetime of the project.
- 3.2 The overall strategic case for CAM rests on its ability to support additional economic (jobs and GVA) and housing growth, supporting overall economic activity and output at a level above that possible without the scheme. This ‘additionality’ case is included within the Economic Case, where the net additionality at both the Greater Cambridge and national level is estimated. There is therefore a direct ‘read across’ between the strategic and economic case for the scheme.
- 3.3 This Chapter sets out:
- the assumed specification of CAM upon which the economic assessment is based;
 - the approach and assumptions which underpin the economic appraisal, including the transport modelling used to support the Economic Case;
 - the capital costs of implementing the CAM network, including
 - the ‘core’ central area infrastructure including tunnelled sections and underground stations;
 - the GCP ‘inner corridor’ schemes to Cambourne, Granta Park and Waterbeach; and
 - the ‘regional corridors’ to Mildenhall, Haverhill, St Neots and Alconbury.
 - the ongoing operating, maintenance and lifecycle costs for the CAM network;
 - an assessment, informed by the transport modelling, of likely CAM demand, including:
 - forecasts for overall network demand under different growth scenarios and transport assumptions;
 - benchmarking of network demand against existing corridor demand, and comparable mass transit systems elsewhere;
 - discussion of the distribution of demand on the network, and changes in overall travel demand in the region;
 - an assessment of the ‘fit’ of modelled demand and system capacity;
 - the estimated revenues for the CAM network, together with an assessment of the ongoing affordability of the network and the extent to which forecast revenues exceed operating costs;
 - Our assessment, informed by the transport modelling, of the of the benefits and economic performance of the scheme. The benefits considered in the economic appraisal are:
 - Transport benefits, arising from the time savings to existing public transport users, benefits to new users, and the benefits arising from reduced congestion, carbon

- emissions and accidents as a result of modal shift away from private car. These are referred to as 'Level 1' benefits in DfT guidance;
- Wider economic benefits (referred to as 'Level 2' in DfT guidance), including static agglomeration, labour supply impacts, and output change in imperfectly competitive markets;
- Additionality benefits ('Level 3'), which capture the benefits arising from the additional housing, jobs and GVA that CAM could deliver, at both a Combined Authority and a 'net national' level, informed by the CPIER.
- The Economic Appraisal is presented for two scenarios:
 - The Economic Case for the benefits delivered by a 'Greater Cambridge' network delivered by the implementation of the 'core', predominately tunnelled, infrastructure and the GCP 'inner corridors'. The 'core' infrastructure is the fundamental enabler of the CAM network and, in economic terms, has to be justified against a 'Reference Case' which includes the GCP 'inner corridor' schemes, which are planned to come forward as initial phases of CAM independently of the central tunnel, and are subject to their own business case processes.
 - An illustrative case for the full 'regional' network, stretching to Mildenhall, Alconbury, St Neots and Haverhill, taking account of the greater scale of additionality that a more expansive, 'regional' network could deliver.

Scheme Definition – basis for Economic Case

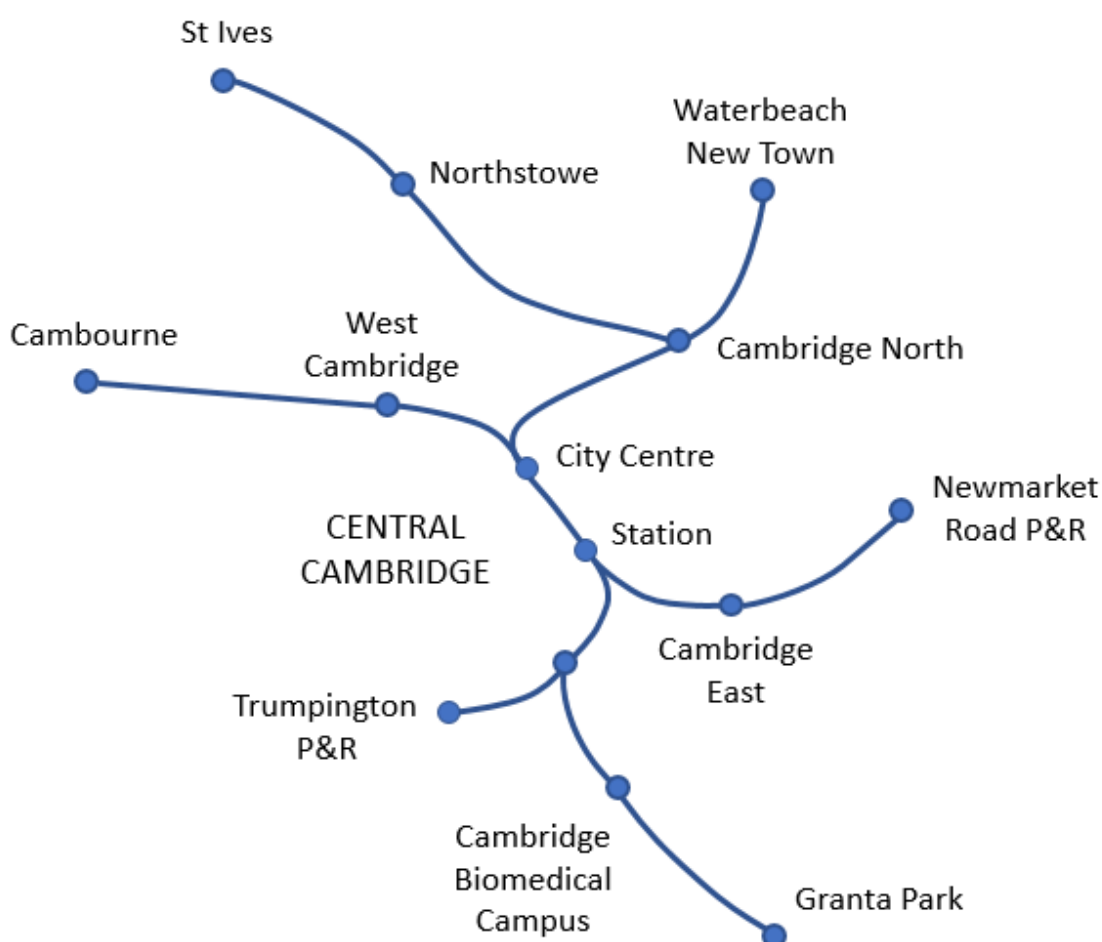
- 3.4 The vision for CAM is that it will comprise a comprehensive 'regional' network, extending to St Neots, Alconbury, Haverhill and Mildenhall, of approximately 142km in length.
- 3.5 However, in estimating the patronage, together with the transport and wider economic benefits (Level 1 and 2) for CAM, the economic assessment is based on a smaller network that extends as far as the proposed GCP 'inner corridors' to Cambourne, Granta Park and Waterbeach New Town, together with Newmarket Road P&R and Trumpington and St Ives on the existing Cambridgeshire Guided Busway. The reason for focusing upon this network is that:
- There is a much greater level of scheme development that has taken place for these sections, and therefore greater certainty about their routes and scheme costs;
 - The transport model only has sufficient geographic coverage to meaningfully forecast demand for the network above. The lack of geographic coverage, uncertainty about specific routings and the fact that the case for the development of these corridors will be based, to a large extent, on future housing growth that is not represented in current transport models, makes the forecasting of demand and benefits for the wider network using existing transport models inappropriate, and the use of any alternative approach would be too speculative to provide meaningful evidence;
 - In economic terms, it is necessary to understand and delineate the benefits that accrue from the development of different elements of the network. It is essential that the economic assessment presented in this report helps to make the incremental case for delivering the 'core', central infrastructure (and associated costs) that are addition to the schemes coming forward as part of the 'Reference Case' scenario.
 - These refer to the GCP 'inner corridor' schemes to Cambourne, Granta Park and Waterbeach, which form an integral part of the CAM network, and are being developed by the GCP as 'discrete' projects subject to their own options, scheme development, business case and powers and consents processes.

- The same principle also applies to the ‘outer corridors’, where it is also important that the economic case for the ‘core’, central infrastructure is not conflated with that of the ‘outer corridors’, as the development of these corridors will also need to be justified on a case by case basis.

3.6 Hence, the forecasts of transport benefits and wider impacts (Level 1 and 2 benefits) are based on the network set out in Figure 3.1, for which there is a better developed scheme and route definition, which is represented by the transport model.

3.7 We have made a high-level assessment of the overall economic case for the full network. This is based on indicative capital costs for the ‘outer corridors’, and an assessment of the additional levels of housing and employment growth (Level 3 benefits) they could support. This is outlined at the end of this Chapter.

Figure 3.1: Assumed CAM network (for purposes of demand forecasting and transport benefits)



Scheme Specification

3.8 The appraisal of CAM has been based on the specification as set out below.

Assumed CAM Network and Service Assumptions

3.9 The overall CAM network, for the purposes of the economic assessment, comprises:

- A segregated mass transit network linking Cambridge City Centre and Cambridge Station to the corridors outlined in Figure 3.1;
- An assumed peak 'metro-level' service frequency of 12 services per hour on each corridor, equating to 36 services per hour between the 'core' section. Services are assumed to operate at half this frequency (6 services per hour) in the off-peak;
- Services operate for 18 hours a day Monday to Saturday, and 16 hours a day on Sunday;
- High quality 'tram-style' vehicles, powered by electric batteries and recharged at route termini;
- Integrated ticketing between CAM and other public transport services. Ticket sales would be 'off-vehicle' to minimise dwell times at stops.

CAM Vehicles

- 3.10 CAM will be operated by a fleet of new, electric battery-operated high-quality vehicles, examples of which are presented in Table 2.5.
- 3.11 The peak vehicle requirement for the CAM network has been estimated based on the assumed service pattern, together with an allowance for spare vehicles which allow for a proportion of the vehicle fleet undergoing maintenance at any one time.
- 3.12 We have also included an allowance for additional vehicles, to provide provision for increased services in the medium-term to support future growth, and to reduce ongoing operating costs by enabling a more efficient use of the vehicle's batteries. The inclusion of these vehicles allows 'headroom' for service growth or network expansion in the period post-opening.
- 3.13 The CAM vehicle requirements are summarised in Table 2.1. It should also be noted that these CAM vehicles will replace the vehicle requirements for the 'GCP schemes' to Cambourne, Granta Park and Waterbeach.

Table 2.1: CAM Vehicle Requirements

	Vehicles
Peak vehicle requirement (PVR) (for currently-proposed service pattern), including spares	59
Additional vehicles	20
Total	79

- 3.14 It should be noted that the vehicle requirement is based on an indicative service pattern, which is subject to future development to better match capacity to forecast demand. This will influence the overall peak vehicle requirement of CAM.

Other CAM Infrastructure Requirements

Charging Infrastructure

- 3.15 CAM will be operated by electric, battery-operated vehicles, and as such will require dedicated charging infrastructure at route termini and at depots. This will include a combination of 'fast chargers' and plug-in chargers, combined with the power infrastructure and grid connections required to support them.
- 3.16 Based on our assumed service pattern, we have estimated the charging infrastructure and capital costs required to operate CAM services. This includes an allowance to provide additional capacity to support an increase in service levels on the 'core', central section of the network.

Depot and Stabling

- 3.17 The CAM vehicle fleet will require depot and stabling facilities for maintenance, charging and overnight storage.
- 3.18 We have not identified a depot site at this stage, but depot/ stabling costs have been estimated on the basis of the assumed vehicles fleet, the area required to accommodate the fleet and allowance for the full 'fit-out' required for maintenance and staffing facilities.

Scheme Costs**Overall CAM Costs**

- 3.19 The total costs for delivering the full network would be in the order of £4,000m, as set out in Table 2.2.

Table 2.2: Summary of CAM Infrastructure Capital Costs

Network / route sections	Cost (£m, 2018 prices)	Scope
'Core' CAM infrastructure	2,360	See Table 2.3. Bespoke cost estimates have been developed for the SOBC.
Greater Cambridge Partnership 'inner corridors'	530	Costs estimates based on published cost estimates for all schemes except Waterbeach, where a unit rate has been applied. <ul style="list-style-type: none"> • Cambourne – Cambridge; • Cambridge Biomedical Campus – Granta Park; • Cambridge Science Park – Waterbeach New Town; and • additional P&R capacity at Trumpington or a new P&R site at Hauxton <p><i>CAM will also integrate with GCP proposals for the East Cambridge corridor, where a preferred scheme has yet to be identified.</i></p>
Combined Authority 'outer corridors'	800 – 1,610	<ul style="list-style-type: none"> • Cambourne to St Neots (13km) • Newmarket Road P&R to Mildenhall (30km) • Granta Park to Haverhill (16km) • St Ives to Alconbury (15 km)
Total	3,690 – 4,500	

- 3.20 For the 'regional corridors' we have developed indicative capital costs range for these extensions, with:
- the higher end of the range estimate based on a unit rate approach informed by cost per route km of the A1307 Cambridge Biomedical Campus to Granta Park scheme, which assumes that these extensions are segregated throughout;
 - the lower end of range estimate assuming that there would not be a requirement for new, segregated infrastructure across the entire route.

CAM Route and Related Infrastructure

- 3.21 Table 2.3 outlines the cost of the CAM elements which are integral to delivering an integrated, wholly segregated mass transit system across Greater Cambridge. This primarily consists of 12km of tunnelling under the city, two new underground stations in the City Centre and at Cambridge Station, together with depots, vehicles and charging infrastructure.
- 3.22 All 'core' infrastructure costs are presented including 66% Optimism Bias, which is an allowance made to project costs to reflect cost uncertainty. The level of optimism bias reflects the stage of scheme development, and the level assumed is based on the appropriate level at SOBC stage, in line with Treasury and DfT guidance.

Table 2.3: 'Core' CAM Infrastructure Capital Costs

Cost element	£m, 2018 prices	Notes
<i>Tunnelled infrastructure</i>		
Tunnelling	1,340	<ul style="list-style-type: none"> approximately 12km of twin-bore tunnels four tunnel portals
Underground stations	490	<ul style="list-style-type: none"> two underground stations, at the City Centre and Cambridge Station
Roadway and drainage	70	
Systems	100	
<i>Surface infrastructure</i>		
Surface route to Newmarket Road P&R	50	<ul style="list-style-type: none"> connections to existing / proposed Busway infrastructure at West Cambridge, Cambridge North and south of Cambridge station; new surface infrastructure linking the tunnel portal at Cambridge East to Newmarket Road P&R, integrated into the GCP proposals for this corridor
Conversion of existing guideway	70	<ul style="list-style-type: none"> conversion of the existing Cambridgeshire Guided Busway between the Cambridge Regional College and Cambridge North, and south of Cambridge station
<i>Other</i>		
Vehicles	80	<ul style="list-style-type: none"> Vehicle cost of £1m per vehicle, based on industry knowledge.
Depot and stabling	40	<ul style="list-style-type: none"> Indicative estimate based on size and maintenance facilities required
Charging infrastructure	20	<ul style="list-style-type: none"> Cost of electric charging infrastructure
Scheme development costs	100	<ul style="list-style-type: none"> Scheme development up to contract award / implementation.
Total	2,360	Inclusive of 66% optimism bias applied to all of above.

Note: all numbers have been rounded to the nearest £10m.

- 3.23 The total costs of the 'core' CAM infrastructure is £2.36 billion (2018 prices), in addition to the £530 million to deliver the GCP 'inner corridors, which form part of the Reference Case.

Cost Benchmarking

The capital costs have been benchmarked against other comparable infrastructure schemes, such as Crossrail and the Northern Line Extension. The costs have also been independently reviewed and, following this review, refined accordingly.

Operating, Maintenance and Lifecycle Costs

Approach

- 3.24 Steer has developed an operating cost model to forecast the annual operating costs of the CAM system. The model uses a set of input assumptions, including the hours of operation, service frequency and journey times, to estimate the driver, staff and vehicle requirements, from which the overall operating cost, and a set of cost metrics (such as annual cost per vehicle, cost per vehicle km), are calculated.
- 3.25 This model is informed by industry best practice, and our experience from other transport operations within the UK.
- 3.26 Key assumptions which underpin the operating cost model are:
- Driver costs are included, as CAM is expected to operate with drivers on 'day 1' and move towards autonomous operation at a future date;
 - Core Monday to Saturday operating hours of 5AM to Midnight, with a service of at least six services per hour at every CAM stop (except for the first and last hour of operation);
 - Vehicles are electric, battery-operated, and costs include the ongoing maintenance of these vehicles, their batteries, and the charging infrastructure required to support operations;
 - CAM would be operated as a 'stand-alone' transport operator, and allowances have been made for management, control, maintenance, cleaning and revenue protection staff;
 - Costs have been estimated for maintenance of the tunnelled and surface infrastructure, and the required control systems for CAM operation;
 - Stops are unstaffed, except for the underground stations at Cambridge City Centre and Cambridge Station are staffed from first to last service. Ticketing is off-vehicle, with ticket vending machines at each CAM stop; and
 - An allowance has also been assumed for the depreciation of CAM vehicles, to account for the financing of their replacement every 15 years.

Operating, Maintenance and Lifecycle Cost Estimate

- 3.27 From the assumptions above, we estimate that CAM will cost approximately £25 - £30 million (2018 prices) to operate annually on 'day 1', including lifecycle costs and ongoing vehicle replacement.
- 3.28 Staff costs are assumed to increase by RPI +1% annually within the 60-year appraisal period, and other operating costs are constant in real terms.

Benchmarking

- 3.29 This operating cost equates to approximately £3.30 to £4.00 per vehicle kilometre (2018 prices), compared to a typical cost of £2.04 per kilometre³³ for Great Britain (outside London) local bus operations, and £6 to £8 per kilometre³⁴ for light rail and tram operations.
- 3.30 We would expect CAM operating costs to fall within the range of local bus and tram operating costs, since CAM:
- will use high-quality ‘tram-like’ vehicles, which are more expensive to operate and procure than local buses, but significantly cheaper than LRT or tram vehicles;
 - includes a section of tunnel and two underground stations, which add additional maintenance and operating costs; and
 - compared to typical UK bus and tram operators, CAM is assumed to be operated by a smaller stand-alone transport company with greater overhead and management costs.

Segregation

- 3.31 It should be noted that the delivery of a segregated network, including tunnelling under Cambridge City Centre, results in significantly higher average operating speeds and a lower operating cost compared to on-street running, since fewer drivers and vehicles are required to operate any given service level.
- 3.32 Higher average speeds, and hence faster journey times, are also key to the attractiveness of the system to passengers, and hence maximising revenue, and therefore the overall ongoing financial position of the CAM network.

Longer term

- 3.33 Increasing CAM capacity, either by increased services or longer or platooned vehicles, to support future population growth will result in an increase in operating costs. However, it should be noted that the *marginal* cost of increased service provision is less than presented above, since some system and management costs are effectively ‘fixed’, and running additional services allows for more efficient overall operation.
- 3.34 Full driverless operation could reduce annual operating cost by up to 30%. In practice, some vehicles may still be staffed, such as to provide customer service for passengers or to support revenue protection.

Savings from existing Greater Cambridge bus operations

- 3.35 CAM services will supplement, and to an extent replace the need for, some existing ‘Busway’ and Park-and-Ride services within Cambridge. For example, CAM will provide a faster, higher-frequency link between Trumpington P&R and Cambridge City Centre, and between many destinations on the existing St Ives CGB corridor.
- 3.36 Hence, CAM will therefore present the opportunity to reconfigure the existing bus network, to better integrate into CAM, deliver operating savings by removing ‘duplicated’ services, and reduce existing bus flows through Cambridge City Centre. We have not assumed any changes to the existing network within this business case, although have undertaken a high-level

³³ Department for Transport Statistics Table BUS04089b, Operating cost per vehicle kilometre on local bus services by metropolitan area status and country

³⁴ Informed by industry experience

estimate of the potential operational savings from a reduction in existing Busway or Cambridge P&R services once CAM is fully operational.

- 3.37 An indicative reduction of 50% of existing services could result in an operational saving of approximately £5.5 million per year³⁵. It should be noted that, under the current deregulated model of bus operation in Cambridgeshire, any reduction in services would be the decision of private operators on the basis of their assessment of costs and revenues.

Demand Forecasting Approach and Assumptions

Approach

- 3.38 Our approach has used evidence from transport modelling, the Cambridgeshire and Peterborough Independent Economic Review (CPIER) and recent growth trends to inform our assessment of CAM patronage and the magnitude of benefits it could deliver.

Modelling

- 3.39 The Cambridge Sub Regional Model 2 (CSRM2) forms the strategic multi-modal transport model for Cambridgeshire, maintained by CCC with the geographic coverage of the county. Based on a modelled transport network (both highway and public transport), and the locations of housing and jobs, it forecasts volumes and journey times across the transport network for a 2031 model year (calibrated against existing 2015 base year travel demand).
- 3.40 We have used CSRM2 to estimate patronage and transport user benefits for CAM for a 2031 model year, which assumes growth in line with current Local Plan assumptions. We have coded an indicative CAM network and service specification within the model (the 'Do Something') to compare the performance of the transport network against a 'Reference Case' without CAM, and better understand the level of demand and benefits that CAM could deliver.
- 3.41 This is supported by a spreadsheet-based forecasting tool to understand how CAM demand could change in response to longer-term growth and development in line with the CPIER scenarios, which forecast a significant level of population and employment growth over and above that committed in the Local Plans.

Forecasting

- 3.42 This approach has been used to develop estimates for:
- An 'opening' forecast of 2031, reflecting Local Plan growth and representing a date shortly after the assumed operation of the full CAM network;
 - Forecasts for growth post-2031, which considers the impact of possible growth and development beyond the current Local Plan period in line with the 'central case' CPIER scenario. This reflects the shared ambition of the Combined Authority and Greater Cambridge Partnership for Greater Cambridge to seek to fulfil its full growth potential;
 - Peak-hour forecasts, to inform the overall capacity requirements of the system, including service frequencies and vehicle capacities.

³⁵ Informed by Stagecoach East data (<https://www.stagecoachbus.com/about/east>) and DfT bus operating statistics

Limitations

- 3.43 Reflecting the proportionate nature of a Strategic Outline Business Case, and the project timescales, we have used outputs from the CSRM2 model to *inform* our estimation of the likely demand and benefits associated with the delivery of the CAM network.
- 3.44 Notably, we have *not* used multiple model runs against different assumptions regarding future growth, network geography, public transport fares and/or fuel and parking costs to produce detailed forecasts which link directly to the outputs of the transport modelling under different scenarios. Instead, we have used the outputs from a limited number of model runs of an indicative CAM network, under one specific set of assumptions, as the basis for our estimates of likely CAM demand and benefits, combined with our spreadsheet-based forecasting tool.
- 3.45 More detailed transport modelling, which will assess the performance of the CAM network under different growth and transport charging scenarios, will be undertaken during the development of an Outline Business Case for the scheme.

Demand Forecasts

- 3.46 Table 2.4 presents the annual demand forecasts for the CAM network, for 2031 and 2051 under Local Plan and CIPER 'central case' growth scenarios.
- 3.47 These are informed by the CSRM2 2031 CAM model run, under Local Plan growth assumptions, combined with our spreadsheet-based forecasting tool.

Table 2.4: CAM Annual Demand Forecasts

Scenario	2031 demand <i>million trips per year</i>	2051 <i>million trips per year</i>
Local Plan	15 – 18	19 – 23
CIPER Central Case	18 – 22	27 – 33

- 3.48 It should be noted that ultimate CAM demand will be dependent on a range of factors, including:
- Population and employment growth within Greater Cambridge, which impacts both:
 - the total demand for travel (all modes) in Greater Cambridge;
 - the relative journey time of CAM relative to private car, as additional growth will result in worsening traffic congestion and longer journey times by car.
 - Changes in the relative financial cost of travel of different modes (fares for public transport, parking and fuel costs for private car);
 - The extent to which demand management (workplace parking, congestion charging, etc) are adopted to actively control highway demand within the city of Cambridge;
 - Any changes to existing Busway and Park-and-Ride services;
 - The fares structure adopted for CAM journeys; and
 - The precise geographical extent of the CAM network.
- 3.49 Our forecasts are intended to capture these different factors on CAM demand. Table 2.4 presents a range forecast under two different future population and employment forecasts. The 'low' range estimate for each is based on a continuation of current trends, with:
- no future highway demand constraints in Cambridge e.g. Workplace Parking Levy or Intelligent Charging;
 - continued fare increases for public transport journeys (at RPI +1%), compared to a reduction in fuel costs for private car in real terms; and

- no change to existing Busway or P&R services.

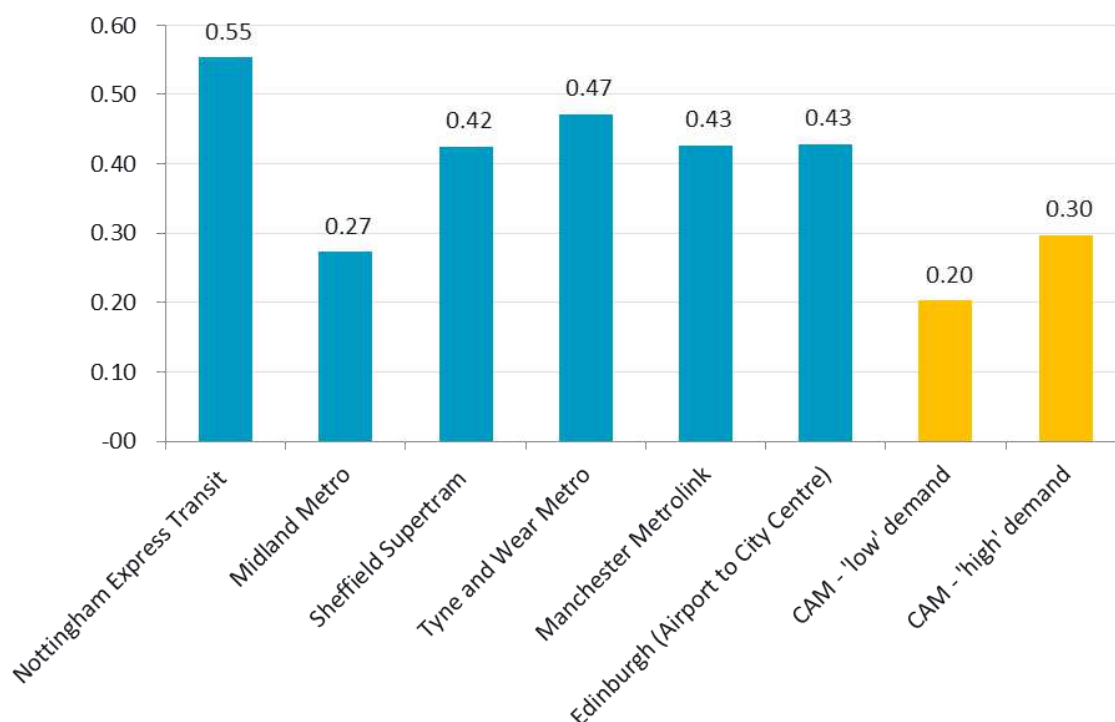
3.50 The 'high' range estimate is designed to be indicative of the higher level of CAM patronage that could be achieved if demand management was introduced, or if substantive changes were made to the existing Busway and P&R network to better integrate with CAM services.

Demand Benchmarking

- 3.51 Forecast annual demand of 15 – 18 million trips per year in 2031 under Local Plan growth assumptions (and up to 22m in 2031 under a CIPER 'central case' growth scenario), benchmarks against a current demand of 4 million trips per year on Cambridgeshire Guided Busway services (which provides services along two of the six corridors served by CAM – Trumpington and St Ives) and 3.1 million on dedicated Cambridge Park-and-Ride bus services.
- 3.52 Figure 3.2 presents estimates for the number of journeys per route km (assuming a network to St Ives / Granta Park / Cambourne), benchmarked against other tram and light rail systems within Great Britain³⁶.
- 3.53 It demonstrates that, whilst CAM generates significant demand as a total network, it benchmarks towards the lower end of other systems on a demand per route km basis. This is reflective of the expansive geography of the network (at 74 kilometres), and the comparatively rural geography of Greater Cambridge compared to the urban conurbations against which CAM is benchmarked.
- 3.54 For example, tram and light rail systems in Nottingham, Sheffield, Manchester and Tyne and Wear all have a demand per route km of between 0.42 and 0.55 million trips per km (in 2017/18), compared to forecast trips on CAM between 0.20 to 0.30 million per route km (2031 forecast, based on the range estimate of 15m to 22m trips per year). Route kilometrage is a reasonable proxy for unit operating costs, and the lower demand per route km for CAM underscores the fact that a tram-based system for CAM would be likely to be operationally unaffordable³⁷.

³⁶ Note that ridership for other tram and light rail systems is for 2017/18, whilst the forecast for CAM is assumed as 15 million

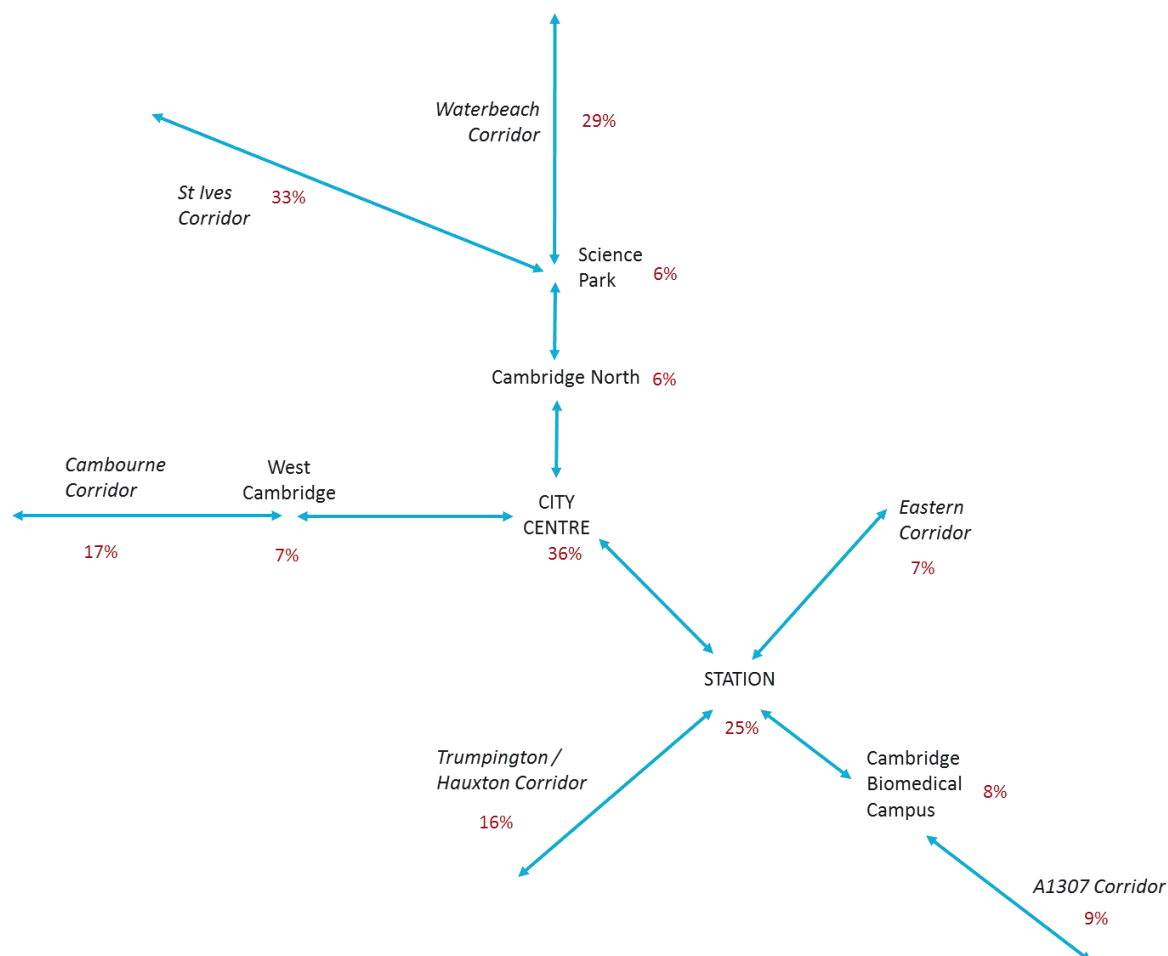
³⁷ Indeed, our understanding is that most UK tram systems require an operational subsidy.

Figure 3.2: CAM Forecast Demand per route km, benchmarked against other GB tram and light rail systems

Note: Patronage for existing systems is based on 2016/17 data, and for CAM for 2031 based on Local Plan 'low' forecast of 15 million per year and 'high' estimate of 22m per annum.

Distribution of Demand

- 3.55 Outputs from the transport modelling indicate that demand is broadly well-distributed across the CAM network. Figure 3.3 presents in red the proportion of boardings and alightings estimated for each corridor and key stops.
- 3.56 The busiest corridor is forecast to be the existing Busway corridor to St Ives, followed by the Waterbeach corridor serving Waterbeach New Town and Milton P&R. Demand is lower on the Eastern corridor to Newmarket Road P&R, reflecting the lack of development along this corridor and within the Cambridge and South Cambridgeshire Local Plans.
- 3.57 Demand, as would be expected, is strongly focused on journeys to and from central Cambridge. In total over 60% of demand is forecast to be to or from the City Centre (36%) or Cambridge station (25%). The 'city fringe' employment sites collectively account for over 20% of trips (8% to / from the Cambridge Biomedical Campus and 6% to / from Cambridge Science and 7% to / from West Cambridge). Demand to / from the east is comparatively low, reflecting the less densely developed nature of this corridor (as per now and the current Local Plan).

Figure 3.3: Demand by CAM Corridor

Informed by CSRM2 modelling. Note that totals equal 200%, as each journey will involve boarding and alighting at two different stops.

- 3.58 Demand is concentrated in the peak period, with an estimated 31% and 28% of daily (12 hour) demand in the three-hour AM and PM peak respectively. However, inter-peak demand is still high, with average demand in an inter-peak hour equivalent to approximately 65% of an average peak-hour. This helps to ensure that operating a high-frequency, turn-up-and-go service in off-peak hours is commercially viable to operate.

Sources of CAM Demand

- 3.59 Informed by outputs from the CSRM2 model, we have estimated the 'origins' of CAM demand in order to understand how those forecast to travel by CAM could instead have made their journeys without the scheme. This does not assume any demand management or further parking constraints or charging on private traffic in Cambridge.
- 3.60 It should be noted that this analysis is intended to be illustrative in nature. The CSRM2 model does not forecast the travel behaviour of *specific* individuals; instead it forecasts travel patterns in aggregate across Cambridgeshire, based on an assumed transport network. Schemes such as CAM can result in significant changes in travel behaviour, including 'destination switching' whereby users change where they travel to (for work or leisure) due to new travel opportunities.

- 3.61 It is not therefore the case that any given user assumed to 'switch' to CAM from private car in the analysis below would make the same journey by car without CAM, and these figures are designed to be illustrative of the overall change in demand and modal shift that could be achieved by the scheme.
- 3.62 This is summarised in Table 3.5.

Table 3.5: Estimates of the 'origins' of CAM demand

'Origin' of CAM demand	% of total CAM demand
<i>Previously travelled by:</i>	
Private car	44%
Existing Bus, Guided Bus and Rail Park-and-Ride	13%
Guided Bus (not accessed via P&R)	18%
'Conventional' bus	11%
Rail	4%
Generated demand and other modes	11%
<i>Total</i>	<i>100%</i>

- 3.63 Overall, this indicates that approximately 44% of CAM demand will originate from users who would otherwise have travelled by car for the entirety of their journey. This equates to a reduction of 25,000 daily private car trips (or 2% of total car trips) in Cambridgeshire.
- 3.64 These users are primarily forecast within the model to access CAM via Park-and-Ride. Complementary transport interventions, such as improved cycleways to CAM stops and connecting transit, would be expected to be delivered in parallel with CAM to provide more viable alternatives to the use of the car to access CAM, and hence significantly reduce the proportion of demand accessing via Park-and-Ride.
- 3.65 The remainder of demand is primarily expected to be abstracted from existing public transport modes, predominately from the Cambridgeshire Guided Busway and from dedicated Park-and-Ride bus services.

Demand and System Capacity Analysis

- 3.66 Our modelling has assumed an indicative CAM service pattern, with broadly 12 services per hour in the AM and PM peak on each corridor, which collectively provide 36 services per hour in each direction through the tunnelled section between Cambridge City Centre and Cambridge Station. These are assumed to be in addition to existing services along the Cambridgeshire Guided Busway.
- 3.67 Our analysis indicates, for 2031 'Local Plan' demand, the capacity provided on the network by these assumed services, operated by vehicles with a 120-130 capacity, can accommodate the forecast demand. Services are busiest on the existing, St Ives 'busway' corridor, and quietest on the eastern corridor to Newmarket Road P&R site. This reflects the population density, and level of committed development, along each corridor.
- 3.68 In the longer term, to support additional demand arising from additional population and employment growth over and above 'Local Plan', the capacity of the CAM system can be significantly as set out in Part C of the Strategic Case.

Revenue Forecasts and Operating Performance

Revenue Forecasts

- 3.69 We have developed a revenue forecasts by multiplying the annual demand by an assumed average fare yield of £2.00 per trip (in current prices). This is informed by:
- Current Stagecoach bus fares of £4.50 and £7.00 for a 'Cambridge' and 'Cambridgeshire' Dayrider, equivalent to a single journey within Cambridge of £2.75 or between Cambridge and St Ives / Cambourne / Granta Park / etc of £3.50;
 - An allowance for weekly and monthly Megarider tickets (a weekly ticket for Cambridge / Cambridgeshire, assuming ten journeys per week, is equivalent to a single fare of £1.50 / £2.50;
 - An allowance for concessionary travel for elderly and disabled people, which accounts for approximately 30% of all bus journeys in England³⁸.
- 3.70 This therefore takes account of concessionary fares that apply to certain users, and for travelcards, which we assume would be eligible on CAM services.
- 3.71 We have not, within this SOBC, considered potential fares and ticketing regimes in detail, but we note that there would be the potential to charge higher or differential fares for:
- Longer-distance trips, or those that cross more than one fares zone; and
 - Park-and-Ride trips to discourage longer-distance trips to strategic P&R sites and / or better manage demand and capacity at sites.

Operating Performance

- 3.72 Based on a 2031 'Local Plan' ridership forecast of 15 – 18 million trips per year, we would therefore expect CAM to generate annual revenues of approximately £30 – 35 million per annum, sufficient to fund ongoing operating and maintenance costs CAM, which is estimated to be £25-30m per year.
- 3.73 This suggests that the CAM network is likely to be operationally affordable in the early years of operation, based on a prudent assessment of forecast demand.

Scheme Benefits and Appraisal

Development of a Reference Case

- 3.74 Our modelling of the CAM scheme is intended to support an assessment of the overall demand, revenue and costs of the CAM network. This reflects the need to identify the full capital costs (and hence funding requirement, set out in Table 2.2) of the infrastructure that is required to deliver CAM, and also to forecast and assess whether CAM is an affordable proposition (i.e. revenues exceed operating costs) at the network level.
- 3.75 However, for the assessment of benefits it is important to recognise that the GCP 'inner corridor' schemes to Cambourne, Granta Park and Waterbeach, which form an integral part of the CAM network, are being developed by the GCP as 'discrete' projects subject to their own option, scheme development, business case and powers and consents process.
- 3.76 As such, the costs and benefits of delivering segregated public transport infrastructure in these corridors have been 'captured' within their individual respective business cases, each of which is at a different stage of scheme development. The case for these schemes has, to date, been

³⁸ DfT Annual Bus Statistics, England 2016/17

developed upon their merits as ‘freestanding’ projects, albeit within a clear, overarching GCP strategy to deliver a step-change in the quality of public transport provision on key radial corridors. While the delivery of these corridors is integral to the overall CAM vision, they are not dependent upon the ‘core’ tunnelled infrastructure.

- 3.77 These schemes therefore form part of a ‘Reference Case’ to ensure these benefits are not ‘double counted’. Moreover, it is essential that the economic assessment presented in this report helps to make the incremental case (costs and benefits) for delivering the ‘core’, central infrastructure (and associated costs) that are addition to the schemes coming forward as part of the ‘Reference Case’ scenario.
- 3.78 Therefore, within the benefits assessment, we have delineated between the benefits that accrue as a result of the entire CAM network – including the ‘Reference Case’ infrastructure – and those that are incremental, and delivered solely by the additional services facilitated by the ‘core’ infrastructure.

Delineation of Benefits

- 3.79 The benefits to users of CAM include the generalised journey time savings and benefits from increased service frequencies, improved journey times and reliability, more direct journeys and reduced need for interchange and enhanced journey quality. These benefits will be facilitated by the ‘core’, predominately tunnelled infrastructure in Central Cambridge, and would apply to all trips to and across Central Cambridge.
- 3.80 The improved service frequencies and quality that will operate on existing and planned GCP corridors, following the implementation of the full CAM network, will also result in additional benefits to users wholly on the GCP ‘inner corridor’ sections.
- 3.81 There is a strong inter-relationship and complementarity between the Economic Case for the GCP ‘inner corridor’ infrastructure and the ‘core’ infrastructure whereby each bolsters the case for the other. This arises from the fact that having the full CAM network makes public transport as a whole more attractive, and therefore delivers a greater overall level of demand to which the benefits of infrastructure element (i.e. the time saving over a given section of route) is applied.
- 3.82 This means that, for example, the benefits case for any of the GCP corridors would be significantly enhanced from the central infrastructure as the schemes in combination provide the ‘end to end’ segregated infrastructure to and across the city, which underlies the CAM concept. As such, there would be significantly more demand (and proportionate increase in benefits) on the ‘corridor’ section of route, whereas costs would be the same.

Appraisal Approach

- 3.83 Our appraisal of the benefits of the CAM network have been developed from the outputs of the Cambridge Sub Regional Transport Model (CSRM2), as outlined on page 93. Reflecting the limitations of the transport modelling, we have not explicitly modelled the ‘Reference Case’ scenario, but have developed our estimate of the incremental benefits of the ‘core’ infrastructure by ‘screening out’ benefits that are attributable to the Reference Case.
- 3.84 We have used the 2031 CSRM2 model run, based on ‘local plan’ assumptions, for our appraisal of the benefits of CAM, assuming:
- an annualisation factor of 300, from 12-hr modelled day to annual;
 - an opening year of 2029;
 - a ‘ramp-up’ effect, such that ‘opening year’ demand is 75% of modelled 2031 demand;

- a 60-year appraisal period from scheme opening year (until 2088), in line with WebTAG guidance;
- growth in CAM patronage and user benefits in line with Local Plan growth of 1.2% until a 'cap year' of 2048; and
- value-of-time growth, discounting and market price adjustments in line with WebTAG guidance.

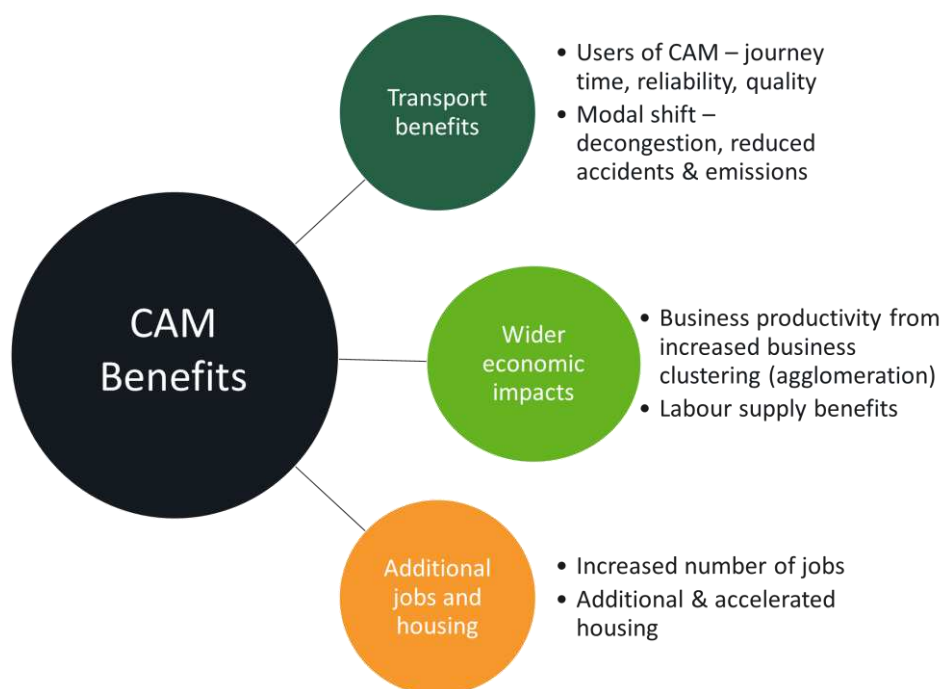
3.85 We have not assumed that user benefits increase over time in excess of 'local plan' growth of 1.2% to avoid 'double-counting' with the 'additionality' benefits arising from the additional GVA delivered through housing and employment growth. Transport user benefits from this growth are assumed to be captured within the estimate of the additional GVA to the Greater Cambridge economy delivered by the scheme.

Benefits Considered

3.86 Under DfT WebTAG guidance, the benefits from transport interventions can be considered under three different 'levels' of analysis. These reflect the different economic impacts of transport investment, and the level of confidence in the analytical methods used to appraise these impacts, as outlined in WebTAG Unit A2-1³⁹.

3.87 These benefits are summarised in Figure 3.4.

Figure 3.4: Overview of different types of benefits delivered by CAM



3.88 **Transport Benefits (Level 1)** include the **direct impacts** of transport investment on journeys. These primarily include the savings in generalised journey time – to both existing and new users – generated by a transport scheme, which include:

- reductions in journey time;
- reduced need to interchange;

39

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712878/tag-unit-a2-1-wider-impacts-overview-document.pdf

- improved journey 'quality' (e.g. a typical individual's preference to travel by rail than bus);
- reduced wait times from increased service frequencies; amongst others.

3.89 These benefits are valued by monetising the reduction in generalised journey time, based on an assumed value of time derived from DfT WebTAG guidance. These typically – but not exclusively – form the largest category of benefits within a transport appraisal.

3.90 **Wider Impacts (Level 2)** benefits include the **wider 'connectivity' benefits** arising from transport investment. These include the 'agglomeration' or 'clustering' benefits that arise from firms and workers being located 'closer' to one another as a result of improvements in transport connectivity, together with labour supply effects and benefits from increased market competition.

3.91 These benefits are based on well-established economic principles (such as productivity benefits arising from increased agglomeration) but there is a greater degree of uncertainty in their estimation compared to Level 1 benefits.

3.92 **Level 3** benefits refer to a range of benefits arising from the **relocation of economic activity** and a change in land use. These include:

- *employment effects* – where transport investment moves jobs between different locations, or results in additional local employment growth which would not otherwise be delivered;
- *dependent development* – where transport investment 'unlock' additional development which would not otherwise have been delivered;
- *dynamic clustering* – where the increased concentration of economic activity from the above increases the productivity of firms within the areas

3.93 These benefits are subject to a greater degree of uncertainty, as it is difficult to predict the impacts on transport on the decisions of individuals and businesses of where to live, work or locate a business. Valuing these benefits typically requires a bespoke land-use transport interaction (LUTI) model, which was not available for the purposes of the developing the SOBC.

3.94 Key to the case for CAM, however, is the ability of the scheme to support additional economic growth and housing development which would not otherwise be possible without the scheme, and hence achieving the aspirations outlined in CPIER to double the region's GVA by 2050. We have therefore adopted a simplified approach, which considers different scenarios for the level of additional employment and housing development that the CAM network could support, and the value of this additional economic output to the Combined Authority and the UK economy. This is presented on page 105.

Transport Benefits (Level 1)

Transport Benefits – CAM User Benefits

3.95 Transport user benefits are those benefits that accrue to users of CAM. These are measured in the form of generalised time savings, which take account of the reductions in journey time, increased frequencies, reduced need to interchange and improved journey 'quality'. Generalised minutes more accurately reflect how individuals perceive travel time, accounting for (for example) an individual's preference to avoid lengthy wait times for public transport, or catching a bus or train in preference to walking.

- 3.96 Table 3.6 presents the transport user benefits expected to be delivered by CAM, including the benefits to both existing and new public transport users.
- 3.97 This is informed by a 2031 'Local Plan' CSRM2 run, for a 60-year appraisal period, solely for the 'core', tunnelled infrastructure, assuming that GCP schemes are delivered separately to the 'core' infrastructure and are included in the 'Reference Case'.
- 3.98 We have not estimated the transport user benefits attributable to the regional extensions to Alconbury, Mildenhall, Haverhill and St Neots. These extensions are planned solely to serve new development opportunities which have not yet been identified, and are hence not included in the transport modelling which is based on Local Plan assumptions. It should be noted that, in the absence of the any new development along these corridors, the transport user benefits are expected to be small in comparison to the capital cost of the extensions.

Table 3.6: Transport User Benefits, 2010 £m PV

Network	£mill, 2010 PV
'Core' infrastructure <i>CAM vs Reference Case</i>	425 – 525

- 3.99 It should be noted that the figures presented in Table 3.6 are an initial estimate, based on a small number of CSRM2 model runs. Different assumptions – such as assuming City Access demand management measures, or different levels of background population growth – could result in a greater volume of transport user benefits (and overall CAM patronage).
- 3.100 Future modelling work will explore how these changes could result in a greater level of benefit for CAM.

Transport Benefits – Non User Benefits

- 3.101 Non-user benefits originate from reduction in highway kilometres expected to be delivered by modal shift to the CAM network (including to Park-and-Ride). Modal shift results in 'externality benefits', primarily in the form of reduced congestion (time savings to existing highway users), together with accident savings, reduced emissions and noise and reduced cost of maintenance of the highway network, balanced against the reduction in fuel duty paid to the Exchequer.
- 3.102 Table 3.7 presents these benefits, against the Reference Case, for the CAM network.

Table 3.7: Non-user benefits, 2010 £m PV

Benefit	£mill, 2010 PV <i>CAM Network vs Reference Case</i>
Congestion	85 - 95
Infrastructure and Accidents	35 - 40
Local Air Quality and Greenhouse Gases	10 - 15
Noise	2
Indirect Taxation	- 36 to 41
Total	95 - 120

Reliability benefits

- 3.103 Poor journey time reliability is frequently cited as a major concern for residents and businesses in Greater Cambridge, and CAM is expected to deliver significant reliability benefits, both:
- for existing public transport users, switching mode from existing bus, guided bus and Park-and-Ride services which suffer from traffic congestion to segregated, more reliable CAM services; and
 - for existing highway users, who benefit from improved reliability as a result of modal shift from private car to CAM leading to a reduction in congestion on Cambridgeshire's roads.
- 3.104 We have not quantified these benefits for this SOBC, since comprehensive reliability data is not currently available. However, the reliability benefits of CAM are expected to be substantial, and future work at OBC stage will seek to value these benefits.

Level 2 Wider Economic Benefits*Agglomeration*

- 3.105 Greater Cambridge is one of the UK's most productive regions, with a large volume of high-skill, high-value jobs within knowledge-intensive sectors. Firms in these sectors benefit from productivity gains from being located within close proximity to one another, such as improved labour market accessibility and greater knowledge transfers and 'spillovers', known as increased 'agglomeration'.
- 3.106 Reflecting the nature of the Greater Cambridge economy, we estimate that the agglomeration benefits of the CAM network are approximately £465 to £565 million over the 60-year appraisal period (2010 PV) compared to the reference case.

Labour Supply

- 3.107 Improvements in transport connectivity can encourage new workers into the labour market, who would not otherwise be in work, by better connecting areas of higher unemployment to employment centres elsewhere.
- 3.108 Reflecting the comparatively low level of unemployment in Greater Cambridge compared to the national average, we would expect these benefits to be comparatively small. Based on WebTAG guidance, we have estimated the labour supply impacts of the CAM network at approximately £5 million over the 60-year appraisal period (2010 PV) compared to the reference case.

Output Change in Imperfectly Competitive Markets

- 3.109 Improved transport connectivity can also stimulate additional competition within the economy, encouraging new suppliers to enter the market and increasing economic output.
- 3.110 WebTAG guidance values these benefits at 10% of the value of the business user benefits of the scheme, and we would therefore expect the CAM network to generate approximately £7 million (2010 PV) in output change benefits over the 60-year appraisal period compared to the reference case.

Summary

- 3.111 The wider economic benefits of the CAM network are summarised in Table XX below.

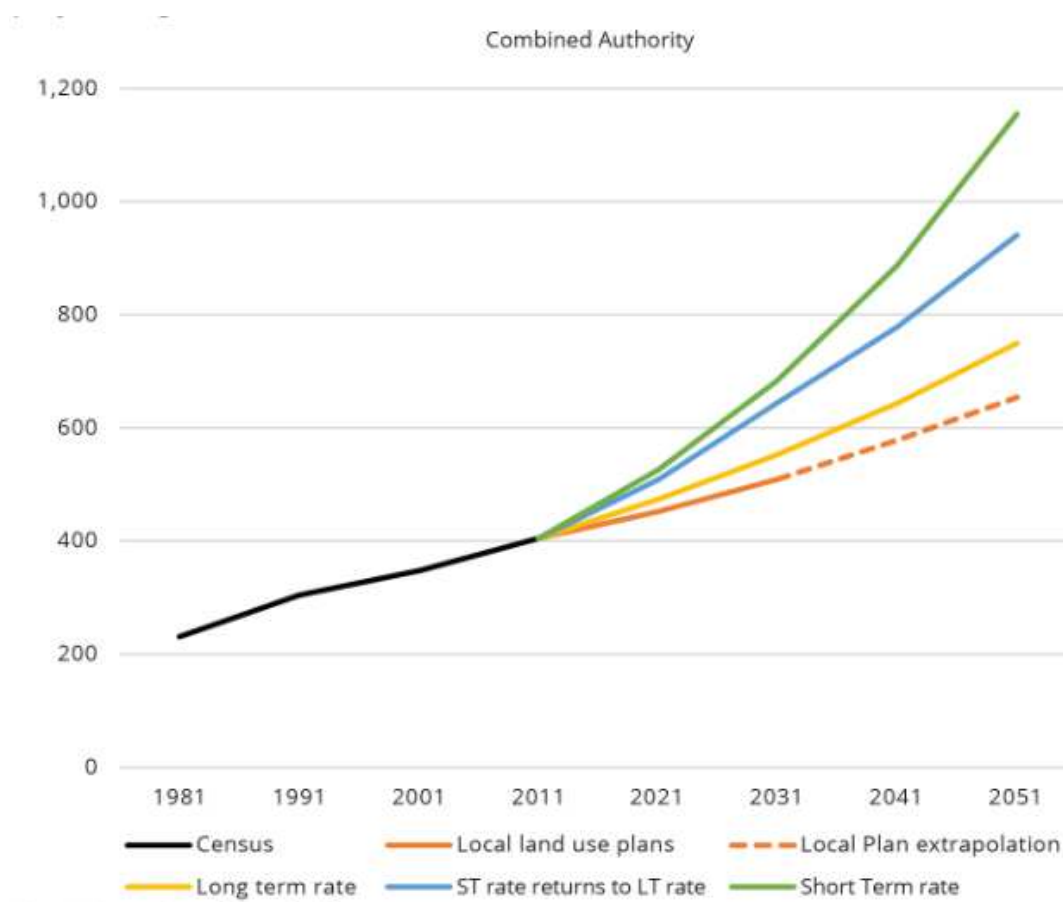
Table 3.8: Wider Economic Benefits, 2010 £m PV

Benefit	£mill, 2010 PV CAM Network vs Reference Case
Agglomeration	465 – 565
Labour Supply	5
Output Change in Imperfectly Competitive Markets	7
Total	475 - 575

Level 3 Investment and Additionality Benefits

Background

- 3.112 The Strategic Case for CAM focuses on how the scheme, through significantly enhancing transport accessibility and capacity across Greater Cambridge, can act as a critical enabler of additional housing and employment growth above ‘Business-as-Usual’ levels. Valuing the benefits of this additional growth – which would not otherwise occur without the scheme – forms a key part of this Economic Case.
- 3.113 In the absence of a land-use transport interaction (LUTI) model, we have developed a series of ‘additionality’ scenarios which are designed to capture the benefits – both to Cambridgeshire and Peterborough and the UK economy as a whole – of additional growth. It is based on our assessment of the level of employment and housing growth required to support the aspiration to double the region’s GVA by 2050, as outlined in the ‘central case’ forecast in the Cambridgeshire and Peterborough Independent Economic Review (CPIER).
- 3.114 Figure 3.5 outlines the employment growth forecasts from CPIER required to meet the region’s growth aspirations. The CPIER ‘central case’ forecast required to achieve a doubling of GVA by 2050 is shown as the ‘blue’ line, and assumes an increase in Combined Authority employment from 400,000 in 2011 to approximately 930,000 in 2051, combined with an annual increase in productivity of 0.8%. This projection assumes first a continuation of growth in line with recent employment growth as recorded by the Office of National Statistics (ONS), before gradually returning to longer-term ONS growth rates.
- 3.115 This ‘central case’ projection compares to the ‘orange’ line, which assumes growth in line with that committed in existing Local Plans to 2031, and a continuation of this trend to 2051. This ‘Business as Usual’ projection forecasts an increase in Combined Authority employment from 400,000 in 2011 to 640,000 in 2051.
- 3.116 Broadly, this equates to a difference in jobs of 250,000 between the two scenarios by 2051 – equivalent to 6,200 per annum. Approximately 60% of these jobs are in Greater Cambridge, equating to a difference in jobs of 150,000 by 2051.
- 3.117

Figure 3.5: CPIER employment growth scenarios

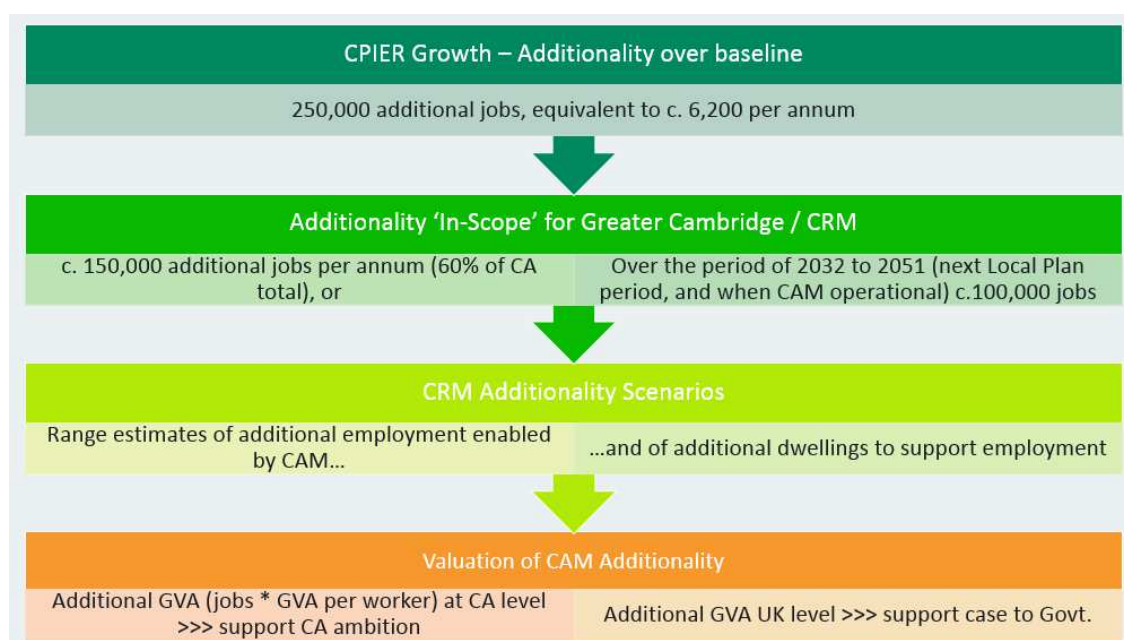
Source: Dr Ying Jin, University of Cambridge, reproduced from CPIER, page 20

Approach

- 3.118 We have developed our estimates of the value of the ‘additionality’ that CAM could support by assuming:
- Employment growth for Greater Cambridge follows the CPIER ‘central case’ forecast until 2031 (shortly after CAM becomes operational), in line with recent observed growth, equivalent to 2.2% per year;
 - **Without CAM**, growth in *Greater Cambridge* (not the Combined Authority) after 2031 can only take place at a lower, constrained rate, as poor transport accessibility and capacity hinders growth. From 2031, we assume that employment growth occurs at the lower, ‘Local Plan extrapolation’ rate of 1.2% until 2051, and the goal of doubling GVA by 2051 is missed;
 - **With CAM**, the transport network is sufficient to support continued employment growth in Greater Cambridge in line with the CPIER ‘central case’ of 2.2% a year until 2051, and the goal of doubling GVA by 2051 is met; and
 - No further employment growth after 2051.
- 3.119 Our estimates of the ‘additionality’ that CAM can support are therefore developed from the divergence between the lower, Local Plan rate of employment growth (1.2%) and the higher, CPIER ‘central case’ rate (2.2%), from 2031 to 2051. This divergence in the two trends equates to a difference in jobs in Greater Cambridge of around 100,000 by 2051, deemed ‘in-scope’ to be dependent on CAM.

- 3.120 In practice, not all of this 'additionality' will be wholly attributable to CAM. We have therefore developed a set of range estimates which outline the number of jobs, and the associated GVA, enabled by CAM, based on the proportion assumed to be 'CAM-dependent'.
- 3.121 Additional employment will also only be delivered in parallel with additional housing required to support it. The CPIER identifies that, to support the 'central case' employment forecast, Cambridgeshire and Peterborough must deliver an additional 6,000 to 8,000 homes per year to support this level of employment growth. We have also estimated, based on this figure, the number of additional, 'CAM-dependent' homes required to support the additional employment growth outlined in each scenario, which would be up to 60,000.
- 3.122 This approach is summarised in Figure 3.6.

Figure 3.6: Summary of additionality approach



Greater Cambridge Additionality

- 3.123 Based on the approach outlined above, we estimate that CAM could support a significant number of additional homes and jobs which would not otherwise be delivered. Our estimates for the additional housing, employment and GVA that CAM could support within Greater Cambridge is outlined in Table 3.9.

Table 3.9: Scenarios for additional housing, jobs and GVA in Greater Cambridge supported by CAM

CAM-enabled development (% of 100,000 jobs by 2051)	Additional jobs by 2051	Additional housing units by 2051	Additional GVA per annum in 2051 (£m 2010 prices, undiscounted, single-year estimate)	Present Value of additional GVA (£m, 2010 PV, over 60 year appraisal period)
100%	c. 100,000	Up to c.60,000	6,100	66,300
75%	c. 75,000	Up to c. 45,000	4,600	49,800
50%	c. 50,000	Up to c. 30,000	3,000	33,200
25%	c. 25,000	Up to c. 15,000	1,500	16,600

- 3.124 It should be noted that, if only 50% of the 97,300 'in-scope' jobs – the divergence between the two trends – are deemed attributable to CAM, this would still imply that CAM would support

up to 30,000 additional homes and £3.0 billion of additional GVA annually in Greater Cambridgeshire – equivalent to £33.2 billion in Present Value terms.

- 3.125 In our view, this represents a realistic level of additional growth that could be supported by a CAM network stretching to St Ives, Waterbeach, Newmarket Road P&R, Granta Park and Cambourne, subject to suitable sites being identified through the planning process and the Non-Statutory Spatial Plan.
- 3.126 Levels of housing and employment growth above this could be supported by an expanded network, with additional extensions to Alconbury, Mildenhall, Haverhill and / or St Neots. Whilst this would result in additional capital and operating costs, this would be balanced by the additional housing, jobs and GVA generated by such development, and the additional revenue generated by new passengers living and working in developments along these corridors.

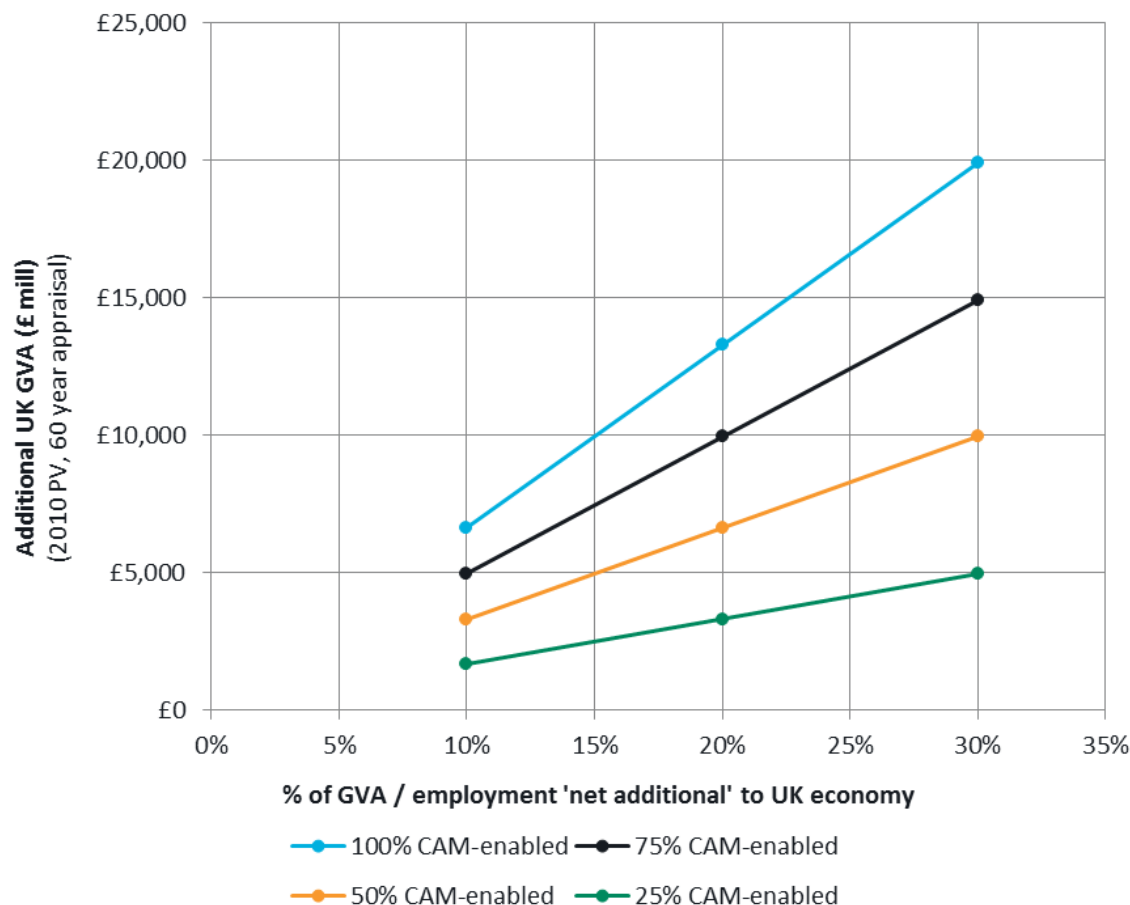
Net Additionality at the UK Level

- 3.127 Not all additional housing, employment and GVA presented in the scenarios above will be additional to the UK economy. In practice, a significant majority will be displaced from elsewhere in the country. Whilst this can generate productivity benefits – jobs in Greater Cambridge are typically more productivity than elsewhere in the country, so if a job moves from elsewhere to Greater Cambridge, this will be associated with a productivity uplift at the national level⁴⁰ – this benefit is small compared to the GVA generated by a ‘new’ job displaced from abroad.
- 3.128 HM Treasury guidance therefore assumes that 100% of jobs are displaced at the national level, but in unique cases – such as Greater Cambridge – it can be argued that some jobs will be displaced from abroad, and genuinely ‘net additive’ to the UK economy. CPIER demonstrates that for many businesses in Greater Cambridge, particularly in high-value, knowledge-intensive sectors such as scientific research and life sciences, Greater Cambridge is the only place in the UK that they would locate. These firms rely on the benefits of being ‘clustered’ in close proximity to one another for their success – as outlined in Para 2.14 to 2.18 – and for many specific high-value industries, Cambridge forms the only such ‘cluster’ in the country.
- 3.129 If Greater Cambridge is not sufficiently attractive, such as due to housing unaffordability or transport constraints, they would instead locate abroad – the ‘*Cambridge or overseas*’ argument – representing a significant loss to national economic output. One of the key recommendations of the CPIER report (#3) was therefore that:
- “the UK government should adopt a ‘Cambridge or overseas’ mentality toward knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority”*
- 3.130 Experience from other transport business cases – notably Crossrail 2 and the Northern Line Extension to Battersea – indicates that employment displaced from abroad can represent 10% - 30% of that forecast to be generated by a transport scheme in a local area. We have therefore applied this range estimate to indicate the value of additional GVA to the national economy that could be attributable to CAM.

⁴⁰ This is referred to as the ‘Move to More Productive Jobs’ (M2MPJs) effect in WebTAG guidance

- 3.131 This is outlined in Figure 3.7. Each line represents a different scenario for the proportion of additional employment deemed 'CAM-enabled'. The vertical axis presents the additional 'net national' GVA associated with each scenario, assuming that a given percentage is 'net additional', as shown on the horizontal axis.

Figure 3.7: Additional 'net national' GVA supported by CAM



- 3.132 Based on these scenarios, this indicates that the CAM network could support a significant level of additional GVA at the national level. If 50% of the 97,300 'in-scope' jobs – as outlined in Table 3.9 – are assumed to be delivered in Greater Cambridge as a result of CAM, and 15% of these were 'additional' at the national level, this would equate to £5.0 billion in additional UK GVA over the 60-year appraisal period in 2010 Present Value terms.

Value for Money Assessment

Background

- 3.133 Based on the appraisal results, we have developed an assessment of the overall value-for-money (VfM) performance of the CAM network. As discussed in Para 3.74, this is based on considering the CAM network against the 'reference' case, whereby the GCP schemes are funded and developed separately to the 'core' CAM infrastructure, and such their respective costs and benefits are 'captured' in their respective business cases.
- 3.134 The Strategic Case for the CAM network is focused around supporting significant levels of additional population and employment growth, over and above that currently envisaged in the local planning process, in order to achieve the economic potential of Greater Cambridge. These 'additionality' benefits are integral to the overall case of the scheme.

- 3.135 Conventional business cases do not include these benefits, and they are not hence included in the 'initial' BCR for the scheme. Since the CAM network has been developed primarily to support the region's growth, one would not expect CAM (nor the GCP schemes such as Cambourne to Cambridge) to perform strongly against an 'initial' BCR. This forms one element of the value-for-money assessment, and should not be read in isolation.

Results

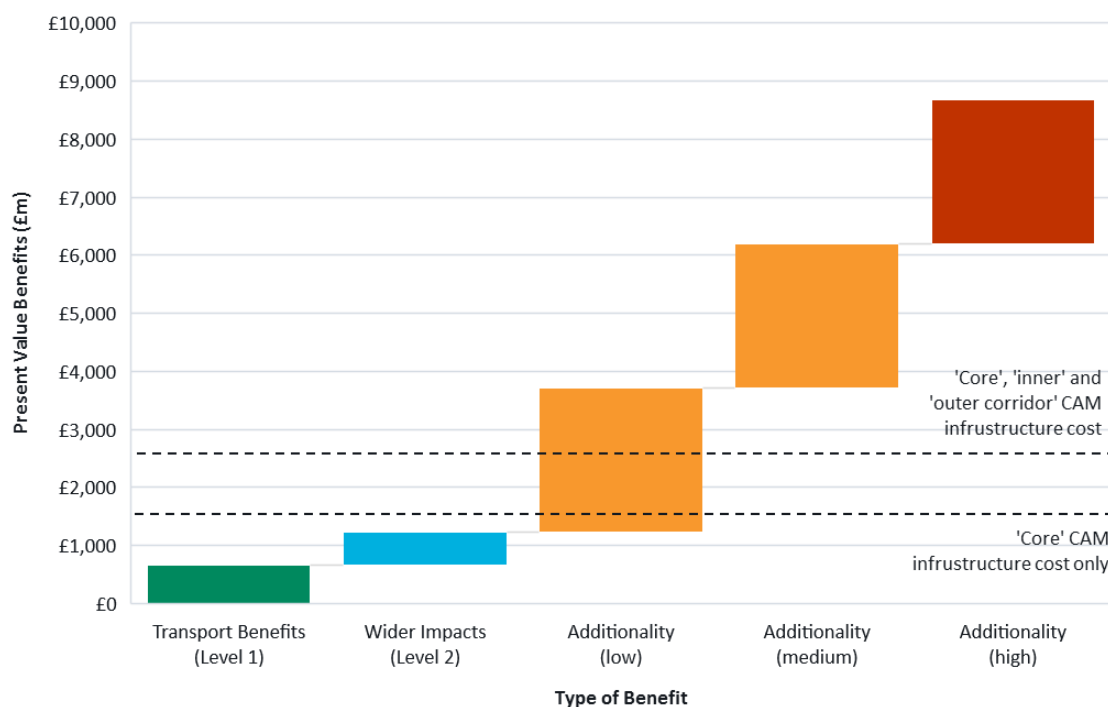
- 3.136 Figure 3.8 summarises our assessment of the benefits and costs of the CAM network, in present value terms.

Costs

- 3.137 The two dotted lines represent the capital costs of two network options:
- a 'Greater Cambridge' network, including the 'core', predominately tunnelled, infrastructure and the GCP 'inner corridor' schemes extending to St Ives / Waterbeach / Newmarket Rd P&R / Granta Park and Cambourne, with a capital cost of £1.55 billion (2010 PV). The costs (and benefits) of the GCP infrastructure are included in the Reference Case, and are hence not represented in the diagram.
 - a 'regional' network, consisting of the above plus the 'outer corridors' to Mildenhall / Haverhill / St Neots and Alconbury, with an assumed capital cost of £4.00 billion (2010 PV), inclusive of all GCP 'inner corridor' and CA 'outer corridor' scheme costs;
- 3.138 The operating costs and incremental revenues for the 'Greater Cambridge' network broadly balance in present value terms. We have not estimated the operating costs and revenues for the 'regional' network, but it is assumed for this assessment that the revenues delivered by the additional extensions meet their operating costs.

Benefits

- 3.139 The coloured bars represent the different 'levels' of benefits any CAM network would be expected to deliver. These include:
- Level 1: Direct transport benefits of £425 - £525 million (2010 PV) and non-user benefits of £95 – 120 million (2010 PV), for the 'Greater Cambridge' network. We have not assumed any additional transport benefits from the 'regional' network, as it primarily is intended to serve new developments which have not yet been identified;
 - Level 2: Wider economic benefits (predominately agglomeration) of £475 – £575 million (2010 PV), for the 'Greater Cambridge' network;
 - Level 3: 'Additionality' benefits, for the development that CAM is expected to facilitate that would not come forward without the scheme. Each bar represents the additional economic output (GVA) at the **national** level of an assumed 24,000 additional jobs in Greater Cambridge (each equivalent to '25% CAM-enabled development' shown in Table 3.9), assuming that 15% of these jobs are net additional to the UK economy.

Figure 3.8: Assessment of Scheme Costs and Benefits (£m, Present Values, 2010 prices)

- 3.140 Figure 3.8 demonstrates that, when ‘additionality’ benefits are **not** included, neither CAM network generates sufficient benefits to exceed capital costs and hence represent VfM. This is largely reflective of the nature of the scheme, in that it is primarily developed to support additional growth which is not captured within the Level 1 and Level 2 benefits.
- 3.141 When a low level of ‘additionality’ benefit is included, equivalent to CAM enabling 24,000 additional jobs and up to 15,000 additional homes by 2051 in Greater Cambridge of which 15% are additional at the national level, the scheme performs strongly. Both CAM networks achieve VfM, with an indicative BCR of 2.3 for the ‘Greater Cambridge’ network and 1.4 for the ‘regional’ network, representing ‘high’ and ‘low’ value for money respectively.
- 3.142 If a medium level of ‘additionality’ benefit is included, equivalent to CAM enabling 49,000 additional jobs and up to 29,000 additional homes by 2051 in Greater Cambridge of which 15% are additional at the national level, the scheme performs very strongly. The CAM ‘Greater Cambridge’ network achieves an indicative BCR of 3.8, and the ‘regional’ network 2.3.
- 3.143 In our view, the ‘high’ additionality scenario, which envisages CAM enabling 73,000 additional jobs and up to 44,000 additional homes by 2051 in Greater Cambridge of which 15% are additional at the national level, could only be supported by delivery of the ‘regional’ network. This level of benefit would represent an indicative BCR of 3.2.

4 Commercial Case

Introduction

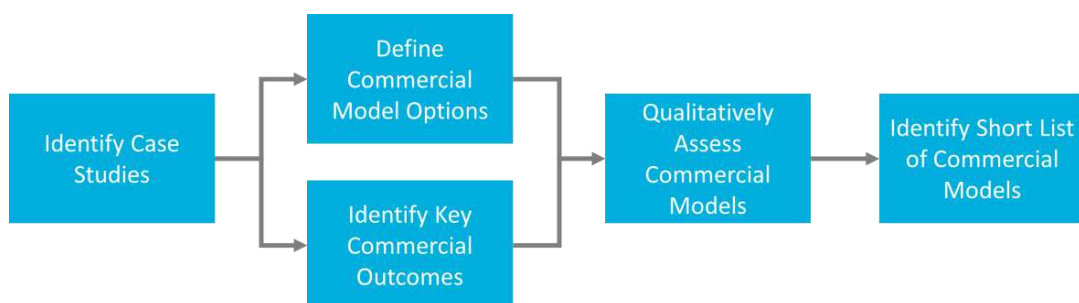
- 4.1 The delivery model adopted should ensure that the Promoting Authority is able to oversee the delivery of a project and ensure that it meets the output specification, in terms of quality, service level and performance, and hence delivers against the objectives of the scheme and the transport benefits and wider outcomes which relate to the output specification being delivered.
- 4.2 The delivery of a successful project is dependent on its commercial viability. The delivery of CAM should be delivered in a way that: allocates risk appropriately across contracts; incentivises the intended outcomes in terms of performance, efficiency and innovation; facilitates the delivery of the project to time and budget; and secures the targeted economic, social and environmental benefits of the project as discussed with stakeholders and agreed with decision makers. Furthermore, the commercial model should best commercialise CAMs attributes.
- 4.3 While the commercial model is based on principles adopted on other projects, the details should be bespoke to the project and account for the specific context. This includes achieving the intended strategic outcomes, such as, enabling Cambridge to meet growth projections over a given timeframe and intended commercial outcomes, such as limiting the impact on the public balance sheet or maximising commercial opportunities. The nature of these outcomes often leads to trade-offs where the improvement of one outcome leads to the need to manage another. The commercial model for CAM therefore seeks to strike an appropriate balance between these outcomes and identify a strategy to deliver the best commercial output for the public sector.
- 4.4 A broad range of commercial models have been used in previous transport infrastructure projects, ranging from fully public-sector delivery, finance and ownership, such as the Northern Line Extension, to fully private sector delivery, finance and ownership, such as many toll roads or airports. We have applied a sliding scale of combined public and private involvement between these options, such as a Public Private Partnership.
- 4.5 This chapter considers the possible commercial models for CAM, drawing on previous public transport projects. In line with the guidance of an SOBC, at this stage the commercial models are outlined at a high-level and a short list of options are suggested to be taken forward for OBC (as opposed to a single preferred option). Likewise, the current powers and constraints for the Mayor, Cambridge and Peterborough Combined Authority (CPCA) and partner public organisations have also been considered in shaping the models. Further analysis will be undertaken to develop the short list of options in the subsequent OBC stage.
- 4.6 This chapter is structured as follows:
 - An overview of the approach undertaken as part of the Commercial Case is outlined;
 - The key commercial outcomes and outputs of the commercial model are presented;
 - Several commercial model options for CAM are outlined based on case studies;

- A discussion of bus franchising is outlined; and
- A summary of the Commercial Case is given.

Overview of Approach

4.7 The approach undertaken as part of the Commercial Case is summarised in Figure 4.1 with the work undertaken in each task outlined after.

Figure 4.1: Commercial Case Approach



- **Identify Case Studies.** Research into a series of case studies of recent public transport investments was undertaken in terms of the commercial model utilised. Best practices from these case studies are identified to consider whether these can be replicated. This feeds into the commercial model options considered in this Commercial Case.
- **Identify Key Commercial Outcomes.** Based on the context of the project and recent public policy, a list of key commercial outcomes has been defined. The procurement options are qualitatively rated against these outcomes.
- **Define Commercial Models.** A selection of four commercial model options are identified for CAM based on recent case studies of public transport investment.
- **Qualitative Assessment of Commercial Model Options.** Each of the commercial model options were qualitatively assessed against the key commercial outcomes.
- **Identify Short List of Commercial Models.** Based on the qualitative assessment of the various commercial model options, a short list of options has been recommended to consider further in the OBC.

Key Commercial Outcomes

4.8 To ensure the successful delivery of CAM, the commercial model should seek to achieve a series of key commercial outcomes that fulfil the requirements of major stakeholders of the project. A list of the key commercial outcomes for the commercial model has been defined and are outlined Table 4.1. This is followed by a further description of each outcome.

Table 4.1: Key Commercial Outcomes

Key Commercial Outcome	Description
Public Balance Sheet	Limit the impact on the public balance sheet and maximise third party funding options
Risk and Responsibilities	Efficient allocation of roles, risks and responsibilities between delivery parties
Interfaces and Integration	Limit the number of interfaces in the commercial structure and facilitate integration with other services
Procurement Compliance	Ensure compliance with procurement rules
Competition	Maximise the opportunity for competition to drive the best Value for Money of the public sector
Timescales	Facilitate the delivery to optimal timescales

Public Balance Sheet

- 4.9 As outlined in the Financial Case, recent UK government policy has encouraged projects to identify alternative funding sources to support the delivery of infrastructure. While recent trends have suggested a more flexible approach to total government debt, this constraint will continue to be a major factor in determining the overall feasibility of any project. In line with this is the reluctance within UK government to approve infrastructure investments that lead to significant funding or financing liabilities on the public balance sheet (e.g. significant public finance or a long-term public-sector payment obligation). As such, the preferable commercial model should seek to limit the impact on the public balance sheet and maximise third party funding options.

Risk and Responsibilities

- 4.10 Effective commercial models assign responsibilities and risks to parties that are best placed to deliver and/or manage them. This approach can leverage in skills, experience and innovation from other parties (such as the private sector) where necessary to support delivery of the project and can transfer risk where necessary to reduce budget and timescale risk. The preferable commercial model should therefore seek to allocate risk and responsibilities effectively across delivery parties.

Interfaces and Integration

- 4.11 Introducing additional interfaces between different parties in the commercial structure of a commercial model leads to greater complexity and a need to manage the interface to ensure each party is incentivised to deliver the desired outcomes. Furthermore, a transport infrastructure project should be procured in a manner that supports integration with other transport services. The preferred commercial model should look to minimise the number of interfaces in the commercial model and facilitate integration with other services to serve the areas targeted for economic growth within Cambridge. In addition, the capacity of the CPCA or partner organisations to deliver CAM as well as other priority projects also should be considered in determining the optimum commercial structure.

Procurement Compliance

- 4.12 Any procurement should be compliant with procurement laws including State Aid.

Competition

- 4.13 A commercial model that incentivises competition and reduces barriers to entry in private sector involvement will drive the best value for money for the public sector and help facilitate innovation. The preferred commercial model should therefore seek to maximise competition within the selected commercial structure.

Timescales

- 4.14 It is key to deliver the project within the committed timescales in order to facilitate the growth ambitions of the CPCA. A preferable commercial model would therefore minimise the risk to delivery timescales.
- 4.15 The key commercial outcomes above are used to qualitatively assess the commercial model options on a scale from 1 to 5, in order to identify a short list of commercial models to be considered at OBC stage. Figure 4.2 outlines the qualitative rating framework used to assess each procurement option.

Figure 4.2: Qualitative Rating between 1-5 of Key Commercial Outcomes

Outcome	1	2	3	4	5
Public Balance Sheet	Very high impact	High impact	Neutral	Low impact	Very low impact
Risk and Responsibilities	Very inefficient	Inefficient	Neutral	Efficient	Very efficient
Interfaces and Integration	Very high number	High number	Neutral	Low number	Very low number
Compliance	Major concerns		Minor concerns		No concerns
Competition	Very uncompetitive	Uncompetitive	Neutral	Competitive	Very competitive
Timescales	High Risk of Delay		Medium Risk of Delay		Low Risk of Delay

Commercial Delivery Options

4.16 In this section of the Commercial Case we outline four commercial model options based on the commercial model of previous public transport investments. These four scenarios are:

- Fully public delivery;
- Private Operations and Maintenance (O&M);
- Design, Build, Operate and Maintain (DBOM);
- Design, Build, Finance, Operate, and Maintain (DBFOM).

4.17 These options are intended to present a broad spectrum ranging from a fully public model to a private delivered and financed model. Note, these options are not exhaustive and there are various other variants within each of the model scenarios. However, these present a broad menu of options, in order to discuss the key commercial outcomes and define a narrower short list to be considered as part of an OBC. Similarly, while CPCA should continue to progress CAM through the next stage of development, serious consideration of establishing a separate delivery organisation should be made given the scale and complexity of CAM and the wider transport investment portfolio. A separate delivery organisation can work with any of the four commercial delivery options identified.

4.18 Note, a fully privately delivered, financed and owned commercial model (e.g. similar to a toll road) has not been considered as this would require ownership of CAM assets to lie with the private sector which we understand is not seen as a desirable or viable option for the Combined Authority.

Vehicle Ownership

4.19 One particular asset which lends itself to either private sector or retain public ownership are the vehicles which would operate on CAM. The majority of buses in Greater London that operate the bus franchised services in the city are owned by the operator while TfL sets standards on the quality such as on age and specification of the fleet in use. Elsewhere, in unregulated bus markets outside of London, operators own and operate buses with no or limited controls which are largely safety in nature.

4.20 Conversely, the New Routemasters in London were purchased by TfL and are leased to transport operators. This was considered the most cost-effective approach for TfL to purchase and retain ownership of the buses directly, taking advantage of its preferential cost of capital. As the New Routemaster was designed specifically for use in London, they cannot be easily

deployed anywhere in a private sector operator's national fleet after use in London (which they typically do with other buses owned by the operator). Limited public ownership can be seen elsewhere in the country: for example, in Greater Manchester, TfGM own the buses used on the Metroshuttle services and some other routes.

- 4.21 Transferring the ownership of vehicles to the private sector could reduce the impact to the public balance sheet as some of the investment from the private sector is offset by retention of the vehicles. This financial benefit is dependent on the asset having a value to the private sector. The vehicles under consideration for CAM, are likely to be built to a particular specification which might reduce the residual value as the fleet could not be easily sold or used in other transport systems after their use for CAM had expired. In this case, transferring ownership of the vehicles would expose the private sector to lack of a re-sale risk leading to marginal or nil financial benefit of introducing private sector ownership.
- 4.22 It is possible for a Local Transport Authority to own and lease a fleet to a transport operator in the circumstances where the vehicles are used for tendered services. Tendered service could include franchises, concessions and tenders let under the 1985 Transport Act, but not a commercial partnership arrangement as this could constitute State Aid.
- 4.23 Further analysis into private and public-sector ownership of vehicles is required in the next stage of analysis to identify the preferred procurement option for the public authority where an important consideration is the level resale risk.

Separation of Delivery Responsibilities

- 4.24 In order to outline the responsibilities under each of the four commercial models considered in the Commercial Case, the delivery of CAM has been separated into a series of separate responsibilities. These are outlined below:

Table 4.2: Various Delivery Responsibility of CAM

Delivery Responsibility	Description
Planning and Design	The planning and design of the construction work to deliver CAM
Construction	The construction of the new infrastructure and enhancement of existing infrastructure to deliver CAM (e.g. tunnels, track, stations, signalling, etc.)
Vehicles	The procurement of the CAM vehicles based on the specifications defined by the CPCA
Operations and Maintenance	The operation and on-going maintenance of vehicles and infrastructure once CAM is operational
Ownership of Assets	The party that ultimately owns the assets
Funding/Finance	The responsibility to fund and finance the project

- 4.25 Figure 4.3 outlines the four possible commercial models against the delivery responsibilities. Option 1 is a fully publicly led option, in which the CPCA or the contractors engaged by the CPCA deliver the project. Option 2 is similar to Option 1, with the exception that the 'operations and maintenance' responsibility is contracted to a private contractor. Option 3 is a 'design, build, operate and maintain' contract with the private sector, where there are several different variants in the structure of how the contracts are tendered. Option 4 is a 'design, build, finance, operate and maintain' contract to the private sector, where, similarly to Option 4 there are several different variants in the structure of how the contracts are tendered.

Figure 4.3: Commercial models by Delivery Responsibilities

	Option 1 Public Led	Option 2 Private O&M	Option 3 Private DBOM	Option 4 Private DBFOM
Planning & Design	Public	Public	Private	Private
Construction				
Vehicles				
Operations & Maintenance		Private		
Ownership of Assets		Public	Public	Public
Funding/Finance	Public	Public	Public	Public/Private

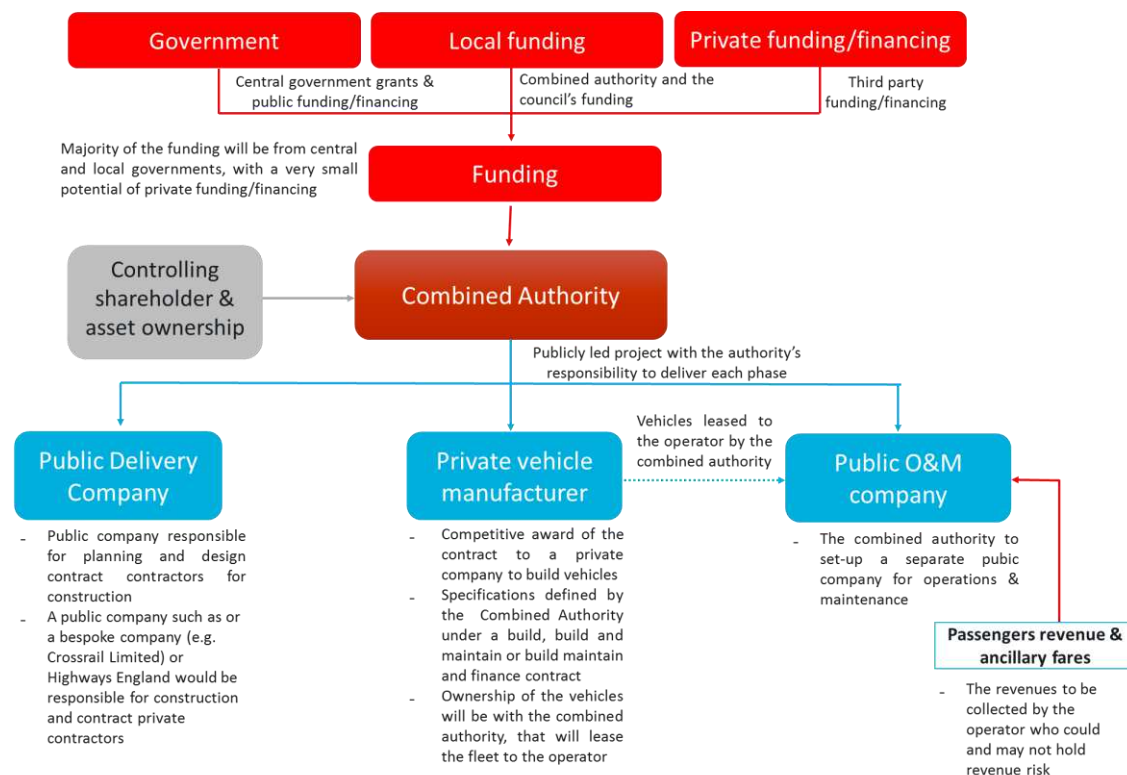
Option 1 – Public Led*Overview*

- 4.26 This Option is similar to the commercial model of the Northern Line Extension. In this Option, the CPCA would be the controlling shareholder with asset owner (infrastructure and vehicle), with the responsibility for the delivery and funding/financing of the whole project. The capital expenditure would be funded by the UK government and local authorities, whereas the operational expenses would primarily be met by passenger revenues (although there may be a need for an additional premia/subsidy to the public operator based on the difference between the operational costs and revenues).
- 4.27 The public sector would be responsible for delivering the ‘planning, design and construction’ phase by using ‘in-house’ capability and would most likely procure capital works to a private contractor(s) with the capability and expertise for delivering such projects. This model could allow the CPCA to directly deliver the project or it would require a public delivery company to be created (similar to Crossrail Limited and Transport for London) or could form part of Highways England responsibilities. It would require significant additional resources to develop and deliver projects.
- 4.28 The procurement by the CPCA or delivery company to a private contractor(s), would be through a competitive bidding process to determine the most economically advantageous tenderer, as follows:
- Issue an expression of interest;
 - Review submissions and shortlist most suitable contractors;
 - Issue the full tender to the shortlisted contractors; and
 - Assess the return and award the contract to the most suitable contractor.
- 4.29 The CPCA would lease the vehicles to the operator that would be a newly incorporated public company to deliver on-going ‘operations and maintenance’ of the project. The operator would also have the authority to collect passenger revenues to meet operational and maintenance expenses (such as lease payments), however there may be a need for a subsidy or premium from/to the CPCA from the public operator based on the difference between operational revenue and costs.

4.30 The CPCA (or local authority) being responsible for delivering the construction of CAM and the operations and maintenance would require a significant and fast expansion in terms of capacity and capabilities. While the CPCA already carries out various transport duties, the scale of CAM would likely require recruitment of as much as 200 project staff based on similar projects such as the Northern Line Extension or Crossrail.

4.31 Figure 4.4 outlines the structure of this option and the various entities involved.

Figure 4.4: Option 1: structural flow diagram



Advantages

4.32 The CPCA would own and control all assets and there is a low structural complexity with the public sector responsible for the delivery of the whole project with minimum private sector involvement thus leading to a low number of interfaces to manage. Furthermore, the combined funding streams from the user and local generated funding (e.g. local taxes) would facilitate the beneficiaries contributing to the service. Lastly, additional powers needed by the CPCA to deliver CAM is likely to be relatively limited.

Disadvantages

4.33 This option is very reliant on the public sector having the necessary experience and capabilities to deliver the construction and operations of the project. This would need to be achieved within a few years from a 'standing start' in order to meet the delivery timescales and would be a significant challenge. This also does not leverage private sector skills and experience which could reduce 'value for money' to the public sector as there would need to be the establishment of the organisational structure of the expanded public-sector organisations and a learning of new skills.

4.34 Furthermore, this option would have significant impact on public finances (public balance sheet) due to the large proportion of funding required from the public sources for capital expenditure, with only a small opportunity for leveraging private financing. The CPCA would

retain the majority of risks in terms of financing, revenue, operations and maintenance as these would not be transferred to the third parties. Due to no or minimum private sector involvement, this option would neither enhance competition nor lead to efficient allocation of roles and responsibilities.

- 4.35 The Figure 4.5 outlines the qualitative rating of Option 1 based on the advantages and disadvantages outlined above.

Figure 4.5: Qualitative Rating of Option 1

Outcome	Qualitative Rating Option 1
Public Balance Sheet	2
Risk and Responsibilities	2
Interfaces and Integration	5
Compliance	5
Competition	2
Timescales	1

Northern Line Extension – Public Led Delivery

The Northern Line is being extended from Kennington to two new tube stations, Nine Elms and Battersea Power Station and is expected to be operational by 2020. The project has cost around £1 billion which has come from an innovative funding package set between Transport for London, the Greater London Authority and Wandsworth and Lambeth Councils.

Tax Increment Financing was used to largely fund the scheme, whereby the GLA borrowed £1 billion to fund the scheme, to be paid back through future business rates growth, Community Infrastructure Levy and Section 106 contributions from development. This has led to the beneficiaries and developers, both private and public paying for the majority of the extension but involves the GLA underwriting the risk that future business rate revenues, used to fund loan repayments, do not meet forecasts.

A consortium of Ferrovial Agroman and Laing O'Rourke was awarded the 6-year contract to build the extension. The line will continue to use existing rolling stock from the Northern line as well being operated and maintained by the TfL subsidiary, London Underground Limited.

West Midlands Metro – Public Led Operations

West Midland Metro is a tram that serves the cities Birmingham and Wolverhampton. In 2018, the operation of the service was nationalised with the new 15-year contract for operations and maintenance being awarded to the Transport for West Midlands subsidiary, Midlands Metro Ltd. This shift to public ownership will allow future profits to be invested back into the system as it undergoes significant expansion in the coming decade, which plan to triple the network size and substantially increase ridership and revenue. A key factor in bringing

Option 2 – Private Operations

Overview

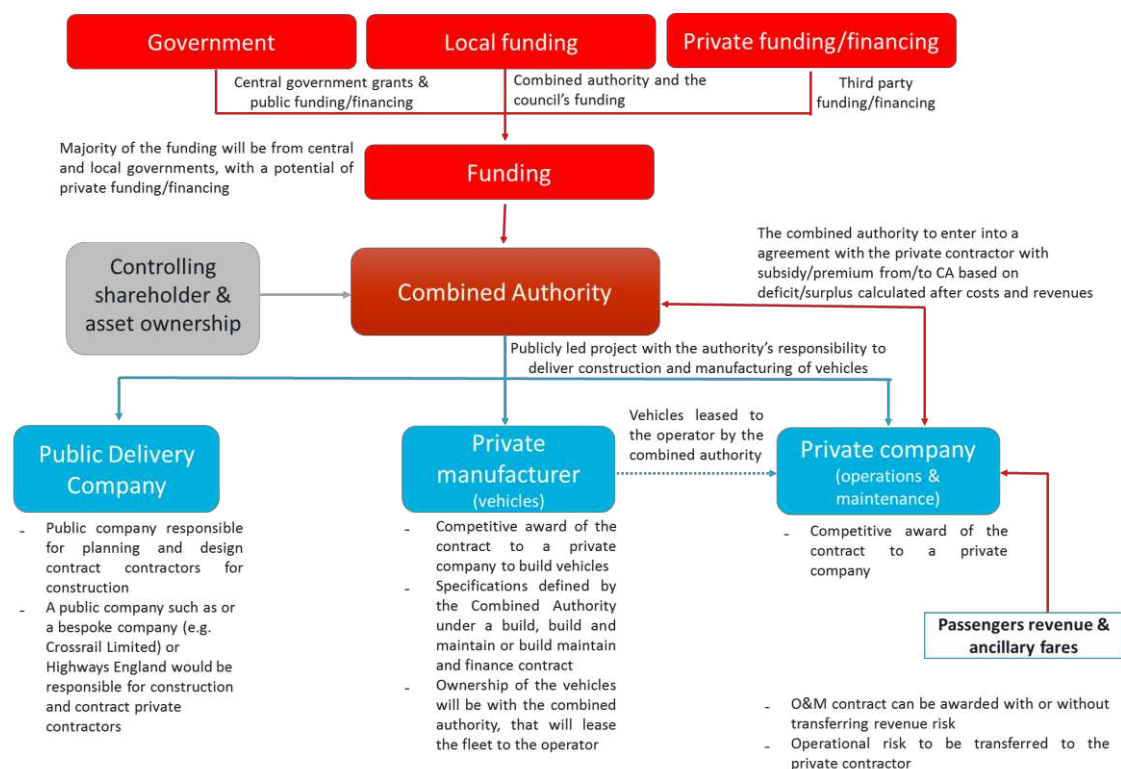
- 4.36 This Option is similar to Option 1 with the exception that a private contractor, through a competitive bidding process, would be contracted for ‘operations and maintenance’⁴¹. This approach would be similar to that adopted for Crossrail. The structures for the responsibilities, planning, design and construction, manufacturing of vehicles and funding/financing are same as in Option 1.
- 4.37 The ‘operations and maintenance’ responsibility under Option 2 would be contracted to a private operator through a concession or franchise agreement, where the private contractor would run operations for a defined period of time, collecting passenger revenues and ancillary fares (where they may or may not take revenue risk), and pay an agreed premium to or receive subsidy from the CPCA based on a surplus or deficit calculated after meeting operational and maintenance expenses and the revenues they are taking risk on. As such, under this structure some of the risk of operation and maintenance would be transferred to the private sector.
- 4.38 The advantages and disadvantages of transferring revenue risk to the private operator are discussed later in this Chapter in the ‘Option 2, 3 and Option 4 outlined above, include a private entity operating CAM services. Given the high-quality specification for CAM, a bus franchising model is likely to be the best approach to procure operation services as it would facilitate the public sector specifying services and vehicles while ensuring a proportion of the schemes operating profits are captured (which would otherwise be difficult through the de-regulated UK bus market).
- 4.39 Furthermore, broader bus franchising across the wider region may be required to ensure the other services across Cambridge compliment CAM, in terms of connectivity and commercials. In the absence of bus franchising, there is a risk that existing bus operators will seek to compete with CAM (likely through undercutting fares) which could:
- 4.40 reduce overall CAM demand, and hence future CAM revenues;
- 4.41 impact the ability for the CPCA and local stakeholders to fully integrate other bus services in Cambridgeshire into the CAM network (such as through dedicated interchanges, and integrated ticketing), reducing the overall benefit of CAM to passengers; and
- 4.42 reduce the environmental benefits of CAM in reducing bus movements through historic, congested streets in Cambridge City Centre.
- 4.43 The Bus Services Act from 2017 provides mayoral Combined Authorities, such as the CPCA, the powers to implement bus franchising in their area, under a model similar to the system operated by Transport for London. This could be used for franchising of CAM services as well as broader franchising across the region.
- 4.44 However, the Bus Services does not prescribe the commercial elements of the franchise and as such if franchising is pursued further consideration of the commercial model would be required including: who takes revenue risk; the prescriptiveness of the service specification; fare and ticket specification; the length/size of individual contracts; and the nature of any incentive arrangements. Further consideration of revenue risk is outlined below.

⁴¹ Note, these contracts could be tendered separately or together.

4.45 Revenue Risk

4.46 Figure 4.6 outlines the structure of this option and the various entities involved.

Figure 4.6 - Option 2: structural flow diagram



Advantages⁴²

4.47 This Option can transfer some of the 'operation and maintenance' risk to the operator with the potential of transferring revenue risk as well. There would be some potential for leveraging private sector experience for the 'operations and maintenance' responsibility. This Option is therefore less reliant on the public-sector capabilities and would not require a public-sector operator to be established which reduces delivery risk.

Disadvantages

4.48 Although the operations and maintenance responsibility has been transferred to the private sector, this option still requires the public sector to deliver the 'planning, design and construction' phase, which would still require significant in-house capabilities. This could magnify the delivery risk, which could significant delay the introduction of the project. This Option also introduces an additional interface between the public sector and the private O&M which would require management to ensure the private O&M entity is appropriately incentivised.

4.49 Table 4.3 outlines the qualitative rating of Option 2 based on the advantages and disadvantages outlined above.

⁴² Note, only the advantages and disadvantages compared to the previous Options are outlined

Table 4.3 - Qualitative rating: Option 2

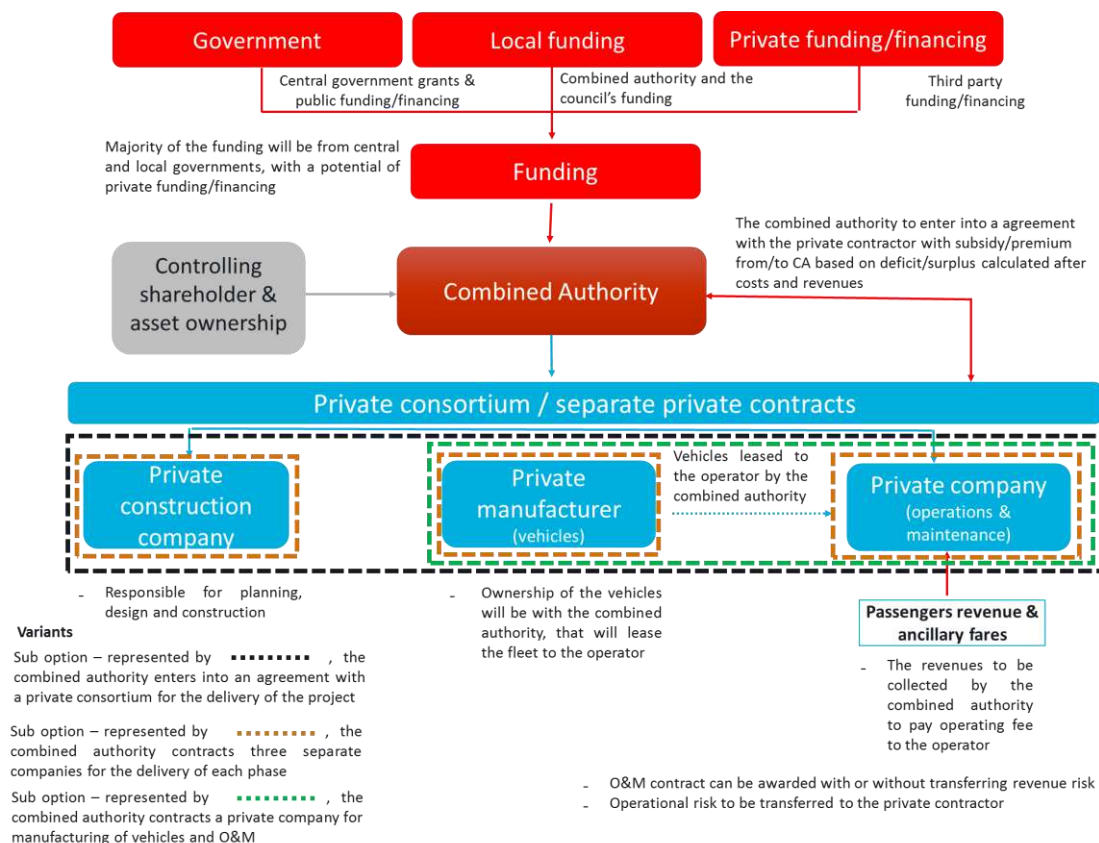
Outcome	Rating
Public Balance Sheet	2
Risk and Responsibilities	3
Interfaces and Integration	4
Compliance	5
Competition	3
Timescales	2

Crossrail

Crossrail, a £14.8 billion railway line, was given royal assent in the Crossrail Act 2008. Crossrail Ltd. was established in 2001 to build the railway, it is an owned subsidiary of Transport for London and is jointly sponsored by Transport for London and the Department for Transport. Crossrail has primarily used the NEC3 suite for its main delivery contracts, primarily through a Design/Build arrangement but also outsourcing certain programme management activities. Bombardier was awarded the contract to supply and maintain the rolling stock for 32 years while MTR Corporation (Crossrail) Ltd. was awarded the £1.4 billion contract to operate Crossrail for 8 years with the possibility of extending it to 10 years.

Option 3 – Design Build Operate Maintain (DBOM)*Overview*

- 4.50 Option 3 is similar to Manchester Metrolink Phase 2 and 3, and the Docklands Light Railway extension to Stratford International in London. In this Option, the CPCA would be the controlling shareholder, own assets and finance the project, but the private sector would be contracted, through competitive bidding process, to deliver the project (i.e. the responsibility for planning, design, construction, vehicles procurement and O&M). Although, note the private sector would not provide finance to delivery of the project.
- 4.51 The private sector would be paid a sum for the ‘planning, design and construction’ and manufacturing of vehicles responsibilities, payable in instalments or on completion of defined milestones. There would then be an on-going fixed premium or subsidy (or operator fee) for the operations and maintenance responsibility (based on the balance of revenue and cost operations and the allocation of revenue risk).
- 4.52 Note, as outlined in the Financial Case there are a large number of land owners who would benefit from CAM which could allow for CAM to be partially funded by these owners. If these land owners were involved in delivery of CAM it would allow those benefits to be directly offset delivery costs and would not be dissimilar to a pure private finance scheme. This could reduce the new costs to deliver the project.
- 4.53 Figure 4.7 outlines the structure of this option and the various entities involved.

Figure 4.7 – Option 3: structural flow diagram

Variants in Private Sector Contracts

- 4.54 There can be several different options for splitting private sector contracts for the delivery of different responsibilities of the project, for instance, a private consortium could be contracted to deliver all aspects, or each responsibility could be contracted separately.
- 4.55 For instance, the CPCA could tender separate contracts for the construction, vehicles, operations and maintenance. The payment structure would be such that the CPCA would pay fixed separate sums for 'planning, design and construction' and 'manufacturing of vehicles' phases, while pay a then an 'on-going' fee for the operations and maintenance responsibilities. This option would enhance competition due to the lower barriers for entry in each contract, it would allow the authority to select the best individual bid for each element, and would allow elements of the commercial proposition, such as contract length, be tailored to the specific responsibility. However, this would increase structural complexity due to high number of interfaces with would require tightly defined contracts to ensure risks are not passed up the supply chain.
- 4.56 Alternatively, two separate private companies could be contracted, one for the 'plan, design and construction' responsibility, and another for the 'manufacturing of vehicles' and 'operations and maintenance' responsibilities. This approach has the advantage that the interface between the vehicle manufacturer and the operator and maintainer of the vehicles is removed, reducing the risk the operator and maintainer would lack the capabilities to use the vehicles or receive vehicles that were not-fit for service. However, it could reduce value for money as there would be fewer potential bidders which could supply a combined manufacturing, operations and maintenance services.

- 4.57 Finally, a private consortium could be contracted to provide all responsibilities of CAM e.g. design, build, operate and maintain. This reduces the complexity and interfaces but further reduces competition, the ability for tailored contracts and potentially reduces the value for money. Furthermore, there is a greater level of risk at the start of the project due to construction risk and the greenfield nature of operations. As such, if a consortium approach is pursued, consideration of an initial shorter-term contract followed by a longer-term contract should be examined as a method to minimise the impact of the initial risk on the long-term price of the contract.
- 4.58 Similarly, for the infrastructure, if a private consortium is responsible for delivering all responsibilities including the 'operations and maintenance', the risk of additional capital expenditure for infrastructure prior to its assumed life span would sit with the consortium.

Advantages

- 4.59 Due to the private sector involvement, this Option is less reliant on the CPCA's need to develop 'in-house' capabilities to deliver the construction and O&M of the project within the project delivery timescales from a 'standing start'. As such, this Option reduces the delivery risk within the planned timescales.
- 4.60 Furthermore, this could result in better value for money due to relatively high competition and leveraging in private sector experience to deliver the project however the transfer of construction, operations and maintenance risks to the private sector would be factored into their price. As such, the impact on the Value for Money would be dependent on the scale of potential cost efficiencies driven by the private sector and the 'price' of the risk transferred. However, transferring risk to the private sector would reduce the potential for cost variation.
- 4.61 A 'turnkey' design and construction contract could be used with an additional operating contract, or a section to the construction contract covering operations.

Disadvantages

- 4.62 This Option would still require the CPCA to raise a significant proportion of the funding and finance for the capital expenditure as the private consortium would not take financing responsibility. This could reduce the cost of capital compared to private finance but would have a greater impact on the public balance sheet.
- 4.63 As noted above, the private sector would 'price-in' the construction and operational risks in the price charged to the CPCA which could be offset by cost efficiencies. This Option would result in more structural complexity than Option 1 or 2 due to multiple interfaces between the CPCA and the private sector. In order for this Option to be effectively delivered, the private contractors would require access to the existing infrastructure owned by the CPCA.
- 4.64 Table 4.4 outlines the qualitative rating of Option 3 based on the advantages and disadvantages outlined above.

Table 4.4 - Qualitative rating: option 3

Outcome	Rating
Public Balance Sheet	3
Risk and Responsibilities	4
Interfaces and Integration	2
Compliance	5
Competition	4

Manchester Metrolink Phase 2

Manchester Metrolink Phase 2 had a budget of around £160 million and added a 4-mile extension to the existing line and was fully operational by 2000. The project was delivered by a consortium Altram who provided a DBOM contract for 17 years. Serco operated and maintained the line. The contract allocated revenue risk to the private sector and the obligation to share part of the upside with GMPTE but allowed the operator the power to set tariffs.

Manchester Metrolink Phase 3A

Phase 3A of Manchester Metrolink, with a budget of around £575 million, was approved in 2006 and was financed mostly from UK government and Greater Manchester Passenger Transport Executive (GMPTE) borrowings. Unlike Phase 2, Phase 3A broke up the DBOM concession and awarded the contract for Design-Build to the consortium M-pac Thales, and the Operation-Maintenance contract to Stagecoach. GMPTE now takes responsibility for all revenue risk but Stagecoach is (and since July 2017, Keolis) held responsible for revenue security.

Docklands Light Railway

The Docklands Light Railway (DLR) is currently operated and maintained privately by a joint company, KeolisAmey Docklands, led by Keolis in conjunction with Amey, as part of a £700m, near seven-year contract from December 2014 until April 2023. Prior to 2014, it has been operated and maintained by Serco Docklands, part of the Serco Group. Recent extensions to the network have been delivered privately: the 2012 extension to Stratford International was delivered by VolkerRail, in joint venture with Skanska, with design provided by Mott MacDonald. TfL hold all responsibility for revenue risk.

Option 4 – Design Build Finance Operate Maintain (DBFOM)*Overview*

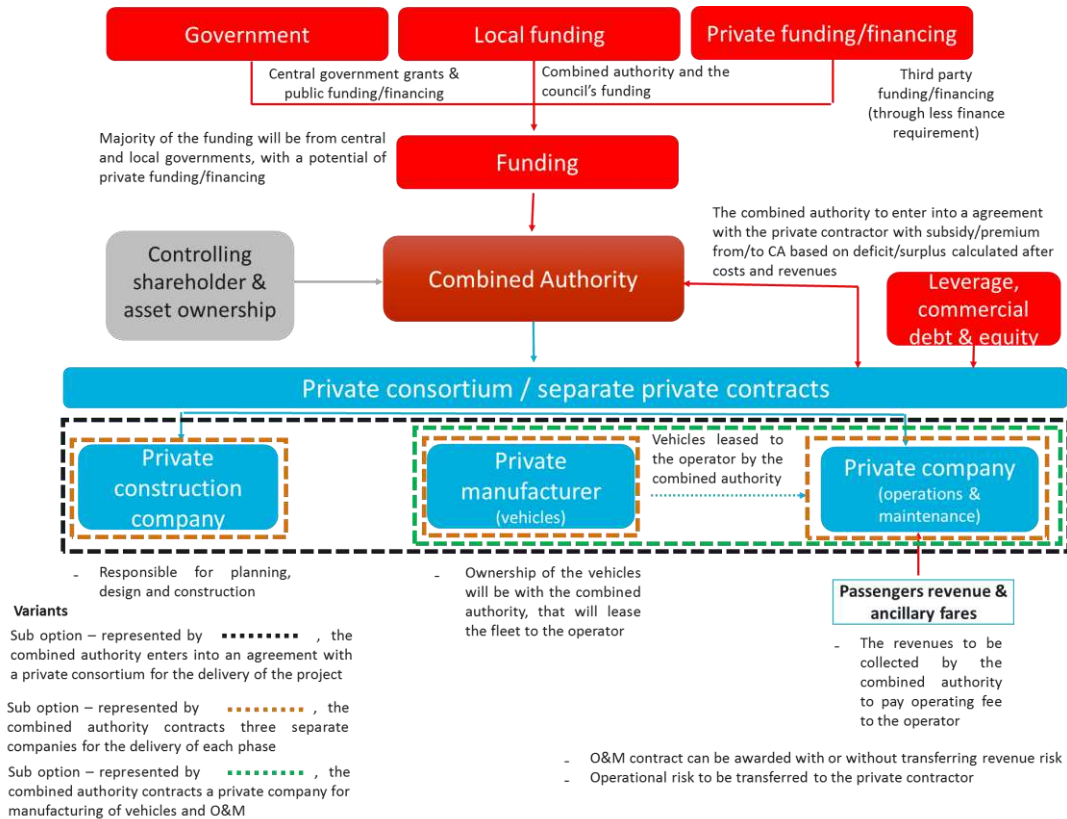
- 4.65 Option 4 is similar to Nottingham Express Transit Phase 2. This Option has similarities to Option 3 but the responsibilities for financing would be bundled together with the designing, constructing, and operating and maintaining and transferred to the private sector through a competitive bidding process.
- 4.66 Part of the financing responsibility (along with all other risks) would be transferred to the private sector that would, seek equity investments and commercial debt (or bonds) to finance at least part of the, leveraging revenue stream dedicated to the project. The total passenger and ancillary revenues into the private sector would be unlikely to cover the total project costs and financing costs incurred and as such there would be a likely need for the CPCA to contribute an on-going subsidy to the private sector to support the private sectors financing obligations. This could be partially met by the CPCA through the funding options outlined in the Financial Case.
- 4.67 The private sector would design and construct the project, manufacture vehicles, and operate and maintain the project for a fixed time period. During this time period, the private sector would recover their investments through passenger revenues and/or subsidies from the CPCA.

After the expiry of the ‘operations and maintenance’ contract, the assets would be returned to the CPCA.

4.68 As in Option 3, there is also a potential of splitting private sector contracts for delivering different responsibilities, in this Option.

4.69 Figure 4.7 outlines the structure of this option and the various entities involved.

Figure 4.8 - Option 4: structural flow diagram



Advantages

4.70 The primary difference between the advantages outlined in Option 3, is Option 4 could facilitate a reduction in the impact on the public balance sheet of the project if financing and importantly, sufficient risk were transferred to the private sector. Furthermore, this Option could reduce high upfront costs to the public sector with instead a longer-term payment being paid to the private sector who finance the project. The engagement of the private sector under a DBFOM contract could support an accelerated project delivery compared with the other options.

Disadvantages

4.71 Related to the transfer of the financing requirement, this Option is likely to increase the total costs to deliver CAM as the private sector would ‘price-in’ the cost of capital and risks in the price charged to the CPCA and consumers. Furthermore, if the private entities become bankrupt or face funding problems, then there is a high risk of the whole project being significantly delayed with the ultimate risk sitting with the public sector. There is also a risk of lengthy procurement process due to lack of the public-sector skills to obtain a good DBFO contractors.

- 4.72 Table 6 below qualitatively assigns the ratings to each outcome based on the advantages and disadvantages discussed above.

Table 4.5 - Qualitative rating: Option 4

Outcome	Rating
Public Balance Sheet	3
Risk and Responsibilities	4
Interfaces and Integration	2
Compliance	5
Competition	4
Timescales	4

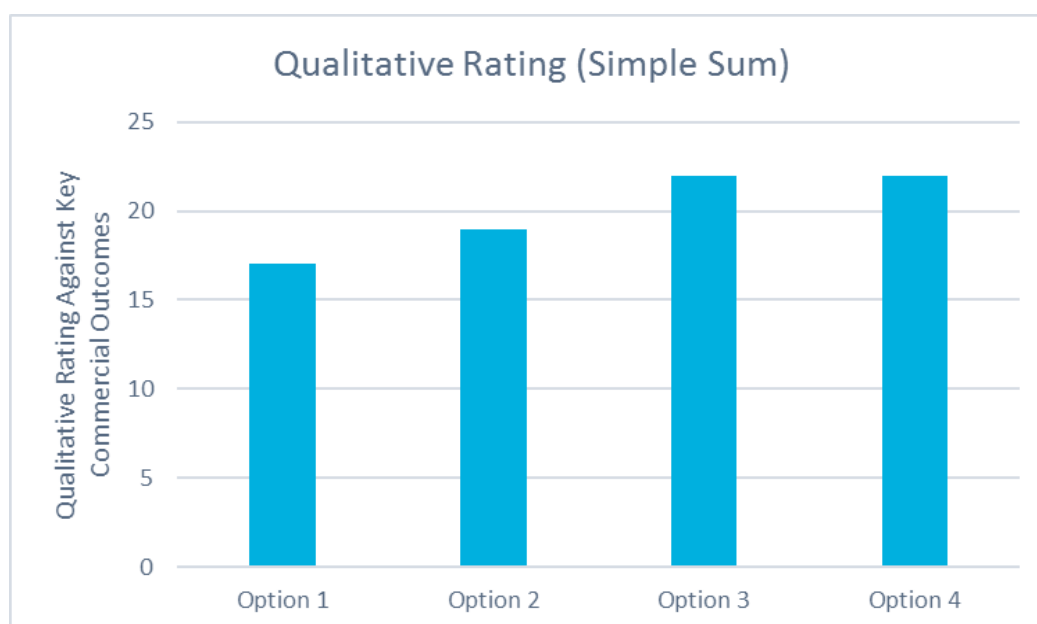
Nottingham Express Transit Phase 2

Phase 2 of the Nottingham Express Transit, a £570 million doubling of the pre-existing track length, opened for public use in 2015. The procurement consisted of a 22-year DBFOM to take over operations and maintenance of the original line and construct the extension. Phase 2 was awarded to the consortium Tram Link Nottingham. Nottingham City Council and Nottingham County Council have sponsored phase 2 and jointly provided £140 million where the remaining was provided from the UK government through Private Finance Initiative.

Option Summary

- 4.73 The above sections outline the four commercial models based on a series of recent transport infrastructure investments in the UK where each option is qualitatively assessed against the key commercial outcome criteria outlined in 'Key Commercial Outcomes'.
- 4.74 A simple sum of the qualitative rating for each of the four Options is presented in Figure 4.9.

Figure 4.9: Qualitative Rating of Key Commercial Outcome (Simple Sum)



- 4.75 CAM is a fundamental requirement for the CPCA to reach their growth ambitions over the next few decades. As such, meeting the delivery target of the late 2020s is crucial.
- 4.76 Under Option 1 and Option 2, there is a significant reliance on the public sector to establish public entities with the experience and capabilities in very short timescales, which could introduce a significant risk to the delivery timescales of CAM. Options 3 and 4, based on the assessment above, are likely to reduce overall project risk, but this would be a result of the private sector 'pricing-in' the construction and operational risks (and, for Option 4, funding risks) into the overall 'price' charged to the CPCA for the project.

Delivery Corporation

- 4.77 The Cities and Local Government Devolution Act 2016 permits the creation of Mayoral Development Corporations in combined authority areas, with the first being created in South Tees in 2017 by the Tees Valley Combined Authority. MDCs can draw on a wide range of powers, covering infrastructure, financial incentives, regeneration and land acquisition, devolving powers from central government to the local area.
- 4.78 Due to the potential land value uplifts enabled by CAM, establishing a MDC could be an effective way to ensure the land value uplift supports the delivery of CAM.

Bus Franchising

- 4.79 Option 2, 3 and Option 4 outlined above, include a private entity operating CAM services. Given the high-quality specification for CAM, a bus franchising model is likely to be the best approach to procure operation services as it would facilitate the public sector specifying services and vehicles while ensuring a proportion of the schemes operating profits are captured (which would otherwise be difficult through the de-regulated UK bus market).
- 4.80 Furthermore, broader bus franchising across the wider region may be required to ensure the other services across Cambridge compliment CAM, in terms of connectivity and commercials. In the absence of bus franchising, there is a risk that existing bus operators will seek to compete with CAM (likely through undercutting fares) which could:
- reduce overall CAM demand, and hence future CAM revenues;
 - impact the ability for the CPCA and local stakeholders to fully integrate other bus services in Cambridgeshire into the CAM network (such as through dedicated interchanges, and integrated ticketing), reducing the overall benefit of CAM to passengers; and
 - reduce the environmental benefits of CAM in reducing bus movements through historic, congested streets in Cambridge City Centre.
- 4.81 The Bus Services Act from 2017 provides mayoral Combined Authorities, such as the CPCA, the powers to implement bus franchising in their area, under a model similar to the system operated by Transport for London. This could be used for franchising of CAM services as well as broader franchising across the region.
- 4.82 However, the Bus Services does not prescribe the commercial elements of the franchise and as such if franchising is pursued further consideration of the commercial model would be required including: who takes revenue risk; the prescriptiveness of the service specification; fare and ticket specification; the length/size of individual contracts; and the nature of any incentive arrangements. Further consideration of revenue risk is outlined below.

Revenue Risk

- 4.83 The options available to the CPCA on revenue risk (passenger fares and ancillary revenues) are to either retain the risk, transfer it completely or share it with the operator.
- 4.84 The benefit of transferring revenue risk to the private operator, is that it incentivises the operator to maximise revenue (passenger revenue and ancillary revenue) which often incentivises the operator to provide a service that attracts customers. Maximising the revenue from the service, has a positive implication on the public-sector balance sheet due to reducing funding requirements from other sources.
- 4.85 However, note that the transferring of revenue risk would lead the private sector to ‘price-in’ this risk which could outweigh the increase in revenue driven by transferring risk. For instance, the private operator may evaluate the risk as very high due to the lack of historical trend information, and due to unknown quality of vehicles, and therefore risk ‘priced-into’ the bid may result in poor value for money to the public sector. As such, it is recommended that the CPCA would need to test the market appetite for taking revenue risk and undertake analysis operator cashflows estimating the potential revenue growth against the cost of taking revenue risk.
- 4.86 If revenue risk is not transferred to the private operator, there would be a need to introduce adequate incentivise measures which contain sufficient penalties/bonuses to ensure that the operator provides the service desired by the authority. These may include ticketless travel metrics, service performance metrics, vehicle maintenance requirements and other ‘softer’ quality metrics. These metrics would need to be tighter defined to drive the desired behaviour in the operator however they are ultimately mitigation measures to reduce the risk of poor quality service and are unlikely to be as fully effective as transferring revenue risk to the operator.
- 4.87 There are options that partially transfer risk to the operator, such as a ‘cap and collar’ risk sharing mechanism where the operator takes the full risk on revenue up to a certain level of variation from an agreed baseline and after which any further downside or upside in revenue is shared between the public sector and the private operator. Alternatively, a small proportion of revenue risk (e.g. 10%) could be allocated to the private operator alongside incentivise metrics.
- 4.88 Related to the above, is the choice of whether to regulate passenger fares. If revenue risk is retained by the public sector, they would set the fare. While if revenue risk were transferred to the private sector, the fare could be set by the public sector or the private operator where in the scenario that the public sector regulates the fare and the private sector takes revenue risk, the private sector would need to be held harmless against fare changes and would factor in the agreed fare into their price.
- 4.89 If fare levels are unregulated, and the private operator takes revenue risk, this will inevitably result in the private operator setting fare levels to maximise revenue, which may not necessarily align to the objectives of the CPCA. For example, lower fares would be expected to attract additional usage and could help CAM better achieve wider objectives, such as reduced congestion or social equity, balanced against a reduction in overall revenues.
- 4.90 As such, the decision of whether to regulate the fare can account for whether there is a strategic objective to subsidise the passenger fare or change a commercial rate.

Contract Length

- 4.91 An important consideration when letting private sector contracts is the contract period. This should seek to strike the right balance between attracting private sector investment and involvement through a sufficient payback period but maximising the VfM and the ability to reflect policy and strategic updates through regular the re-tendering process.
- 4.92 In relation to CAM, there is a greater level of risk at the start of the project due to its greenfield (i.e. a new system with, by definition, no actuals in respect of performance, costs and revenues) nature. As such, letting an initial shorter contract followed by a longer-term contract could minimise the impact of the greenfield risk in the longer term.

Summary

- 4.93 The commercial model for CAM should seek to best commercialise CAM's attributes while allocating risk appropriately, incentivising the best behaviour and securing the targeted economic, social and environmental benefits of the project. As such, the best commercial model would strike the optimal balance between the potentially conflicting key outcomes of the project, such as:
- Limiting the impact on the public balance sheet and maximising third party funding;
 - Efficiently allocating of roles, risks and responsibilities between delivery parties;
 - Limiting the number of interfaces in the commercial structure and facilitating integration with other services;
 - Ensuring compliance with procurement laws;
 - Maximising the opportunity for competition;
 - Facilitating the delivery of CAM to the optimal timescales; and
 - Deliver the project for the best Value for Money
- 4.94 Based on recent transport infrastructure investments, there are several commercial model options available to the CPCA for CAM which range from public design, delivery and operation model to a private designed, built, financed, operated and maintained (DBFOM) model. Qualitative analysis of these options has highlighted the advantages and disadvantages of each option, but has not identified a preferred commercial model to take forward, which would be considered in more detail at the Outline Business Case (OBC) stage.
- 4.95 Broadly, a publically led commercial model has the advantage that the CPCA would own, control and manage all assets, but would also retain the majority of risks in terms of financing, revenue, operations and maintenance. It would also require significant investment in the public sectors capabilities and capacity in a short timeframe, such as a need to recruit around 200 additional staff members to deliver and manage the project, which would impact on the timescales CAM could be delivered to. It would also have a significantly greater impact on the public sector balance sheet.
- 4.96 Conversely, a privately-led commercial model (such as DBOM or DBFOM) has the advantage that it less reliant on the CPCA to develop 'in-house' capabilities to deliver the construction and O&M of the project within the project delivery timescales from a 'standing start', and hence reduce deliverability risks. This may, however, be at the extent of the private sector 'pricing in' construction and operational (and, for a DBFOM model) financing risks, which could impact the overall price and Value for Money of delivering CAM. This would, however, be balanced by the potential cost efficiencies of private sector involvement, such as through increased completion and better leveraging private-sector expertise.

- 4.97 The key distinction between the DBOM and DBFOM models is the extent of private sector involvement in scheme funding; the difference between the selection of the option depends on the appetite for the private delivery partners to raise their own finance and the advantages and disadvantages of this. Consideration of contract length is also recommended where an initial shorter-term contract followed by a longer-term contract should be examined as a method to minimise the impact of the higher risk profile at the start of the project.
- 4.98 In terms of operations, a private operator approach combined with a bus franchising model is likely to be the best approach to procure operation services as it would facilitate the public sector specifying services and vehicles while ensuring a proportion of the schemes operating profits are captured. The Bus Services Act from 2017 provides the Cambridge and Peterborough CPCA the powers to implement bus franchising in their area, however the commercial elements of a bus franchise model are not prescribed.
- 4.99 Furthermore, broader bus franchising across the wider region is likely to best complement CAM, allowing the CPCA to better integrate wider bus services into the future CAM network. It is possible that CAM could also be operated publicly, through an 'arms length' public company to deliver ongoing operations and maintenance, but it is unclear whether the CPCA currently have powers under the Bus Services Act to facilitate this.
- 4.100 A particular consideration is whether public or private ownership of CAM vehicles would be preferable. The vehicles for CAM are likely to be based on the specifications bespoke to the CAM network, which may limit the resale market as use of the fleet in other transport systems after their use for CAM had expired would be limited. This risk could significantly reduce the financial benefit of transferring ownership to the private sector. Further analysis is required to determine whether public sector vehicle ownership similar to the system used for Routemasters in London and the Metroshuttle in Manchester would be preferable over private sector ownership.

5 Financial Case

Introduction

- 5.1 Unlike the Economic Case, which focuses on welfare benefits to society, the Financial Case focuses on the costs and revenues associated with the project and their impact on government accounts. However, like the Economic Case, the Financial Case is cognisant of the Strategic Case objectives - the financial impact of CAM should be considered in the context of the benefits and value it realises for the region.
- 5.2 An important question in developing and implementing a large-scale transport infrastructure scheme is identifying how it can be funded. This is particularly important given the wider economic and political environment of a tighter public purse leading to the end of an era where UK central government grant funding could be made available provided the proposed scheme had a strong case and was technically feasible. There is now a clear expectation that a large proportion of funding for major transport investment should be secured from local sources, whereby the funding strategy seeks to capture part of the value from the investment that accrues to a range of beneficiaries.
- 5.3 A robust funding strategy for large-scale transport infrastructure schemes should therefore consider finding ways of capturing the uplift in benefits enabled by the scheme as this can reduce reliance on the public purse. For instance, a mass transit network in Cambridge will help increase land values a proportion of which could, through the use of an appropriate funding mechanism, be retained by the public sector to help pay for the initial infrastructure costs (e.g. by providing a revenue stream that supports borrowing). This approach to funding is particularly pertinent in Cambridgeshire and Peterborough given the ambitious growth aspirations of the area, and the additional growth that can be enabled by CAM.
- 5.4 Capturing these benefits to generate funding for transport infrastructure can be achieved by developing an appropriate funding package that utilises the powers available to local authorities and combined authorities. This chapter covers the Financial Case for CAM and considers the affordability of the scheme.

Funding vs. Financing

- 5.5 It is important to distinguish the difference between funding and financing. Funding refers to what capital ultimately pays for the up-front costs of the scheme i.e. it does not need to be directly repaid while financing refers to how the capital requirements of the scheme are met through sources that are repaid over time. Financing is generally required for a project if funding is insufficient to cover the project full costs during construction. For instance, a loan (financing) may be used to meet the upfront capital costs of the project which is then repaid over time through surplus passenger revenue (funding). Financing costs (e.g. interest payments) will be payable on financing sources which increases the costs to deliver the project and therefore additional funding, over and above the capital costs, are required to complete the project.

- 5.6 Given the early stage of development for the CAM project, this financial case focuses on the options to fund the upfront capital costs of the project. The funding of the on-going operation and maintenance costs is estimated to be met by the passenger farebox and ancillary revenues generated by the system based on initial analysis. This will need to be confirmed at the next stage of CAM development

Policy Context

- 5.7 Public investment in the UK is more dependent than ever on finding sufficient funding and increasingly the ability to raise income locally is determining whether any scheme is taken forward or not. As central government funding has become increasingly constrained, the days when a public investment would be centrally funded largely on the economic, social or environmental benefits it generates have gone. In addition, devolution has focused decision making on seeking to find local sources for any particular investment.
- 5.8 Crossrail can be seen as setting the benchmark for establishing the case for public investment in transformative transport infrastructure and, in particular, identifying and securing an appropriate funding package. These include the following broad principles:
- A significant proportion of funding required to deliver a transport infrastructure project is from local sources;
 - That the project should be able to cover its longer run operating, maintenance and ideally renewal costs;
 - That a mix of local funding can be secured, supported by local businesses, developers and users; and
 - That the wider economic benefits of the project are significant and that increased taxes can help recover any central government outlay (particularly through increased productivity, generating additional and higher paying jobs).

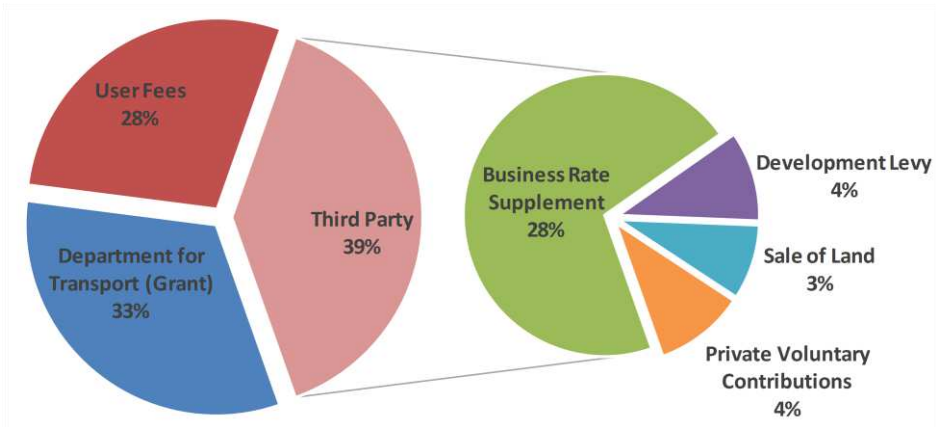
Chapter Structure

- 5.9 The Financial Case is structured as follows:
- The Funding Challenge – scale of funding required to deliver the full CAM network;
 - The additionality of CAM – the ability of CAM to transform the wider Cambridge region beyond pure transport user benefits is outlined;
 - Beneficiary Pays – the concept of beneficiary pays is introduced;
 - Funding Case Studies – case studies from recent transport investments are presented;
 - Funding Options – an overview of potential funding mechanisms is discussed;
 - Financing – the requirement for financing is considered;
 - Summary – the key points and next steps for CAM from a financial perspective are outlined.

Crossrail

Crossrail is Europe’s largest transport project, delivering a new 21km underground urban railway and connections to the existing UK national rail network, increasing capacity of London’s transport network by 10% along with transforming the city-region’s connectivity.

One of the biggest challenges was developing a robust funding strategy for the £15bn project and securing its approval. Crossrail is being funded by a range of income streams, many of which have never been used before, including a business rate supplement and development levies across London including a Mayoral CIL. Analysis was undertaken to make the case for investment in Crossrail and the value generated, for example by assessing how local businesses will see increased activity resulting from Crossrail’s opening. This was critical in securing support from stakeholders to introduce the new income streams representing over 2/3 of total funding.



The Funding Challenge

- 5.10 The focus of this Financial Case is to identify a selection of potential funding sources that could be utilised to meet the capital cost of the CAM project. This has been estimated at around £4,000m (2018/19, real prices), for the delivery of the full regional network, and includes the capital cost elements set out the Economic Case. While the costs represent the full funding that would need to be secured, in practice the funding required would spread in-line with the phased development of the network.

The Additionality of CAM

- 5.11 One of the most important aspects of any proposed investment is the question of the scale of change it can generate directly or unlock indirectly. This change can be in reducing the time or cost of transporting people or goods, increasing the capacity of the transport network or in improving access to a poorly served location. The key determinant of scale of change is whether the benefit impact decisions made by people or companies to increase activities or even start a new business or establish facilities in a location due to the investment.
- 5.12 Investment in CAM provides a step change in the capacity and capability of Greater Cambridge's transport network supporting growth but importantly, unlocking the opportunity to transform the region's economy in a more sustainable manner.
- 5.13 The transformational impact of CAM and the additional scale and productivity of economic activity, in the form of additional jobs, homes and productivity is set out in the Strategic and Economic Cases. In summary, CAM has the potential to contribute to the delivery of around 50,000 additional jobs under a 'central case' scenario, and support higher levels of productivity per worker within the Greater Cambridge area. There are a range of potential ways in which the additional value of jobs can be captured, from the landowners, developers and businesses that would gain from such additionality. Likewise, landowners, developers and residents would benefit from additional housing, and there are various potential mechanisms that can be used to capture a proportion of this value.

Manchester Metrolink



The Metrolink 'Big Bang' expansion includes a £1.5bn Metrolink investment programme which will triple the size of the network. The extent of the project will help reduce congestion levels, with an estimated five million fewer cars on the road network, increasing public transport trips per day from 55,000 to more than 90,000.

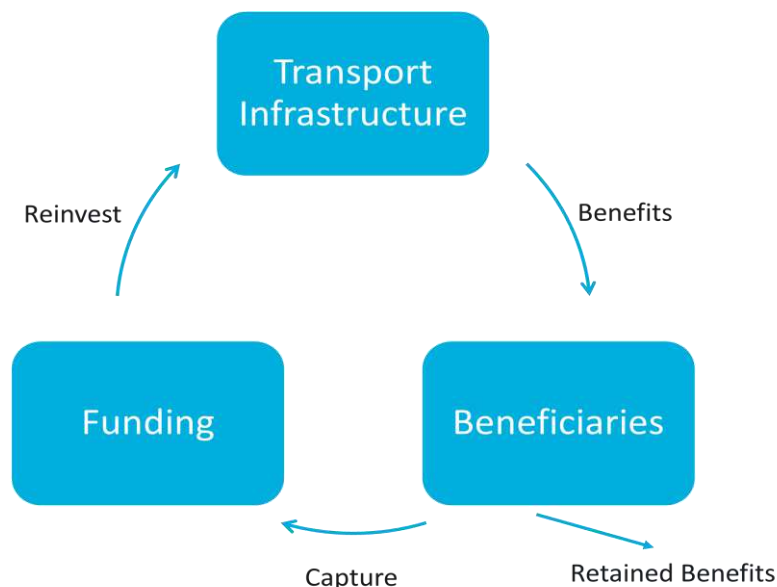
The project's successful delivery is highly attributable to Greater Manchester Combined Authority (GMCA) and their ability to resource innovative funding sources following the rejection of a new road pricing scheme by public referendum.

The ten councils worked together to generate funding through a series of authority-wide mechanisms. The final funding package was agreed due in part to the demonstrated benefits to the regional economy and included European grant funding, a council tax precept, pooling local transport budgets, surplus farebox revenue, and direct contributions including from Manchester Airport. Over 25% of total funding was from local sources.

The Metrolink extension is part of the transformational growth project which is seeing major investment, including bus priority measures, six new and better cycle routes into the city centre and major rail improvements, all of these align with the GMCA vision of become a self-reliant city-region.

Beneficiary Pays

- 5.14 A key concept in our assessment of funding sources is the concept of 'beneficiary pays'. This concept is based on the principle that those who benefit from the improvement in transport should contribute to its cost where beneficiaries include direct users of the development such as passengers and economic beneficiaries i.e. those who obtain increased economic benefit either in capital or revenue terms from the improved transport provision.
- 5.15 This approach creates an invest cycle where transport infrastructure generates benefits to a series of beneficiaries and funding mechanisms then capture a proportion of these benefits to invest into transport. Figure 5.1 outlines this process.

Figure 5.1: Beneficiary Pays Cycle

- 5.16 A step-change improvement in transport accessibility, connectivity and capacity enabled by CAM will result in a range of beneficiaries. Whether its passengers who benefit from the improvement in service or developers who benefit from increased land values near the stations. An overview of beneficiaries of the mass transit options in Cambridge is set out in Table 5.1, including how they may benefit from the project.

Table 5.1: Beneficiaries of Transport Infrastructure

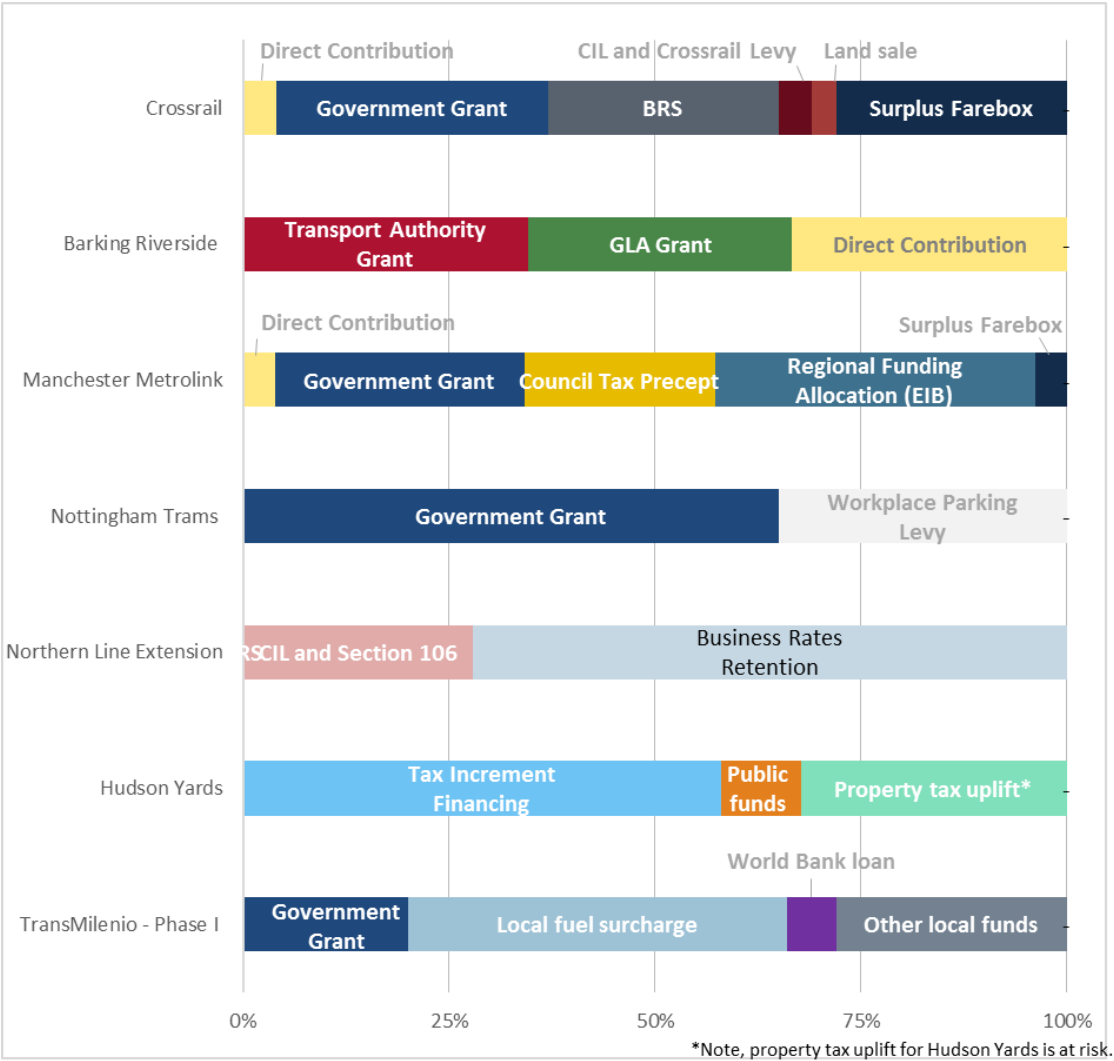
Benefactor	How they benefit from transport	How could it be captured
Developers and land owners	Increased land value as more businesses and/or residents look to relocate to the area. This benefit translates into a financial benefit as higher land values can result in higher density developments and/or an increase to rental values and/or sale incomes.	<ul style="list-style-type: none"> Developer / Direct contributions CIL/MCIL/SIT Land Value Capture Stamp duty retention
Businesses/ Workers	Agglomeration as greater productivity and lower costs arising from the concentration of economic activity. The increased concentration has a productivity 'bonus' that is shared between businesses and workers that can lead to increased revenues and/or reduced costs. In addition, businesses can benefit from being able to draw from a wider pool of prospective employees who can more easily access their business.	<ul style="list-style-type: none"> Business rate uplift retention Business rate supplement Workplace parking levy
Residents	Better connectivity and increased mobility providing access to more jobs and amenities and (if they own their property) through an uplift in land values.	<ul style="list-style-type: none"> Council tax supplement Council Tax retention
Transport Users	Reduced journey times, improved reliability and/or increased frequency. These benefits allow users to access a wider pool of jobs and can lead to productivity gains where both may result in financial benefits to the user.	<ul style="list-style-type: none"> Intelligent charging/ Parking levy Operator access fee Farebox surplus
The Road Maintainer	Reduced road usage as people increasingly travel by public transport, walking or cycling as opposed to by private car. In	<ul style="list-style-type: none"> Shadow Tolls

Benefactor	How they benefit from transport	How could it be captured
	this instance, it may reduce the need to expand the road network around Cambridge to meet growing demand.	

Funding: Recent Case Studies

- 5.17 As noted in the Introduction, a robust funding strategy for large-scale transport infrastructure schemes should look to reduce reliance on the public purse and seek locally sources for funding which seek to capture a proportion of the benefits generated. This is evident in recent infrastructure investments in the UK and overseas where local funding has provided a crucial component of the infrastructure funding strategy. Figure 5.2 shows the breakdown of funding strategies for recent transport projects.
- 5.18 A notable example of a successful application of a local funding mechanism is the **Northern Line Extension**. It involved a creation of an Enterprise Zone which enabled 100% of the incremental business rates to be retained locally for 25 years. This mechanism alone is expected to contribute over 70% of the total project cost. With the addition of the funds collected via CIL and Section 106 regimes, of which a portion will be dedicated to the project, the funding potential will be sufficient to fully fund the Northern Line Extension.
- 5.19 Alternative funding strategies have also been implemented outside of London. Manchester has introduced a Council Tax Precept, where the council tax was raised 3% for a period of 6 years on the justification that residents would benefit from the new transport links, predominately in the form of the expansion of the **Manchester Metrolink**. Combined with direct contributions from specific developments along the Metrolink route, it allowed the Combined Authority to raise over £300m, covering 27% of the £1.5bn transport development strategy.
- 5.20 Nottingham City Council adapted a different approach, where employers are liable for charges applied to the workplace parking spaces through a Workplace Parking Levy (WPL). WPL focuses on reducing peak time congestion, which is mainly generated by the commuters and funds collected via the mechanism are used to aid the public transport improvements. Furthermore, it incentivises employers to utilise parking spaces for more productive land uses including releasing land for higher density development. Amongst other projects, WPL proceeds are expected to cover circa 35% of the cost of the extension of **Nottingham Trams**.
- 5.21 Outside the UK, alternative funding strategies have also been implemented to deliver transport infrastructure projects. One of the highest profile projects is the over \$3bn New York City **Hudson Yards redevelopment** which included an extension of the subway, plus road and public space enhancements. While there have been changes in the financing of the infrastructure works due to delays in developments, the majority of funding is being generated from developer contributions and an increase in property taxes generated by the development and surrounding properties.
- 5.22 Also, outside the UK, the **TransMilenio Bus Rapid Transport (BRT)** system secured funding from alternative sources. The cost of infrastructure was split between the national government and the City of Bogota including utilising local powers to introduce a petrol surcharge. This allowed the City to collect over \$320 million, covering the costs of 46% of Phase I and 34% of Phase II of the project.

Figure 5.2: Funding strategies from Recent Transport Investments



5.23 Therefore, a variety of local funding schemes, complemented by central government grant funding, has been applied to a range of transport development projects where an important lesson is to tailor the funding strategy to the context of the transport development particularly in terms of beneficiaries, local powers, and legislation.

Overview of Funding Options

5.24 A number of funding options with the potential to support CAM are presented below which focus on funding that can be generated locally and is informed by the case studies alongside the additionality driven by CAM and the concept of beneficiary pays. A qualitative assessment of these options is presented. Further consideration of each source is recommended as part of future work.

Source 1: Committed Central Government Funding

5.25 The initial phases of CAM – the A428 Cambourne to Cambridge and A1307 South East Corridors - would be delivered by the Greater Cambridge Partnership and funded through the City Deal.

5.26 The City Deal has been agreed between the local government and the Greater Cambridge Partnership. It is a partnership of councils, academic institutions and businesses which aim to work together and with the local communities and partners to facilitate continued growth in

the region and create an increase in prosperity and quality of life for the local residents. The four partners of the Greater Cambridge Partnership are Cambridge City Council, Cambridgeshire County Council, South Cambridgeshire District Council and University of Cambridge. The City Deal was signed in 2014 and resulted in additional powers and investment potential of up to £1bn over 15 years starting from April 2015.

- 5.27 The first tranche of the funding available to the Greater Cambridge Partnership is £100m to be spent between years 2015 and 2020. If the transport investments funded from this pot prove to be successful, further two tranches of funding will become available in the future – £200m from April 2020 onwards and £200m from April 2025 onwards. Also, local partners have committed to provide further £500m. Part of the CAM network will utilise infrastructure delivered in part through City Deal funding. In addition, City Deal funding has the potential to part-fund, alongside developer funding, further planned phases of CAM, such as the A10 corridor to Waterbeach.

Source 2: Additional Central Government Funding

- 5.28 Following on from the above, there may be additional opportunities, such as, through future 'devolution deals', whereby the additionality that CAM could deliver in terms of housing, jobs and GVA provide a strong rationale for securing such funding.
- 5.29 In addition to central government 'deals', the CAM project could apply and receive other alternative funds from UK central government, such as the Housing Infrastructure Fund (HIF). HIF is a £2.3bn infrastructure fund which the combined authorities are eligible to bid for, provided that the infrastructure development they are proposing is going to unlock housing potential. The first investment round of HIF (2017/18) allocated a total of £866 million to help deliver a total of 200,000 homes which represents an average funding amount of £4,330 per home though there is significant variation across successful bids.
- 5.30 Since CAM is expected to generate significant amount of new homes and jobs, it should have a high chance of qualifying for such schemes. While the bid period for the HIF has now been closed, a similar scheme would be expected to appear in the near future.

Source 3: Direct contributions

- 5.31 There are several examples where major beneficiaries of a transport improvement have contributed directly to the implementation costs. For instance, the Crossrail funding package included direct contributions from several private companies; Canary Wharf Group contributed £150m to develop the Isle of Dogs station as Crossrail will increase the transport capacity to Canary Wharf supporting expansion of the area. Similarly, another developer, Berkeley Homes, has agreed to support the construction of the Crossrail station in Woolwich, which will increase the land value around the station and effectively improving property sales in the area nearby.
- 5.32 Private companies and academic institutions have a strong presence in Cambridgeshire. However, sites in the city centre which are easily accessible are limited and therefore companies and universities could be willing to contribute towards a new transport solution to support growth across the wider region. Increased accessibility can lead to a wider pool of skilled labour and increase in the quality of life of the students and employees, allowing greater density developments. Also, customers who are currently discouraged by the lack of accessibility might start visiting customer-orientated business, which in return might see an increase in their market share.

- 5.33 Direct contributions could also be expected from the landowners and / or developers of specific sites that would be more attractive and valuable due to the accessibility provided by CAM.

Source 4: Cambridge City Access Programme

- 5.34 An important target in the Cambridge City Deal is to reduce the number of vehicles on the road by 10 - 15% below the 2011 level. The scale of the challenge continues to increase through growth in the city where the City Deal target today equates to a 24% reduction to congestion. As such, options are being explored locally to manage demand on the roads.
- 5.35 Some of the options being explored include introducing charges to manage demand which would incentivise modal shift while and also generate local funding to invest in public transport improvements to offer road users a reasonable alternative. A Workplace Parking Levy, such as the mechanism implemented in Nottingham, is one option being explored while other options, include off street parking charges, pollution charging and intelligent charging. The estimates of potential funding from these sources are up to £40m - £60m per annum⁴³ and as such could generate a significant funding pot to support with public transport improvements such as CAM which enables many benefits to the potential contributors to the charges.

Source 5: Mayoral CIL/Strategic Infrastructure Tariff

- 5.36 The developer levy, Mayoral CIL was introduced across Greater London to support Crossrail and generated above its £300m target over the first four years of implementation. This is estimated to only be a fraction of the uplift in land values driven by Crossrail which real estate research suggesting the residential and commercial property values around Crossrail stations grew by more than £5.5bn compared to the wider London property market.
- 5.37 The Strategic Infrastructure Tariff proposed by government for Combined Authorities, would be like a Mayoral CIL introduced across the Combined Authority, where the charge could be introduced on residential developments, commercial developments or both. This would be payable by new developments only (i.e. existing properties are not charged) where this would seek to capture a proportion of the land uplift driven by CAM with the remainder being retained by local developers. If the levy were introduced at a rate of £20 per square metre on only residential developments initial estimates suggest this could raise close to £300m towards CAM development over a 30-year period. There is currently no CIL charges in place across the Combined Authority area.

Source 6: Business Rate Increment Retention

- 5.38 Wider areas of potential development enabled by CAM could be subject to an introduction of additional funding mechanisms or to an increase in charges compared to the wider Combined Authority area.
- 5.39 For instance, new developments enabled by CAM will be a subject to local taxes, such as the Business Rates paid by the businesses, or council tax paid by the households. A proportion of those charges, collected by the local council could be allocated to fund CAM on the rationale that these developments would not come forward, nor the increased level of economic activity and resulting increase in rateable values without such a funding mechanism. This retention would seek to 'top slice' these taxes or retain a proportion of these taxes within a

⁴³ <http://scambs.moderngov.co.uk/documents/s108578/7-City%20Access.pdf>

defined area which could provide a significant additional funding stream for CAM. There are examples in the UK of such mechanisms being used to support transport infrastructure improvements, most notably the developments in Vauxhall, Nine Elms, and Battersea and that were enabled by the Northern Line Extension (NLE).

- 5.40 Under this model, this mechanism would not result in additional charges to land owners/developers in the area but would instead ring-fence a proportion of tax receipts. Since these developments rely on the improvements to the transport network, and as such would not come-forward (nor would the tax receipts) without them, the contribution towards CAM would be justifiable. An agreement of this funding source would be dependent on central government approval and potentially with local businesses and as such consultation to ascertain whether there is appetite for such a mechanism is recommended in future work.
- 5.41 An illustrative scenario based on 30 000 new jobs enabled by CAM has been analysed. Assuming 100% of business rates are retained over £500m funding could be generated over a period of 30 years which would make a significant contribution towards CAM's funding needs.

Source 7: Business Rates Supplement

- 5.42 A "2p in the pound", Business Rate Supplement (BRS) was introduced across Greater London to support Crossrail generating over a quarter of the funding for the project.
- 5.43 The 2017 Cambridgeshire and Peterborough Devolution Deal with the Combined Authority notes that following the implementation of the necessary primary legislation, the Mayor will be given the power to place a supplement on business rates to fund infrastructure. This rate would be payable by business above a certain size to ensure smaller businesses were not impacted. A key consideration when calibrating the supplement would be to ensure the benefit to businesses from CAM is greater than their contribution through a BRS. If implemented, a BRS could generate significant funding for CAM and should be considered further.

Source 8: Council Tax Precept

- 5.44 Although council tax is traditionally paid to support the provision of services within the local areas, there are examples of the introduction of a council tax precept to support infrastructure developments including in Greater Manchester to support Metrolink extensions and Greater London to support the London Olympics. Furthermore, an Adult Social Care (ASC) Precept, which supports adult social care services has been introduced across England in recent years.
- 5.45 However, the Combined Authority do not currently have the ability to apply a council tax precept on local authorities within the Combined Authority area and there is likely to be significant challenging obtaining support of increasing council tax. As such introducing a precept on council tax would seem unlikely for CAM.

Source 9: Council tax Increment Retention

- 5.46 Similar to Business Rate Increment Retention (Source 6), a proportion of council tax generated at developments enabled by CAM could be set aside for transport improvements. This retention would seek to 'top slice' these taxes which could provide a significant additional funding stream for CAM. Under this model, this mechanism would not result in additional charges to land owners/developers in the area but would instead ring-fence a proportion of tax receipts.
- 5.47 Growth on council tax is limited to 3% per annum (plus 3% growth to ASC), with the general understanding that growth in council tax receipts is needed to meet the cost of additional

services resulting from additional housing/population and as such is unlikely to provide a funding stream to support CAM.

Source 10: Stamp Duty Increment Retention

- 5.48 Stamp duty is a tax levied upon the sale of property, as a proportion of the sale value. The concept of Stamp Duty Increment Retention is that, where infrastructure results in an increase in the value of residential property, some of the increase in value can be 'captured' at the point of sale and retained (or hypothecated) to provide a funding source to support the infrastructure cost. Retention of a proportion of stamp duty receipts could generate significant revenues. However, the powers for such a retention mechanism do not exist, nor has any project been allowed to capture a proportion of the stamp duty funds generated. Discussions with UK Central Government are recommended before this option is taken any further.

Source 11: Farebox Surplus / Premium Fare

- 5.49 As noted in the introduction, based on initial analysis, the passenger revenue and ancillary revenue from CAM is estimated to meet the ongoing costs of operation and maintenance of the system. Alternatively, the fare on CAM could be charged at a premium rate to generate additional income to part fund its construction as is planned for Crossrail.
- 5.50 There is significant risk around such a mechanism in the context of CAM as the level of ridership and elasticity between fare and demand is effectively a greenfield risk before the project is operational and as such predicated funding of the capital costs against future passenger revenue would have a considerable amount of risk associated. Further analysis on this is required before this can be considered as a potential funding source.

Source 12: Shadow Toll

- 5.51 The benefit of CAM includes supporting a modal shift from road to public transport. Furthermore, aligning land development with public transport provision may further increase the modal share of public transport.
- 5.52 While the case for CAM does not currently assume that alternative transport infrastructure investments would be needed if CAM is not constructed, expansion of existing infrastructure would likely be needed just to cope with existing issues with Cambridge's transport network. This could require an A-roads and motorways to cater for future growth in road demand over the next 25-30 years (e.g. adding an additional lane or converting a motorway into a smart motorway).
- 5.53 While the application of this funding source would need to be negotiated and agreed with Highways England and local authorities, a 'shadow toll' could generate a useful funding stream to part fund CAM.

Other Sources: Land Value Capture Mechanism

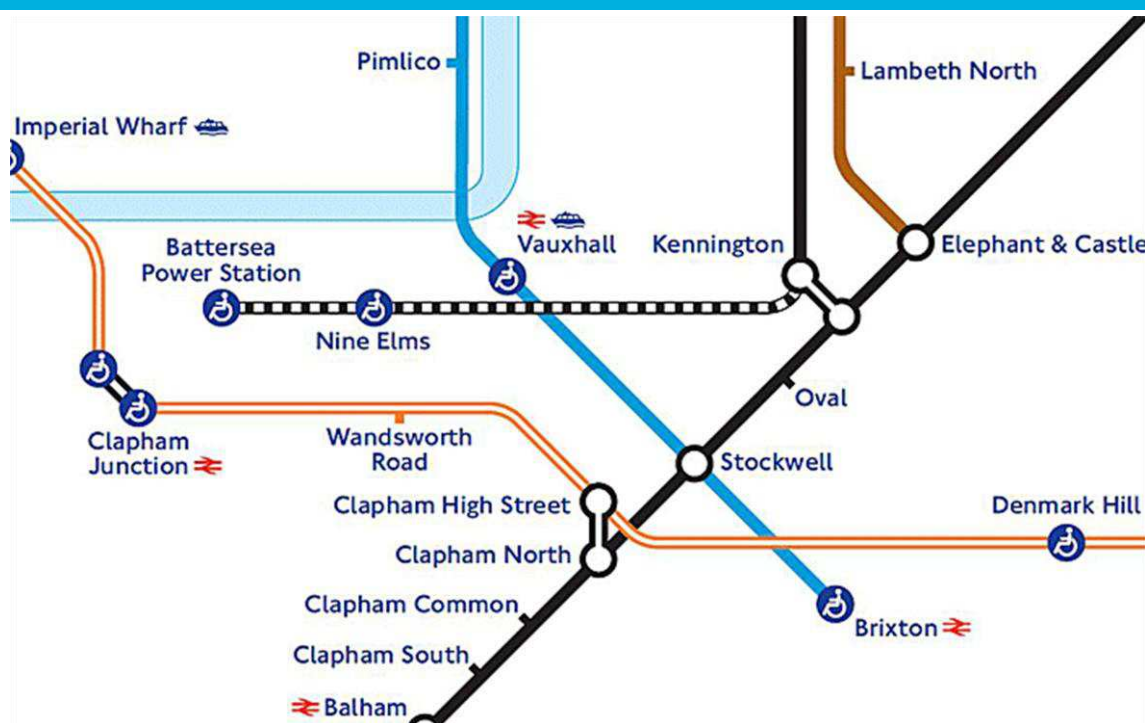
- 5.54 The premise of the Land Value Capture Mechanisms is that the uplift in the land value due to a land use change enabled by CAM would be shared between the land owners and the local government. Currently there is not legislation for such a mechanism and the potential options for such a mechanism are currently under review. However, as a very illustrative example of an uplift of £30,000 per unit, would generate £30m per 1,000 units. Considering that the potential of CAM to deliver a significant increase in residential and commercial development, a LVC mechanism could make a significant contribution towards the project cost. It is

understood that a separate investigation into the potential and practicality of such a mechanism has been commissioned by the Mayor.

Consultation

- 5.55 Many of the funding options outlined above are subject to support/agreement from public or private bodies. For instance:
- Direct contributions from beneficiaries would need to be negotiated and agreed with each contributor on a case-by-case basis.
 - Local tax retention within a defined area would need to be agreed and approved by various levels of government
 - For Cambridgeshire and Peterborough Combined Authority to introduce a council tax levy, powers need to be granted through a government deal with support from the local authorities within the Combined Authority and government; and
 - For Cambridgeshire and Peterborough Combined Authority to introduce a BRS, primary legislation would need to be approved.
- 5.56 It is important to consult with the various local public and private bodies to gauge views on funding options in order to help filter the funding options/scenarios presented and identify the most feasible funding strategy. Preparing and presenting evidence that illustrates the benefits from the mass transit options during this consultation will increase the chance of support for the scheme. For instance, when introducing a BRS in London, a wider economic benefits assessment of Crossrail was undertaken to demonstrate that the benefits received by businesses in each borough was greater than the support being they would provide.
- 5.57 Undertaking a consultation exercise with the relevant stakeholders impacted in Cambridgeshire and Peterborough is recommended.

Northern Line Extension



Working with developers and local authorities, Transport for London (TfL) decided to extend the Northern line to help regenerate the areas of Vauxhall, Nine Elms and Battersea at a cost of £1bn. An estimated 25,000 jobs and 20,000 new homes could be created as a result of improved public transport accessibility. Upon project completion, the journey time from the new Nine Elms and Battersea Power Station stations to the City should not take more than 15 minutes, making the area an attractive location for commuters and employers such as the US, China and Dutch Embassies and Apple who will re-locate its UK Headquarters.

The Chancellor's 2011 Autumn Statement confirmed that the Government would establish an Enterprise Zone at Battersea, enabling 100% of incremental business rates to an agreed baseline would be retained locally for a period of at least 25 years. The Enterprise Zone will encompass an area of over 227-hectares across two London boroughs: Wandsworth and Lambeth within 1km of the two new stations which would be constructed. Funding from the Enterprise Zone is forecast to total c.£700m.

With the addition of the funds collected from the local developers under Borough CIL and Section 106 regimes, this will be sufficient to repay the debt required to pay for the up-front costs of building the Northern Line Extension. The extension is currently under construction and is planned to open in late 2021.

Qualitative Assessment – Sifting of Potential Local Funding Sources

- 5.58 A qualitative assessment of the funding mechanisms outlined above has been undertaken to highlight the advantages and challenges across the different potential sources. The qualitative assessment is based on the following criteria with a 5 being the most valuable or practical and

a 1 considered either low value or unlikely to be acceptable (further details are provided in Table 5.3):

- Potential contribution – the scale of funding the mechanism could generate for CAM;
- Certainty of income – the level of certainty/predictability in the income and its reliance to external economic risks such as market fluctuations (note for clarity this is not an assessment on the likelihood of implementing the given mechanism);
- Justification – the level of alignment between the mechanism and beneficiaries of the scheme;
- Acceptability – the level of appeal to stakeholders in implementation or utilising the mechanism and alignment with their objectives; and
- Deliverability – the legal and practical deliverability of the mechanism.

Table 5.2: Qualitative Assessment of Funding Mechanisms

Mechanism	Potential Contribution	Certainty of Income	Justification	Acceptability	Deliverability
1. Committed Central Government Funding	5	5	5	4	5
2. Additional Central Government Funding	5	2	4	3	3
3. Direct Contributions	4	2	5	3	3
4. Cambridge City Access (e.g. WPL, intelligent charging)	5	3	4	3	3
5. Mayoral CIL/Strategic Infrastructure Tariff	3	3	4	4	4
6. Business Rate Increment Retention	4	3	4	3	2
7. Business Rate Supplement	4	4	4	3	2
8. Council Tax Precept	3	4	3	1	2
9. Council tax Increment Retention	3	4	2	2	3
10. Stamp Duty Increment Retention	4	2	3	2	1
11. Farebox surplus/Premium Fare	2	2	3	2	4
12. Shadow Toll	2	1	3	2	1

Table 5.3: Qualitative Assessment Criteria

Score	Description
5	Very good or excellent. e.g. very high potential contribution, highly secure income source; very strong alignment with beneficiaries; strongly supported by stakeholders; straightforward to implement.
4	Good e.g. high potential contribution, secure income source; strong alignment with beneficiaries; generally supported by stakeholders; practicable to implement.
3	Reasonable e.g. reasonable potential contribution, generally stable income source; reasonable alignment with beneficiaries; acceptable by stakeholders but with caveats/preconditions/reservations; some challenges to implementation
2	Weak/risky e.g. low potential contribution, unpredictable and exposure to market fluctuations; weak alignment with beneficiaries; unappealing by stakeholders; difficult to implement
1	Very Weak/Very risky e.g. very low potential contribution, very unpredictable and significant exposure to market fluctuations; very weak alignment with beneficiaries; unacceptable by stakeholders; very difficult to implement and/or untied

5.59 This analysis highlights some key challenges with certain funding options. For instance, a council tax precept (or council tax increment retention) is likely to face challenges in terms of acceptability from stakeholders whether it be residents or government where the charge would likely be paid across a wider geographical area. As such if this mechanism were to be

pursued, a very strong case would need to be produced that justified the rationale for its implementation (e.g. benefits received are greater than costs incurred) and communicated this effectively to stakeholders. While a stamp duty increment retention is also likely to have challenges with acceptability alongside deliverability as such a mechanism has not been used before in the UK. Furthermore, council tax mechanisms have a reasonable potential contribution rating however this should be considered alongside the lower acceptability and deliverability ratings as if the mechanisms are unacceptable any notional potential is unrealisable.

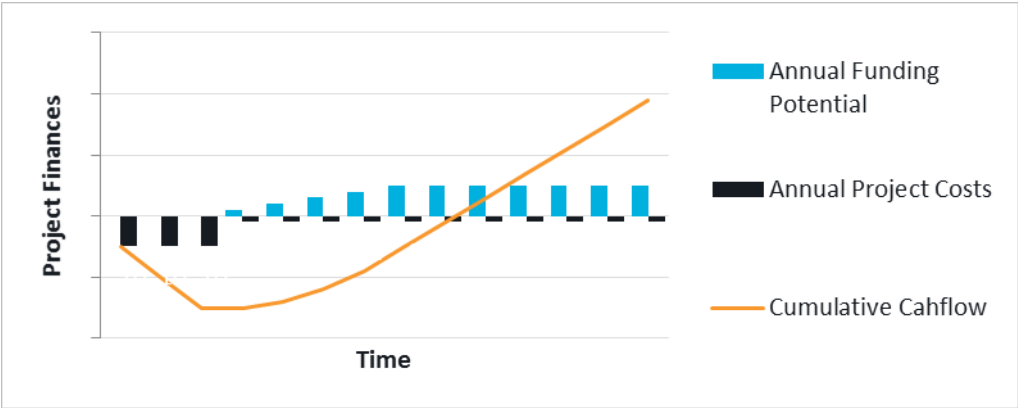
- 5.60 This analysis highlights the local funding mechanisms with higher contribution potential, which, alongside government grants, include Business Rate Retention, Cambridge City Access, Business Rate Supplement. This is driven by these mechanisms having the potential to be charged on a relatively large volume of beneficiaries such as the vehicles travelling within central Cambridge during certain periods of the day or the businesses operating within a defined area. Furthermore, these mechanisms create an on-going funding stream as they would be paid periodically which increases the contribution potential.
- 5.61 The funding mechanisms with greater certainty of income, in terms of the ability to forecast or model the level of income, include those based on existing charges such as council tax or business rates as the ability to forecast future receipts from existing revenue streams or demand is considerably more robust than a new charge/demand. For instance, there is less certainty with developer charges as they are more dependent on the development market and as such fluctuate considerably year-on-year. Note, the certainty of income is not a measure on the likelihood to be able to implement a given mechanism which is more linked to acceptability and deliverability.
- 5.62 The deliverability of Business Rate Supplement, Council Tax Precept, Business Rate Retention, Business Rate Increment Retention, and Shadow Toll is seen as lower due to the need to either obtain approval across several stakeholder groups or due to the need for primary legislation. While Premium Fare has a low acceptability rating as passenger ridership is expected to be relatively elastic to fare changes.
- 5.63 The above qualitative assessment highlights some of the advantages and challenges with the funding mechanism options for CAM. This assessment suggests there is likely to be significant challenges associated with certain funding mechanisms relating to either the justification of the use of such a mechanism, the acceptability from stakeholders, or the practical aspects in terms of delivering such a mechanism. Moreover, some mechanisms have a lower degree of challenges but have a lower potential contribution leading to the reward of implementing certain mechanisms not outweighing the challenges of implementation.
- 5.64 Based on this assessment, a series of mechanisms are considered to have either too significant challenges to implement or to not provide a sufficient reward from implementation. These have been identified as Council Tax Precept, Council Tax Increment Retention, Stamp Duty Increment Retention, Premium Fare, Shadow Toll and as such at this stage it is unlikely these mechanisms will be considered as part of further work. The other funding mechanisms identified as part of this analysis are considered to have sufficient merits to be considered as part of future work.

Financing

- 5.65 The first ten years of the CAM project require up to £4bn of capital investment while many of the funding options outlined above will generate funding over a longer period e.g. 30 years. This disparity between the capital cost and the funding during the initial years of the project

can be met by financing where, for instance, debt is secured against future funding receipts in the same way that a mortgage is secured to finance the purchase of a home. An illustration of this is provided in Figure 5.3, which highlights a negative cashflow in the initial years.

Figure 5.3: Illustrative Example of Project Finances



- 5.66 Interest payments would be payable on finance where the interest rate for debt that the Combined Authority could achieve depends on the arrangement and source. For instance, potential sources include public finance from the Public Works Loan Board (PWLB) which provides debt financing options to public bodies from the central government National Loans Fund. Alternative private finance could be sourced such as commercial debt or bonds. For example, the Greater London Authority raised £200m through a bond to support the Northern Line Extension (NLE) which was effectively backed by the UK Guarantee scheme, lowering borrowing costs.
- 5.67 Servicing finance through interest ultimately reduces the capital costs a funding option could support where based on a loan term of 30 years and PWLB rates circa a one third of the funding potential from sources over time would be needed to meet debt service charges. Note, if private finance was to be used to cover the funding gap as opposed to the PWLB, the interest rate would be significantly higher and the extra interest payments would have to be accounted for.
- 5.68 Irrespective of the source it is important to note that any financing secured by a local authority (e.g. the Combined Authority), including commercial debt, is effectively underwritten by central government and so will impact the central public balance sheet.



Nottingham Workplace Parking Levy

Nottingham City Council introduced Workplace Parking Levy (WPL) in 2012. It is used as a demand management tool to reduce the levels of commuter parking, as commuters make up around 70% of the peak traffic congestion which costs the city £160m per year. Majority of this cost falls on the businesses, and therefore they are a direct beneficiary of any congestion reductions.

From April 2012, employers which provide 11 or more parking spaces to the employees are liable to pay the WPL charge. They can however choose to reclaim part of the cost from the employees who use the parking spaces provided. In the current licensing period the charge is £402 per year per a parking space provided.

The WPL scheme has raised £44m in the first five years of operation. This has allowed the council to contribute towards the financing of the new £580m city tram lines and contribute towards the £60m redevelopment of Nottingham Station.

The revenue collected from the scheme is also used as local match funding. It puts the City Council in a stronger position when bidding for external funds, such as funding from Department for Transport.



Summary

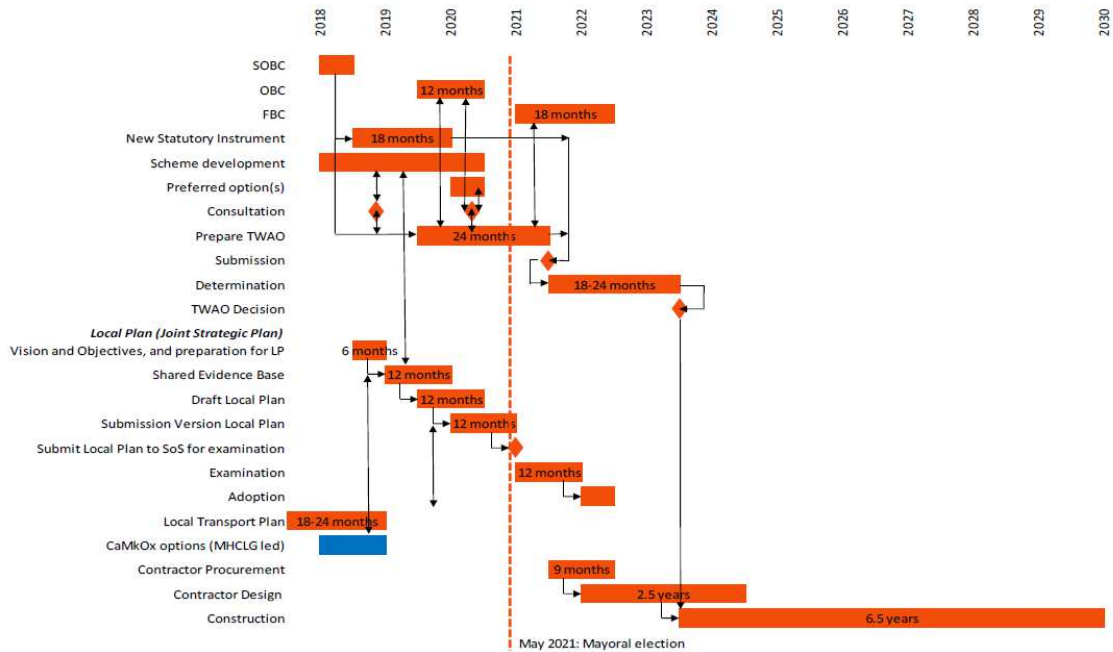
- 5.69 CAM will lead to a transformational change in the region. It will enable a number of benefits, including congestion relief, journey time savings, affordability improvements, productivity gains and sustainability benefits and support the Combined Authority and Greater Cambridge Partnership achieve their strategic goals. The benefits enabled by CAM will be felt by numerous beneficiaries across the region including business, developers, residents, land owners and transport users.
- 5.70 As such the funding strategy for CAM should look to capture a proportion of the benefits generated across the region to support the costs of delivering the project. This approach is aligned with several recent transport infrastructure investments in the UK including investments in Greater London, Greater Manchester, and Nottingham as well as transport investments overseas. These recent examples can be seen to set a benchmark where:
- A significant proportion of funding required to deliver a transport infrastructure project is from local sources;
 - That the project should be able to cover its longer run operating, maintenance and ideally renewal costs;
 - That a mix of local funding can be secured, supported by local businesses, developers and users; and
 - That the wider economic benefits of the project are significant and that increased taxes can help recover any central government outlay (particularly through increased productivity, generating additional and higher paying jobs).
- 5.71 A number of funding options have been identified based on the additionality driven by CAM which include: Direct Contributions, Cambridge City Access funding, local charges and levies (such as a Strategic Infrastructure Tariff or Business Rate Supplement), local tax retention (such as business rate increment retention), and a Land Value Capture Mechanism. Combined with existing funding already secured through the City Deal, there is the potential for the costs required to deliver CAM to be funded. Each of these options have challenges to implement and would be subject to support/agreement from several public or private bodies. It is therefore important to continue to consult with the various local public and private bodies to gauge views and work towards the most feasible and preferred funding strategy.
- 5.72 Next steps which should be considered include:
- Consulting with local stakeholders, local business groups and developers on the feasibility of the options outlined in the Financial Case;
 - Continuing the ongoing dialogue with UK Government to set out the additionality benefits of CAM at the UK-level and discuss the potential for securing the ability and powers to leverage local funding sources and / or the ability to secure funding from Government.
 - Further analysis of the practicality of introducing the funding options identified and the scale of funding that could be raised;
 - Consider in more detail how to bridge any remaining funding gap, including further assessment of Land Value Capture mechanisms; and
 - Assess financing issued, outline options and discuss with financing experts on requirements to establish a robust financing package (for example to mitigate risk).

6 Management Case

Introduction

- 6.1 This Chapter describes the Management Case for the Cambridgeshire Autonomous Metro (CAM) project. This document forms part of the Strategic Outline Business Case (SOBC) for the CAM and has been developed in line with HM Treasury Green Book guidelines.
- 6.2 The SOBC is the second of four stages of development of the CAM. It follows the delivery of a Metro Options Assessment Study, which was published in January 2018, and it will be followed by the development of an Outline Business Case in mid-2020 and, subject to approvals and funding, a Full Business Case in mid-2022. A high-level summary of the programme for the development of the CAM project is provided in Figure 6.1 below.

Figure 6.1: Indicative programme for the development and delivery of the CAM project (Source: Arup)



- 6.3 At the SOBC stage, the purpose of the Management Case is to describe:
- How the Sponsors will manage the risks in the design, build, funding and operational phases of the CAM and put in place contingency plans;
 - How the Sponsors will deal with inevitable business and service change in a controlled environment; and
 - How the Sponsor will ensure that the CAM’s objectives will be met, how its anticipated outcomes will be delivered, and how its benefits will be evaluated.
- 6.4 Within this Management Case, for the avoidance of doubt, the CAM **project** refers solely to the ‘core’ infrastructure, primarily the city centre tunnel and underground stations, which

forms the critical enabler of the wider, 142km CAM **network**, which includes, in addition to the 'core' infrastructure:

- the '*inner corridors*': schemes which are currently being sponsored solely by the Greater Cambridge Partnership, from Cambridge to Cambourne, Granta Park and Waterbeach New Town;
- the '*outer corridors*': schemes which are expected to be sponsored by the Combined Authority, to expand the CAM network beyond Greater Cambridge, from:
 - St Ives to Alconbury, via Huntingdon;
 - Newmarket Road Park-and-Ride to Haverhill;
 - Granta Park to Haverhill; and
 - Cambourne to St Neots.

6.5 The geography of these schemes, which when operational will form part of the wider CAM **network**, is outlined within Figure 1.1 within the Strategic Case. These are expected to be delivered independently (but in parallel) to the 'core' infrastructure. This Management Case primarily focuses on delivery of the CAM project, but also considers the interfaces between this and 'inner' and 'outer' corridor **schemes**, which when completed will form part of the wider CAM **network**.

Purpose

6.6 The purpose of the Management Case is to demonstrate that a preferred option for the CAM project can be delivered successfully. It should include details about the resources the Sponsor expects will be required to deliver the proposal and arrangements for managing budgets. It identifies the organisation responsible for implementation, sets out when agreed milestones will be achieved, and identifies a date when the proposal will be completed. The Management Case should also include:

- A risk register and plans for risk management;
- A benefit schedule, delivery monitoring (including factors to be monitored) and management arrangements; and
- Details about the arrangements for monitoring and evaluation during and after implementation and any collection of data prior to implementation, including the provision of resources and who will be responsible.

6.7 The Management Case is completed more fully during the intermediate (Outline Business Case) and final stages of a proposal's development culminating with the Full Business Case. The implications of the Management Case should feed into the appraisal and must be reflected in the full versions of the economic, commercial and financial dimensions. As the CAM project is only at the SOBC stage of development, the Management Case has been designed to be high-level.

6.8 The Commercial Case outlines a spectrum of different ownership options, from a fully public model to a privately financed and delivered model. The approach to the management and delivery of the scheme will depend on which of these options are chosen. For the purposes of this SOBC, the Management Case will refer to a Delivery Agent, which is expected to take the form of a Special Purpose Vehicle (SPV). There may be more than one SPVs, for example, one to develop and deliver the project, and another to operate passenger services and maintain infrastructure. The SPV(s) may be fully owned by the public sector, be owned (or contracted to) the private sector, or involve a mixed model.

- 6.9 It should be further noted that local, regional and sub-national governance arrangements in the Cambridgeshire and Peterborough area are in a state of flux. The Management Case is therefore based on a set of assumptions about what transport governance arrangements will be in place over the life-cycle of the CAM project, which are:
- The Cambridgeshire and Peterborough Combined Authority and Greater Cambridge Partnership will jointly act as the Sponsor of the scheme;
 - There will be no change in current local governance arrangements in Cambridgeshire and Peterborough;
 - There will be no Sub-National Transport Body (other than “England’s Economic Heartland”, which is not expected to play a major role in the CAM project) in Cambridgeshire and Peterborough.
- 6.10 The remainder of this document describes assumptions for:
- Key roles;
 - Project governance;
 - Resources;
 - Change management and cost control;
 - Communications and stakeholder engagement;
 - Benefits management; and
 - Risk management.

Key roles

Project Sponsor

- 6.11 The Cambridgeshire and Peterborough Combined Authority (CPCA) and Greater Cambridge Partnership (GCP) will jointly act as the Client and Sponsor for the CAM project. CPCA and GCP will be accountable for the project’s Business Case and for ensuring that its benefits are realised. They will also ensure that the Delivery Agent (however defined) delivers the Sponsor’s Requirements.
- 6.12 The precise balance of Client and Sponsor responsibilities between the CPCA and the GCP will be determined at a later stage of project development. However, at this stage, it is envisaged that the CAM project will be led by a Director at the CPCA, who will be the Senior Responsible Owner (SRO) for the whole project. The SRO’s responsibilities will be to:
- Ensure that the project is set up for success and is on course to meet its objectives;
 - Own the Business Case for the project and ensure it delivers its projected benefits;
 - Develop the project organisation structure and plan;
 - Monitor progress of the project;
 - Chair the Project Board;
 - Ensure an effective communication strategy is developed and put in place;
 - Ensure that the project is subject to review at appropriate stages;
 - Manage formal project closure (upon completion of a benefits review); and
 - Represent the CPCA in overseeing the Development Agreement, which sets out the Sponsor’s Requirements for the project.
- 6.13 Corporately, both CPCA and GCP will also be responsible for:
- Securing funding to deliver the project;
 - Promoting the scheme and leading consultation and stakeholder engagement activities;
 - Defining and funding property compensation schemes;

- Setting out the expected way in which regulation of the CAM network will take place;
- Obtaining powers through the planning for the CAM project to be built;
- Defining the strategy for ownership, operation and maintenance of the CAM project when complete;
- Operating within the funding envelope established for the scheme, save for changes made to the scope, which will be managed through the Change process; and
- Managing the interdependencies with wider economic and transport policy across the region.

6.14 If a larger transport authority, such as a Strategic Transport Board, emerges in the Cambridgeshire and Peterborough area in the next few years, there may be a case for this body acting as the Client to and potentially owner of the SPV. Alternatively, CPCA and/or GCP may elect to run the project “in house” and manage all aspects of the project directly. For the purposes of the SOBC, it is assumed the project will be delivered through a single Delivery Agent.

The Delivery Agent

6.15 For the purposes of this SOBC, it is assumed that the CPCA and GCP will create a Special Purpose Vehicle (SPV) to act as the Delivery Agent for the scheme. This SPV would be a separate legal entity to both organisations, and will have the appropriate powers to enter into contracts and employ its own staff (although it is expected some staff will second from partner organisations into the SPV). The SPV will be accountable to the CPCA and GCP, who will act as its “Client”. The ownership of the SPV will depend on the commercial model that is adopted for the scheme (see Commercial Case).

6.16 The Delivery Agent will be responsible for:

- Delivering the CAM project to the Sponsor’s Requirements, including the development of the detailed scope and functionality of the CAM project and its subsequent construction to meet the operational requirements and compliance with the appropriate environmental, construction and safety standards;
- Assisting and supporting the CPCA and GCP in the preparation of planning consents;
- Procuring and overseeing the design services, surveys and other work needed to achieve these tasks and project manage them; and
- Supporting consultation and stakeholder engagement activities as required.

Partner Organisations

6.17 The ultimate success of the CAM project will depend on strong collaboration and communication between the representatives from the seven local authorities and the CPCA ‘Business Board’. These partners are:

- Cambridgeshire County Council;
- Cambridge City Council;
- CPCA Business Board;
- East Cambridgeshire District Council;
- Fenland District Council;
- Huntingdonshire District Council;
- Peterborough City Council; and
- South Cambridgeshire District Council.

6.18 In particular, there will be important interfaces with Cambridgeshire County Council (which manages Cambridgeshire’s highways) and Cambridge City Council (which manages

environmental and planning services in Cambridge), together with the relevant project teams within the Greater Cambridge Partnership responsible for development of the 'inner corridor' schemes from Cambridge to Cambourne, Granta Park and Waterbeach New Town.

- 6.19 These schemes, which will form part of the CAM network when operational, are currently being directly sponsored by the GCP, and will require specific engagement surrounding the precise nature of their interfaces with the CAM project. There will also be a similar interface with the organisation or agent responsible for delivering the 'outer corridor' Combined Authority schemes to Mildenhall, Alconbury, Haverhill and St Neots.
- 6.20 These relationships will be formalised in the governance of the CAM project and in the communication channels and risk management mechanisms that will be established to support it. There may also be a role for major non-Governmental organisations in the development, delivery and governance of the CAM (or parts thereof), such as the University of Cambridge, major businesses and developers/ landowners.

Key governing documents

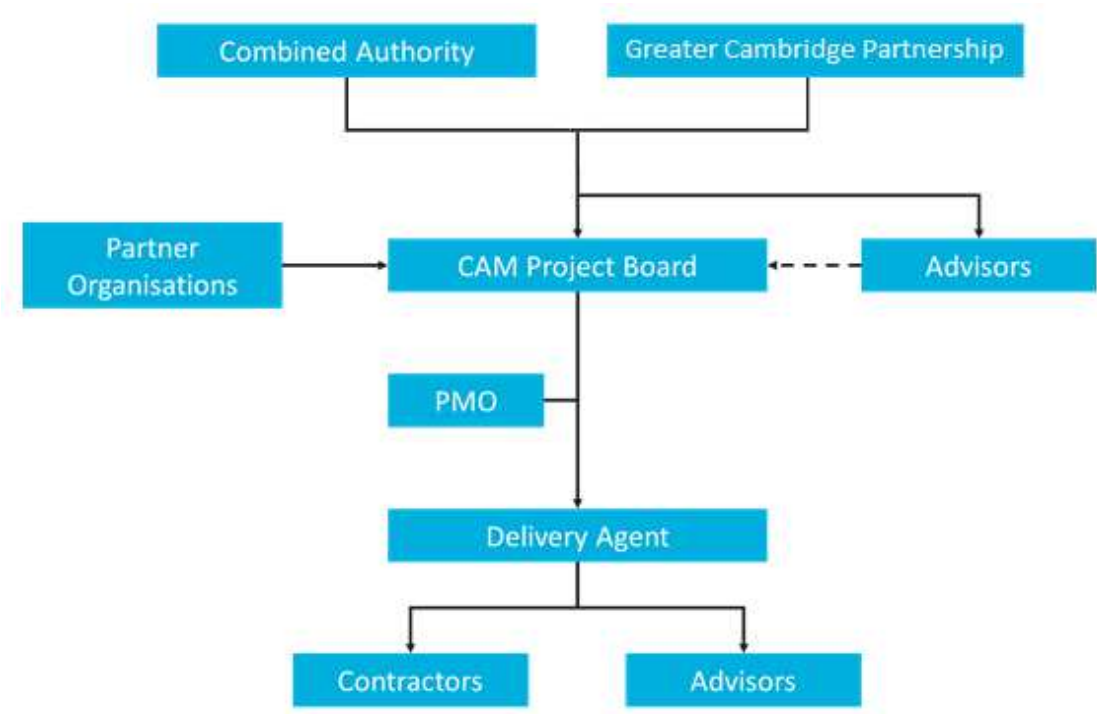
- 6.21 The relationship between the CPCA, the GCP and the Delivery Agent will be formalised by a Development Agreement. This document will set out the high-level output specification and objectives for the CAM project. As a minimum, this document will describe:
- The defined Opening Date for the scheme;
 - The defined Final Completion Date for the scheme;
 - Shared values and objectives of the organisations;
 - Governance arrangements for the delivery of the scheme;
 - Cost control procedures; and
 - Respective roles and responsibilities.
- 6.22 The Development Agreement will be supported by a Framework Document. This document will describe the rules and guidelines relevant to the exercise of the functions, duties and powers of the Delivery Agent and the conditions under which funds are paid to it by CPCA and GCP.
- 6.23 In response to the Development Agreement and Framework Agreement, the Delivery Agent will prepare a Corporate Plan that describes how the Delivery Agent will deliver the Sponsor's specification and measure its progress and performance.
- 6.24 The Sponsor's Requirements will be stipulated by the CPCA and GCP. These will set out the parameters of the scheme which the Delivery Agent is tasked to deliver. These parameters should include a statement of outputs that incorporating the scope and functionality of the CAM system.
- 6.25 The Delivery Agent will respond to the Sponsor's Requirements by developing a Delivery Plan, which is then formally developed into a detailed project specification, project cost estimate (and schedule) and project risk assessment for approval by the CPCA and GCP.
- 6.26 The Delivery Plan will be supported by a Corporate Strategy, which will set out the internal governance arrangements, organisation and resources the Delivery Agent has put in place to ensure it is able to meet the commitments stipulated in the Delivery Plan.

Project governance

Overview

- 6.27 The scale and complexity of the CAM project will necessitate a strong governance structure, which will be designed to enable it to adapt as the project evolves and progresses. An indicative diagram illustrating the envisaged governance arrangements (subject to the commercial model that is ultimately chosen for the project) is provided in Figure 6.2.

Figure 6.2: Proposed governance arrangements



- 6.28 The detailed governance arrangements for the project will be further developed as the scheme develops and will ultimately be described in the Development Agreement. These governance arrangements will be kept under regular review throughout the project life cycle. This will ensure decision making is timely, efficient and effective, and that the overall governance structure is appropriate to, and proportionate for, each phase of the project.

- 6.29 As described above, the Development Agreement will describe the formal relationship between the CPCA, the GCP and the Delivery Agent. Within the structure outlined above, it is expected there will be interfacing arrangements with the CPCA and its Partner Organisations. The Delivery Agent will also establish its own internal governance arrangements, which will be set out in its Corporate Strategy.

The Project Board

- 6.30 The CAM project will be governed by a Project Board. This Board will support the SRO overseeing the delivery of the CAM project. It will facilitate the strategic management of the project while retaining oversight of interfaces with other relevant projects and policies. Its functions will include providing:
- Strategic oversight of all aspects of the CAM Project, including the development and delivery the project, and progress against cost and programme;

- Oversight of the integration of the CAM project into the wider CAM network;
- Oversight of, and challenge to, the development of strategy and policy proposals;
- Oversight of the development of investment proposals to identify any integration risks or issues;
- Integration, communications and stakeholder engagement across all aspects of the CAM Project;
- Risk and issue management, including taking account of assurance outcomes;
- Project and benefits assurance;
- Any other matters on which the SRO seeks guidance.

- 6.31 The Project Board will meet monthly, or more regularly as required, and will include representatives representing the Client, Delivery Agent and Partner Organisations. This is designed to enable the Board to provide oversight of the CAM project and facilitate strong challenge and assurance of its decisions.

The Project Management Office

- 6.32 A Project Management Office (PMO) will be established to co-ordinate the management of interfaces between the CPCA, the GCP, the Delivery Agent and Partner Organisations.
- 6.33 The role of the PMO will be to provide the SRO, the senior leadership team and other government stakeholders with a cohesive view of the whole project. It will facilitate information sharing between the Project Board and its members to ensure there is a clear line of sight for decision making across these organisations. Where dependencies relate to the core programme, the PMO will establish appropriate governance arrangements to facilitate co-ordination of plans.
- 6.34 The key dependencies and relationships that will be managed by the PMO will include Cambridgeshire County Council (the relevant highways authority) and Cambridge City Council (the relevant planning authority), and the interfaces with project teams within the CPCA and the GCP responsible for delivery of the 'inner' and 'outer' corridor schemes.
- 6.35 The PMO will also bring together the risks from the CPCA, the GCP, the Delivery Agent and Partner Organisations and report these to the Project Board.

Delivery Agent Governance

- 6.36 It is envisaged that the Delivery Agent will be a company owned (in part, at least) by the CPCA and the GCP. The chair of the company is envisaged to be appointed by the Mayor of Cambridgeshire and Peterborough. The chair will be responsible for advising the Mayor on matters relating to the CAM project, and for advice on, and development and delivery of the scheme.
- 6.37 The Delivery Agent is expected to be managed by its own Board, which will meet monthly. The Board is envisaged to be formed of a non-executive chair and other non-executive directors, also appointed by the Mayor of Cambridgeshire and Peterborough, and the Board of the Greater Cambridge Partnership. The Delivery Agent's Chief Executive, Chief Financial Officer and Chief Operations Officer will be board members. The Board would have corporate responsibility for ensuring that the Delivery Agent fulfils the remit, aims and objectives set by the CPCA and GCP, and for ensuring the organisation is fit for purpose. The Board's Non-Executive directors should have extensive senior-level experience of different aspects of delivering large infrastructure projects to provide valuable strategic guidance to the Delivery Agent on effective project delivery.

6.38 The CPCA and GCP will uphold the principles of Corporate Governance in Central Government Departments: Code of Good Practice 2016 as follows:

- The composition of the Board is expected to be balanced between the Executive and Non-Executive members, who have a range of appropriate skills and experience. The Mayor and GCP Board are envisaged to be responsible for the appointment of board members, and as the Delivery Agent grows in size and complexity, will seek to widen the skills and experience appropriate to the phase of development.
- The remit of the Board and the roles and responsibilities of its members will be clearly defined in Standing Orders approved by the Delivery Agent, including the role and responsibilities of the Accounting Officer.
- Procedures will be put in place to ensure the effectiveness of the Board, including the appointment and induction process, the organisation of board meetings supported by suitable information and reports, a dedicated and skilled secretariat function and a formal annual evaluation process to assess and improve performance.
- The Board would be expected to be supported by the Audit and Risk, Commercial and Investment, Health, Safety and Environment and Remuneration Committees, each chaired by a suitably experienced non-executive director.

6.39 The Delivery Agent would also be expected to have an Executive Committee, chaired by a Chief Executive. This would manage the company's day-to-day business, meeting monthly to review and take decisions, where appropriate, on both the CAM project and internal company management issues. The Executive Committee will have the authority to establish sub-committees to focus on specialist matters.

Resources

6.40 The CPCA has undertaken an assessment of future resource needs to bring the CAM project from concept to delivery. A summary of the resources likely to be required at each stage of the project cycle is provided in Figure 6.3 below.

Figure 6.3: Indicative resource requirements during the CAM project lifecycle (Source: Arup)

	Concept	Definition			Delivery	Operation & benefits
CAM stage	0/1: Options definition and development (est. 2018/19)	1/2/3: Options development, consultation and preferred option (est. 2019/20)	4: Preferred option consultation (est. 2020)	5: Powers (and procurement) (est. 2020/21 - 2024)	6: Construction (est. 2024-2030)	7: Operation with Potential Modification (2030 onwards)
Functions	Planning and options	Single option	Consents	Procurement	Build	Operations
	Business Case Development	OBC	Funding agreed	Final business case	Oversight	Commissioning?
	Funding approach	Timeframes	Legals	Legal agreements	Health and safety	Maintenance?
			Powers	Contract award	Prepare for operation	
			Consultation			
Indicative FTEs	2 FTE	5 FTE	10 FTE	10 FTE	15 FTE	15 FTE
Consultancy support	Medium	High	High	High	Medium	Low
Total Budget	£500k	£2m	£5m	£15-20m	£20m	Ongoing & subject to approach

6.41 In addition to resourcing its own staff, the CPCA and/or GCP would be expected to procure Professional Services Contractors (PSCs) to:

- Co-ordinate the deliverables from the Delivery Agent and other partners in preparation for the planning and consents process;
- Put in place robust project management processes to manage the scope, costs, schedule and benefits of the project;
- Ensure the project meets relevant health, safety, environment and quality requirements;
- Review and assure the Delivery Agent deliverables;
- Support stakeholder engagement and interface with key stakeholders;
- Support the management of annual business planning and reporting; and
- Support the transition of activities to the Delivery Agent and ultimate operator of the CAM network (timing and arrangements will be determined by the commercial model for the scheme).

6.42 The CPCA and GCP would also expect that the PSCs would support the Project Team in delivering value management activities, including:

- Optimising the route alignment and the associated mitigations;
- Challenging design standards and specifications; and
- Identifying opportunities to improve construction efficiency.

6.43 Once mobilised, it is expected that the Delivery Agent will procure its own PSCs to design, build and potentially operate the scheme. The timing and arrangements for this will be determined by the commercial model for the scheme.

Change management and cost control

6.44 A formal Change process would be described under the Development Agreement. It is envisaged that any significant change to the Sponsors Requirements will be reviewed and agreed by the Project Board when the full implications of the change (including impact on time, costs, quality and benefits) is understood. The Development Agreement would also set out tolerances for variations in the Sponsor's Requirements, and describe when and how variances should be reported to the Project Board by the Delivery Agent.

6.45 The CPCA and GCP would be expected to put in place an oversight regime for the CAM project to manage its costs. This would be codified and delivered by:

- The Development Agreement, which will set out the cost control procedures and respective roles and responsibilities;
- Management reporting and controls, which will ensure the SRO has visibility of project costs and exposure against risk limits (along with agreed trigger points where intervention or escalation is needed); and
- Project Board oversight of the plan against the cost programme, the budget envelope and levels of risk exposure, which could be formalised through the creation of a Cost and Risk Group or Sub-Committee.

6.46 The Delivery Agent would also be expected to establish a cost management process, which would set the format and standards by which the project costs will be measured, reported and controlled. This process will:

- Identify who will be responsible for managing costs;
- Identify who will have the authority to approve changes to the project or its budget;
- Describe how cost performance will be quantitatively measured and reported; and
- How cost and related controls will be assured.

- 6.47 The Delivery Partner would be expected to prepare cost plans for each major component (work package) of the CAM project (which will be defined later). These cost plans will be accompanied by a Basis of Estimate report, which will demonstrate that the cost management is robust, integrated, consistent, clear and appropriate.
- 6.48 The end-to-end cost management process would cover the full process from the setting of initial requirements at the project level through to the monthly performance management and payment cycle at contract level. This would ensure that every opportunity to optimise costs is taken at the appropriate time throughout the project lifecycle.
- 6.49 The cost management processes would be expected to use a consistent approach to the use of coding to provide visibility and accountability of work packages. This would be achieved through use of Cost Breakdown and Work Breakdown structures.

Communications and stakeholder engagement

- 6.50 The transformational nature of the CAM project is expected to require careful management of regional and local stakeholders to ensure that all perspectives are listened to, understood, and where appropriate and feasible, actioned. The overall engagement strategy is expected to be based on a clear explanation of, and rationale for, the CAM project, and its role as the critical enabler of the wider CAM network.
- 6.51 The CPCA and GCP are expected to collectively play the leading role in engaging with Partner Organisations, national government and other public bodies. Both bodies would lead on engaging with communities and stakeholders affected by the scheme in the early stages of its development, informing the development of the scheme, both through formal consultation activity and ongoing engagement. This is envisaged to include outreach programmes to educational institutions and the supply chain.
- 6.52 During the construction of the CAM project, it is envisaged that the Delivery Agent will lead on engaging with communities and stakeholders who are directly affected by the scheme, using a wide range of different media to ensure effective communication and to reach a diverse audience. This would build on best practice and lessons learnt from similar schemes
- 6.53 Key stakeholders – excluding the Partner Organisations outlined above – include, but are not limited to:
- Local communities affected by the CAM project;
 - Local councillors;
 - MPs and Peers;
 - Businesses;
 - Supply chain industry;
 - Academia, including the University of Cambridge and colleges;
 - Transport stakeholders and operators, such as Network Rail and bus and train operators;
 - Campaign groups;
 - Environmental groups;
 - Statutory consultees, such as English Heritage; and
 - Other Non-Government Organisations.
- 6.54 The CPCA and GCP's engagement strategy would be informed and facilitated by a communications delivery plan, in addition to statutory consultation, which is expected to involve:

- Planned regular opinion research to inform ongoing policy and delivery of the CAM project, enabling awareness and support to be measured over time;
- Statutory and non-statutory consultation, including with respect to different route options, a preferred scheme, and with local stakeholders and landowners;
- A proactive media strategy that gives prominent attention to significant milestones in the delivery programme and which is designed to ensure a constant flow of news and information to demonstrate momentum and respond to criticisms and ideas;
- Developing a social media strategy that makes full use of digital communication tools; and
- Developing a strong brand for the CAM project (and overall CAM network).

Benefits management

- 6.55 CAM will provide a high-quality, fast and reliable transport network that will transform transport connectivity across the Greater Cambridge region. The vision for the wider CAM network is an expansive transit network that connects Central Cambridge, Cambridge Rail stations (Central, North and South), major city fringe employment sites, satellite centres that are a focus for future housing growth, and market towns in Greater Cambridge.
- 6.56 The objectives of CAM, as described in the Strategic Case, are to:
- To Promote Economic Growth & Opportunity:
 - Support Acceleration of Housing Delivery
 - Promote Equity
 - Promote sustainable growth and development
- 6.57 The overall CAM network has been developed to:
- Overcome the key constraints imposed by the historic city core, enabling better access to and across the city centre, and to Cambridge rail stations (Central, North and, in the future, South)
 - Improve accessibility to and connectivity between ‘city fringe’ employment hubs (such as the Science Park), many of which lack good regional and orbital public transport connectivity;
 - Support new housing development outside the City, together with a wider labour market catchment extending across to the satellite developments and towards market towns on the radial corridors from Cambridge; and
 - Provide sufficient capacity to cater for increased travel demand, and support a modal shift away from private car.
- 6.58 Benefits management is intended to ensure that the CAM Project Board remains focussed on delivering the benefits identified in the business cases. The proposed approach is designed to support the realisation of the benefits of both the CAM project (the ‘core’, predominately tunnelled, infrastructure) and the wider CAM network (including the ‘inner’ and ‘outer corridors’).
- 6.59 To ensure that the intended benefits of the CAM project are fully delivered, lessons learnt from similar projects (such as the Northern Line extension, Edinburgh Trams and Cambridgeshire Guided Busway) will be used to inform the project. They are also being used to inform the way in which the project should be structured.
- 6.60 The CPCA and GCP would be expected to develop a strategy for benefits management, which, in keeping with best practice, would be based on the five following principles:

- Accountability follows funding - those funding the benefits will be accountable for their realisation;
- Benefits-led decisions - decision making will be expected to optimise overall benefits from the CAM project;
- Continuous improvement - CAM project teams will continuously strive to find additional benefits;
- Benefits-led performance - the realisation of benefits will be at the heart of performance management; and
- Monitored regularly - best in class integrated benefits reporting will help accountable and responsible parties realise benefits.

- 6.61 The CPCA and GCP would also be expected to develop individual profiles for each benefit outlined above, and in the Sponsor's Requirements. These profiles would include details regarding how each benefit will be measured, and which targets would be used to determine if the benefit has been realised. These profiles would identify who has responsibility for delivering, measuring and evaluating these benefits.
- 6.62 There is a considerable overlap between benefits and evaluation. It will therefore be important to ensure work on benefits and evaluation is aligned. Further details about the approach to benefits management will be provided in the OBC.

Risk management

- 6.63 Project risk will be managed in line with the risk management strategies developed by the organisations involved in the development and delivery of the CAM. The diagram below illustrates the escalation process for risk within the governance arrangements described above.
- 6.64 Risks will be clearly articulated with timescales attached to them and an accountable officer assigned to manage them. In practice, risks would be expected to be managed by the CPCA, the GCP and Delivery Agent. Parties will maintain a risk register, which will be reviewed on an on-going basis by the Project Board and maintained by the PMO.
- 6.65 As part of the project cost estimating process, the Delivery Agent would be expected to adopt a process of using optimism bias in line with the Treasury's Green Book guidance, including estimating tolerances and contingencies.
- 6.66 It is assumed that the Delivery Agent will establish a process for deriving contingency, which will evolve over time and would ultimately use Quantified Risk Analysis (QRA) to derive the contingencies that will replace optimism bias.
- 6.67 It is assumed that the Delivery Agent will be able to develop a more comprehensive design between the OBC and the FBC milestones in the project. This is also the stage where QRA can be used to inform the final budget for delivery of the project.
- 6.68 The Development Agreement would also be expected to establish a risk allocation framework between the CPCA and Delivery Agent. This would require the Delivery Agent to deliver the Sponsor's Requirements in accordance with the Development Agent.

Control Information

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CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.3
27 MARCH 2019	PUBLIC REPORT

A10 CORRIDOR – STRATEGIC OUTLINE CASE AND NEXT STEPS

1.0 PURPOSE

- 1.1. The Ely to Cambridge (A10) Corridor is defined around the A10, a primary road route of 16 miles (25km) that connects the two cities. More than 18,000 vehicles currently use the corridor daily, with capacity issues along the corridor resulting in significant delays to travel the length of the route and restraining growth in the area.
- 1.2. This report provides an update to the Combined Authority Board on the progress to date of the A10 Corridor project and the proposed next steps for this work. It provides further clarity following the publication of guidance on the Major Roads Network (MRN) in late December 2018, and how this will inform the further work on this programme of works, particularly the A10 Dualling project.

<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Chris Twigg, Director of Transport
Forward Plan Ref: 2019/010	Key Decision: Yes
The Combined Authority Board is recommended to: (a) Note the results of the A10 Corridor Strategic Outline Case and associated reports. (b) Agree to release £500k of funding from the 2019/20 budget for the procurement and development of the Strategic Outline Business Case (SOBC) for the A10 Dualling Project.	Voting arrangements Simple majority of all Members

<p>(c) Note the additional projects related to the A10 Corridor (Modal-shift interventions and junction improvements), and that if necessary business cases for these projects will be brought forward separately.</p> <p>(d) Approve the approach towards engaging with the Department for Transport on funding streams for the A10;</p> <p>(e) Approve the commencement of procurement of a professional services consultancy to undertake the work required to progress to SOBC for A10 Dualling.</p> <p>(f) Delegate Authority to the Chief Executive, in consultation with the Chair of the Transport and Infrastructure Committee, to agree and proceed with the appointment of a professional services consultancy following the completion of an appropriate procurement procedure.</p>	
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2.0 BACKGROUND

- 2.1. In February 2018, the Combined Authority Board agreed to proceed to a Strategic Outline Case for the A10 Corridor following the Cambridge to Ely Transport Feasibility Study that was led by Cambridgeshire County Council and the Greater Cambridge Partnership. The Ely to Cambridge (A10) Corridor is defined around the A10, which is a primary route of 16 miles (25km) that connects the two cities.
- 2.2. Together with the Kings Lynn rail connection, the corridor provides the main transport connections between Ely and Cambridge and onward links on to the national networks via the A14. The Ely – Cambridge Corridor carries the highest level of north-south traffic flows in the county. More than 18,000 vehicles currently use the corridor daily, with peak period traffic congestion and network reliability issues regularly resulting in trips taking over 45 minutes to travel the length of the route. These capacity issues along the corridor now adversely affect the quality of life, amenity and opportunities to increase the economic wellbeing of the area.
- 2.3. In considering the previous paper, Members requested a deeper understanding of: how the A10 report aligns with the strategic context, particularly the Cambridge Autonomous Metro; how this would interface with the Park & Ride; and the potential junction improvements along the A10. Along with the review of the Strategic Outline Case itself, this work has been completed and is summarised within this report.

- 2.4. The Strategic Outline Case is the first stage in what is likely to become a programme of works across multiple projects, led by varying partners, which will each undertake their own assurance process. The diagram below shows the expected process for these projects in relation to the work undertaken to date.

Strategic Outline Case Recommendations

- 2.5. The findings of this report have demonstrated that:
- The Ely to Cambridge Corridor is currently affected by congestion and connectivity issues;
 - Model analysis shows that travel demand should increase further on the Ely to Cambridge Corridor;
 - Significant additional developments are also planned around the Ely to Cambridge Corridor; and
 - This will exacerbate issues on the corridor, leading to deterioration of economic opportunities, the environment and the wider transport offer.
- 2.6. A joined-up strategy is therefore required that seeks to introduce both demand and supply-side measures along the corridor that cater to all modes and ensure that potential issues are mitigated.
- 2.7. The recommended approach to addressing these issues is split into three distinct stages:
- Policy, planning and regulation
 - Delivery of multimodal 'quick wins'
 - Longer-term transport interventions.

Policy, Planning and Regulation

- 2.8. The study recommends that a robust demand management approach should be required for all new development and applied to planning applications for proposals that impact on the corridor. In particular, any new development should seek to:
- Minimise the level of private car trips generated through provision of good non-car modes;
 - In line with national and local guidelines, provide lower levels of car parking than has traditionally been provided, particularly at employment locations;
 - Promote a holistic development site approach to car parking management to reduce the need for significant increases in car parking provision across the sites; and
 - Promote the use of non-car modes through appropriate investment in supply-side measures and focussed travel planning to encourage the required mode shift.
- 2.9. This work will be taken forward by partner authorities.

Delivery of multi-modal 'quick wins'

2.10. The recommended strategy requires sequential delivery of “quick wins” – comprising public transport, pedestrian and cycle enhancements and active parking restraint to promote mode shift away from the private car, and a series of prioritised localised highway improvements to create capacity for additional trips to deter potential re-assignment of trips onto less suitable routes. The proposed strategy includes early implementation of:

- the pedestrian and cycle routes and measures; and
- individual junction improvements along the A10 route.

2.11. These interventions will be considered in the context of need based upon identified growth. As such, the Cambridgeshire and Peterborough Combined Authority (CPCA) and its partners should seek to reach agreement as part of any development process in relation to contributions from developers to deliver these interventions.

Longer-term transport interventions:

2.12. Implementation of the ‘quick-win’ proposals alongside ambitious travel planning for new and existing communities in the corridor should potentially create some headroom for early, moderate scale, development at Waterbeach and at Cambridge Northern Fringe East and the Cambridge Science Park. In order to release full development aspirations, however, longer-term transport interventions will be phased in as follows:

- The existing Waterbeach rail station should be enhanced and relocated nearer to the proposed new town north of Waterbeach;
- A form of segregated rapid-transit corridor extending from Waterbeach to Cambridge should be implemented, together with supporting interchange enhancements required to support this; and
- The capacity of the A10 route should be further improved through dualling and through the upgrade of key junctions such as Milton Interchange.

Business Case Appraisal

2.13. The findings of the business case were aligned with those presented to the Combined Authority Board in February 2017. For the purpose of brevity, only the core information will be provided below.

2.14. The benefit to cost assessment showed value for money for all modes assessed within the Strategic Outline Case.

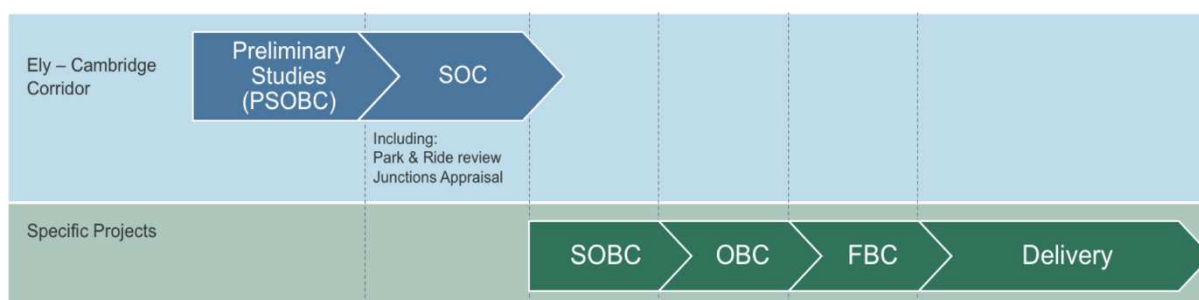


Figure 1: Summary of Benefits for Each Package

2.15. The business case provided a high-level assessment of costs for the packages. Due to the strategic nature of the business case at the SOC stage, these costs should be considered an estimate based upon best available information. They have included appropriate risk allowances for optimism bias, consistent with industry standard WebTAG Unit A1-2. It should be noted that these costs incorporate the estimated costs of design, construction and risk allowances, but do not allow for the purchase of land of the ongoing operation and maintenance costs. A full set of assumptions related to these costs is available on the Strategic Outline Case document on page 65.

	Mode Shift (£000)	Junction Plus (£000)	Full Dual (£000)
Low Cost Range	120,000	59,000	285,000
Point Estimate (Mid-Range)	152,000	72,700	355,000
Higher Cost Range	215,000	102,000	500,000

Major Roads Network

2.16. In December 2018, the Department for Transport released Investment Planning Guidance on the Major Roads Network following consultation in December 2017. The Major Road Network has previously been identified as a key potential source of funding for the A10 Dualling project, as the A10 has been expected to be classified as part of the MRN.

2.17. This guidance provides clarification on several key points relevant to the A10:

- (a) Initial consultation on the MRN indicated that the funding envelope was likely to be between £20m - £100m, with an average scheme size of approximately £50m. This has now been clarified to state that the MRN will be for schemes of £20m - £50m, with any scheme larger than £50m falling into the Large Local Majors (LLM) funding scheme.
- (b) The Large Local Majors funding scheme has been set up to cater for the “small number of exceptionally large local highway authority transport schemes that could not be funded through the normal routes, such as Local Growth Fund or other devolved allocations” which should be “single schemes that can only be delivered or justified as a whole, as opposed to being split into phases or smaller elements.”

- (c) LLM schemes request that the local or third party contribution is at least 15% of the total scheme costs, and local contributions of each scheme will be discussed as the scheme develops.
 - (d) Subnational Transport Bodies (STB) have been asked to put together a shortlist of schemes they would like to recommend both for MRN and LLM funding.
 - (e) The Department for Transport (DfT) has provided pro-formas for both Pre-SOBC and SOBC stage schemes, indicating that they may be willing to accept applications of both;
 - (f) However the DfT has also indicated that they are requesting submission of schemes in Summer 2019.
- 2.18. It should be noted that to date, 9 LLM schemes have been approved with a combined DfT contribution of just over £600m. As an average, this is therefore circa £66.67m per scheme.
- 2.19. The LLM is not fully competitive at Outline Business Case (OBC) stage. As such, applicants wishing to apply for LLM funding should seek to develop an SOBC and engage with the DfT in relation to progressing to OBC. The DfT will carefully select schemes that it wishes to take forward for further development to OBC and may provide a funding contribution to do so. A definitive commitment to funding for construction of the scheme will only come at OBC stage.
- 2.20. It should be noted also that for any scheme put forward by a Subnational Transport Body (STB), the local authority needs to be committed to developing the scheme to OBC stage and be able to reach OBC by the end of 2021 at the latest. This is in line with current timescales but does provide a challenging programme.

Next Steps

- 2.21. As the transport authority for the region, the CPCA is focusing on key strategic interventions in the corridor, notably the Cambridge Autonomous Metro (CAM) (in partnership with the Greater Cambridge Partnership) and the A10 dualling.
- 2.22. Key areas from the *Policy, Planning & Regulation* recommendations detailed in paragraph 2.8 above will be taken forward by partners who retain Planning Authority over their area, while the delivery of junctions will be considered and an agreement sought around those interventions, led by the relevant planning authority teams.

Longer Term Transport Interventions

- 2.23. A separate report with the proposed next steps for the CAM is being brought forward to board in March 2019 under agenda item 4.3. This report does not seek to influence those recommendations but does acknowledge the requirement for integration with the outcome of the CAM work within the A10 Corridor.

A10 Dualling

2.24. Based upon the information received from the Department for Transport in relation to the Major Roads Network and the Large Local Majors Funding Schemes, the Board is recommended to approve the following approach and workstreams:

a) *Proceed with the completion of the A10 Dualling Pre-SOBC Pro Forma.*

The Combined Authority will need to submit a funding application in Summer 2019. The current works completed have focussed on the benefits for the A10 Corridor, rather than of Dualling itself. Completing the Pre-SOBC pro forma will enable the Authority to submit the application at the appropriate time and ensure that any additional reinforcing work is completed, providing the best opportunity to bolster the funding application.

Subject to approval of these recommendations, the next steps in this workstream will be:

- To undertake a scoping exercise of the Pre-SOBC pro forma against the work undertaken to date for the A10 Corridor in order to understand areas that can be bolstered prior to submission;
- Depending upon the results of that scoping exercise, seek to work with local partners (such as the CCC) or appoint relevant professional services to carry out further work to tailor the SOC for the Corridor towards A10 Dualling specifically. This may include, for example, the calculation of the benefit to cost ratio specifically for A10 Dualling, rather than the Corridor as a whole (which is the current estimate);
- Engage with partners in order to confirm support for the project, which will support the funding application;
- Seek to submit the funding application within the appropriate time frame (currently we have only received the indication that this will be Summer 2019).
- Work to further engage with Subnational Transport Bodies in the local area to ensure that the A10 Dualling project is considered within the STB submissions.

b) *In the interim, proceed forward with an A10 Dualling SOBC.* The Large Local Majors scheme is a nation-wide opportunity for funding. This means that there is likely to be a significant delay between the submission of the Pre-SOBC funding application and the outcome of those funding applications.

Because of this anticipated delay and the requirement for schemes to be able to achieve Outline Business Case status by the end of 2021, the Combined Authority is recommended to continue with the A10 Dualling SOBC as soon as possible, as a parallel workstream to the funding application above. This will enable the Combined Authority to adhere to the required timescales for completion of the business case and design stages.

Subject to approval of these recommendations, the next steps in this workstream will be:

- To commence procurement of the A10 Dualling SOBC professional services team, who will undertake work specifically for the Dualling case.
- Appoint an appropriate team following the completion of the procurement process and undertake the A10 Dualling SOBC;
- Report back to board with the outcome of the A10 Dualling SOBC and funding submission.

Alternative Options Considered

Do Nothing

- 2.25. The Combined Authority could choose not to proceed forward with the A10 Dualling scheme. As shown above, the Ely – Cambridge Corridor carries the highest level of north-south traffic flows in the county. More than 18,000 vehicles currently use the corridor daily, with significant delays as a result.
- 2.26. In addition, this corridor is one of the key areas for growth identified by the CPIER report. Development along this corridor is forecast to generate up to 17,000 new homes and 14,000 new jobs, with further development occurring in East Cambridgeshire in the north of the study area, including Ely.
- 2.27. As a result, failure to meaningfully intervene in the corridor will result in the constraint of growth in the area and knock-on impacts to the Combined Authority's ambitions to 2030.

Proceed Forward with Only the Funding Submission

- 2.28. The Combined Authority could choose to proceed forward with only the funding application for the Pre-SOBC submission to the Department for Transport. However due to the need to complete the Outline Business Case by the end of 2021, and when considered in conjunction with the likely pause whilst the Department for Transport considers what will not doubt be a significant number of applications, the decision to proceed forward with the funding submission only may put the development of the A10 Dualling at risk as it decreases the ability to achieve the OBC within the required timescales.

Proceed Forward with Only the SOBC

- 2.29. The Combined Authority could choose to proceed forward with only the SOBC for the A10 Dualling, rather than completing the Pre-SOBC submission. This would mean that the Combined Authority would be dependent upon the completion of the SOBC in order to submit a funding application. However, the completion of the SOBC is unlikely to be completed in time for a funding bid in Summer 2019; as such, this pathway is not recommended.

3.0 FINANCIAL IMPLICATIONS

- 3.1. To date a total of £240,432 has been spent, which has contributed towards:
 - (a) Completion of a revised Corridor Strategic Outline Case for the A10;
 - (b) Completion of a junctions report to assess interventions on the A10 junctions;
 - (c) Completion of a review of park and ride in the A10 corridor;
 - (d) Development and sign off of the A10 base traffic model;
 - (e) And partner resource to deliver the above.
- 3.2. The indicative cost of the A10 Dualling is currently expected to be in a range between £285m - £500m, however this excludes a number of core items, notably any land assembly required, environmental mitigation works, and inflation. A full list of these exclusions can be found in the full Strategic Outline Case on page 65. As a result, this current estimate carries a level of cost uncertainty as it is still early within the business case and design process. Cost certainty will continue to increase as the project continues.
- 3.3. Sources of funding, in addition to the Large Local Majors scheme, will be considered through the SOBC production with a recommendation for further avenues to secure funding coming forward as part of that work. It should be noted that even if the LLM bid is successful, it will likely require match funding from the Combined Authority as part of the funding agreement.
- 3.4. Following the approval by the Combined Authority Board of the Medium-Term Financial Plan, a budget of £500,000 is to be available in the 2019/20 financial year for the A10 project.
- 3.5. The Strategic Outline Business Case for the A10 Dualling is currently estimated to cost up to £500,000 for the current specification of work required, that is, within the budget envelope. Following further engagement and funding decisions by the Department for Transport, there may be some additional input required by the Combined Authority, similarly to the approach taken to the A47 Dualling project.

4.0 LEGAL IMPLICATIONS

- 4.1. By virtue of the devolution of powers under the Cambridgeshire and Peterborough Combined Authority Order 2017, the Combined Authority is the local transport authority for the strategic road network and for major transport corridors like the A10. It is in this capacity as the local transport authority that it has the power to formulate local transport plan policy to seek improvements to traffic management and to plan for interventions and enhancements of the highway network.
- 4.2. The Combined Authority will be working closely with partners in achieving short term improvements to the A10 junctions as developments come forward at major sites along the route. These are described as the quick wins. In addition, planning will secure longer term improvements to other forms of transport

provision improvements such as rail facilities at Waterbeach and the CAM, providing alternative transport modes into Cambridge and from Ely. In the short term, the proposal to undertake the A10 Dualling to be able to benefit from further Department for Transport funding support needs the preparation of an SOBC so as to align itself with the recent Large Local Majors category of larger highway schemes whose works value exceeds £50million. The SOBC is a significant piece of work and will require the appointment of experienced professional services team consultants to prepare this in a timeline manner. A budget has been identified for this work and the approval to appoint consultants is now being sought following a procurement process.

- 4.3. Letting of contracts is undertaken in accordance with the Combined Authority's Contract Rules (Constitution) and statutory rules relating to EU procurement. The level of funding for the Strategic Outline Business Case requires an Official Journal of the European Union (OJEU) process to be undertaken or a pre-procured, compliant framework to be used.

5.0 SIGNIFICANT IMPLICATIONS

- 5.1. No significant implications for ICT, data ownership or human resources have been identified for this project. It is expected that the resource required to manage the appointed consultants would be absorbed into the capacity of the Transport team.

6.0 APPENDICES

- 6.1. Appendix 1 – Ely – Cambridge Corridor Strategic Outline Case Executive Summary
6.2. Appendix 2 – Park & Ride Executive Summary

<u>Source Documents</u>	<u>Location</u>
Major Road Network and Large Local Majors programmes investment planning	https://www.gov.uk/government/publications/major-road-network-and-large-local-majors-programmes-investment-planning
East-West (North) Corridor – A47 Dualling Study – Strategy, Phasing and Prioritisation Stage 0 Board Report, October 2018	https://cambridgeshire.cmis.uk.com/CC_C_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=dpRGWCs3hDsTO7yA6hl5SssnXOfVXcPkM%2fexhTL8GhjAlp5my3vZCg%3d%3d&rUzwRPf%2bZ3zd4E7lkn8Lvw%3d%3d=pwRE6AGJFLDNlh225F5QMaQWCtPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFfXsDGW9lXnlg%3d%3d=hFfIUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFfIUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=ctNJFf55vVA%3d&FgPIIEJYIotS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFf55vVA%3d&WGe

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Ely to Cambridge Transport Study

Strategic Outline Case

August 2018

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Ely to Cambridge Transport Study

Strategic Outline Case

August 2018

Executive summary

Strategic importance of the Ely-Cambridge Corridor

The Ely to Cambridge Corridor is defined around the A10, which is a Primary Route of 16 miles (25km) that connects the two cities. Together with the Kings Lynn rail connection, the corridor provides the main transport connections between Ely and Cambridge and onward links on to the national networks via the A14. More than 18,000 vehicles currently use the corridor daily, with peak period traffic congestion and network reliability issues regularly resulting in trips taking over 45 minutes to travel the length of the route. These capacity issues along the corridor now adversely affect the quality of life, amenity and opportunities to increase the economic well-being of the area.

The Ely to Cambridge Corridor has been identified as a significant growth corridor linking Greater Cambridge to the wider Cambridgeshire area. Much of Cambridge's future growth is expected to be concentrated on the city 'fringes', including within the study corridor where a number of strategic sites and associated developments are planned up until 2031 and beyond. These include a new town north of Waterbeach and developments on the Cambridge Science Park and neighbouring innovation centres and business parks, which together form part of the Northern Fringe East area of Cambridge, one of Europe's longest-serving and largest centres for commercial research and development. These developments are forecast to generate up to 17,000 new homes and 14,000 new jobs along the study corridor. In addition, further development is occurring in East Cambridgeshire in the north of the study area, including in Ely.

As such, the corridor has a significant role to play in delivering growth in both housing and the economy, as well as a distribution of this growth that promotes equity within the region. However, poor transport connections and capacity act as potential barrier to this growth, which could reduce the size of the labour market and threaten the potential to capitalise on the city's successful technology economy.

Strategic Policy for the Ely-Cambridge Corridor

The corridor strategy is evolving based on a realistic set of investments necessary to deliver the level of economic growth sought. This strategy is consistent with the new policy environment that is emerging via the CA's Interim Transport Strategy, and that is set out in other policy objectives established by other bodies.

A series of corridor transport objectives have been established as part of the Preliminary SOBC which sought to address the key challenges and opportunities identified for the study corridor and reflect the high-level policy requirements for Greater Cambridge. This includes policies set out in the Transport Strategy for Cambridge and South Cambridgeshire, the Third Cambridge Local Transport Plan, and the Cambridgeshire Long Term Transport Strategy, as well as the policy position set out in the Cambridge and South Cambridgeshire Local Plans and the transport strategies for the new town north of Waterbeach and developments on the Cambridge Northern Fringe.

The new Mayoral Cambridgeshire and Peterborough 2030 transport strategy sets out a clear ambition to establish a world class public transport system, that will inform the development of the new Local Transport Plan by 2019. A number of guiding principles have been established that will help shape the new Local Transport Plan and ultimately influence the A10 corridor proposals, and these include the following:

- **Economic Growth & Opportunity:** focusing on connecting the workforce with a growing number of well-paid jobs, particularly those in important new-economy sectors
- **Equity** – establishing a transport system that actively addresses transport and infrastructure gaps across the region and especially those in badly served communities and help all areas to be prosperous
- **Environmental Responsiveness & Sustainability** – developing a network that encourages active and sustainable travel choices, such as walking, cycling and public transport. The public transport system should be based on green energy and encourage consumers choose to use it rather than the car.

The key objectives for the Ely to Cambridge corridor and how they support the emerging wider transport strategic policies established by the Mayor's Interim Transport Strategy statement are set out below:

CA Interim Transport Strategy	Study Corridor Objectives
Travel choice including transforming public transport, optimising the rail network and designing integrated walking and cycling solutions – providing residents and businesses with a public transport system and new pedestrian and cycle-friendly infrastructure and facilities that are the automatic choice for residents and businesses.	Intercept or substitute car trips with alternative transport modes
Creating and upgrading our major road network – to cater for longer distance car and freight journeys; and providing vital connectivity with the strategic roads network and key origins and destinations outside of our region.	Maintain traffic at or below 2011 traffic levels in Cambridge Minimise vehicle mileage whilst providing for increased travel demand
Creating a network fit for the future – by adopting a longer-term perspective on transport we will build a network that meets the long-term needs of businesses and residents and ensure that shorter term interventions support these future aspirations.	Ensuring reliability, capacity and speed of the A10 corridor to improve travel conditions for all users.
Expanding access – connecting people with jobs and services that will enable businesses to grow that addresses social exclusion and supports the development of new housing and employment sites.	Address transport demand from the new town north of Waterbeach Enable development in the Cambridge North Fringe East/Cambridge Science Park to proceed
Improving safety - substantially reduce accidents through education, enforcement, and designs that prioritise moving people safely rather than faster, including an objective to eliminate traffic fatalities and severe injuries in Cambridgeshire and Peterborough.	Minimise potential impact on alternative "rat-runs" to the A10

This shows a strong fit between the existing study objectives for the corridor and the overarching strategic objectives of the Combined Authority.

Ely-Cambridge Corridor – Do Nothing

Public transport services across Cambridge are well-established and over the last 20 years have experienced significant growth, especially in rail demand, with patronage at Waterbeach nearly five times higher than levels experienced in 1997. This has resulted in capacity problems in terms of the role that rail can play in meeting future travel demand on the corridor. Bus-based travel is currently experiencing significant operational performance problems in terms of poor reliability, as a result of traffic congestion, especially during the morning and evening peak period.

Traffic demand analysis along the A10 shows that nearly 80% of all trips along the corridor have either an origin or destination outside the study area, highlighting the strategic nature of the corridor as a whole. This high proportion of non-local trips has an impact on the potential for encouraging a shift from car use along the corridor to non-car modes. The A10 currently carries the highest volume of north-south traffic in both southbound and northbound directions during

the morning and evening peak periods. The high concentration of travel demand generates a high level of traffic congestion which, at its worst, can extend the full length of the corridor in both peak periods. Travel times are frequently double that experienced under free flow traffic conditions.

In terms of provision for non-motorised modes along the corridor, this is currently an area of weakness as there is a lack of high quality pedestrian and cycle routes serving north-to-south trips, with cycling provision along the A10 being particularly poor. Accident statistics reveal that casualties involving pedestrians and cyclists on the A10 are concentrated around populated areas and where changes in the speed limit occur, requiring a need for safe routes and infrastructure to be introduced, especially where different modes of transport interact.

The significant level of traffic generated by new developments proposed north of Waterbeach and at Cambridge Northern Fringe East/Cambridge Science Park are expected to generate more local trips on the network. It is predicted that the proportion of motorists with either trip origin or destination outside the study area will fall to 67% as more local trips are generated. However, traffic generated by the new developments will result in traffic being displaced onto alternative routes and in a significant increase in journey times along the corridor between Ely and Cambridge, with nearly a 75% increase in journey times during the evening peak hour along the southern section, and a 10-15% increase along the whole corridor during both peak periods.

Ely-Cambridge Corridor – Do Something Options

A number of strategic 'Do Something' options have been developed and assessed for the corridor aimed at improving the corridor's transit capacity by all modes. The objectives identified above highlight the role of all modes of transport in addressing the challenges of improving reliability and movement along the corridor. The options selected and assessed include packages of multimodal interventions which represent incrementally greater levels of intervention – ranging from packages including only measures focused on non-highway measures through to packages with an increasing level of complementary highway intervention. These options are summarised below.

Option	Description
DS1 - Mode-Shift: (Indicative cost £151.7 million)	Investment in non-motorised modes; segregated rapid transit route linking north of Waterbeach with Cambridge; rapid transit Park and Ride to serve development north of Waterbeach; relocated rail station and parking management measures at the development sites (CNFE/CSP)
DS2 - Junction Enhancements: (Indicative cost, £224.5 million)	DS1 measures PLUS Improvements at 8 junctions along the corridor including Milton Interchange
DS3 - Northern Dualling Scheme: (Indicative cost, £414.9 million)	DS1 + DS2 measures PLUS Dualling of corridor between Ely and development of Waterbeach to encourage use of Park and Ride scheme
DS4 - Southern Dualling Scheme: (Indicative cost, £306.4 million)	DS1 + DS2 measures PLUS Dualling of corridor between development north of Waterbeach and Milton Interchange to improve highway capacity.
DS5 - Full Dualling Scheme: (Indicative cost, £506.6 million)	DS1 + DS2 + DS3 + DS4 measures Full dualling of corridor extending from Ely to Milton Interchange.

All of the Corridor Do Something options have been assessed using key performance indicators, including effect on modal share, impact on traffic flow and vehicle delay, as well as effect on overall journey times. The following table summarises, for these key indicators, the level of improvement delivered by each 'with-development' Do Something package option

compared to both the 'without development' Do Minimum scenario (represented by the first tick or cross) and the 'with development' Do Minimum scenario (represented by the second tick or cross).

Levels of Improvement for Do Something Options (Peak Hours)

Indicator	DS1 Mode-Shift	DS2 Junction+	DS3 North-Dual	DS4 South-Dual	DS5 Full-Dual
Car Mode Share (corridor)	✓✓	✓✓	✓✓	✓✓	✓✓
Parallel Route Traffic Levels	✗✗	✗✗	✗✗	✓✗	✓✗
Journey Time	✗✗	✗✓	✓✓	✓✓	✓✓

Source: Mott MacDonald

Results reveal that there is a general progression in performance benefits from the mode shift package towards the full dual carriageway upgrade package as follows:

- The Mode-Shift option, which involves non-highway measures only, delivers mode share improvements, but not highway performance improvements.
- The Junction+ option, which includes the non-highway measures but also modest highway measures, shows a mode share improvement, but also some journey time improvements. It doesn't, however, deliver overall parallel route traffic level improvements.
- The North-Dual option, which includes the non-highway measures but also more substantial highway measures, shows a mode share improvement, but also full journey time improvements. Similarly, though, it fails to deliver overall parallel route traffic level improvements.
- The South-Dual and Full-Dual options are the only ones to deliver overall improvements in all three performance indicators when compared against the 'without development' Do-Minimum scenario.

The provision of a full dual carriageway extending from the A14 (Milton Interchange) to Ely offers the largest benefits, with significant cost savings in travel time compared to the Mode-Shift option. Whilst the overall package costs of the Full-Dual option are three times that of the Mode-Shift option, the value of benefits is nearly four times greater. However, all packages assessed generate sufficient benefits to more than outweigh the estimated cost of implementation, and can be viewed as demonstrating a 'high value for money'.

- The greatest level of benefit was generated by the Full-Dual option, with present value benefits at some £760m over the lifetime of the scheme, and a BCR of 2.8;
- The best value for money is derived from the Junction Enhancement option (DS2), which generates a benefit to cost ratio (BCR) of 3.6, but the absolute level of benefit is substantially lower than those options with significant highway investment; and
- The next best-value option is the South-Dual option, which delivers a BCR of 3.2.

Costs are indicative at this stage and should be refined as work progresses on the different intervention components. A key conclusion is that while the Mode-Shift option without highway improvements provides additional travel capacity and significant benefits, it does not substantially address the congestion and traffic displacement issues identified. The options which include highway improvements confirm that these too are required to address these issues.

Ely-Cambridge – Corridor Delivery

To alleviate impacts of congestion and journey time delay along the Ely to Cambridge corridor, a

multi-modal package of interventions is required. Whilst the packages of corridor options offer a number of larger-scale interventions aimed at relieving congestion and adding capacity to the corridor, such measures traditionally have a significant lead-time and so short-term congestion reduction measures should go some way to improving travel conditions along the corridor in the meantime. To enhance operational efficiency on the corridor, therefore, a series of junction improvements should be delivered to help alleviate delays, while non-highway measures and larger scale highway proposals are developed in parallel.

It is recommended that the initial phase of delivering the larger scale improvements should see the southern section of the corridor dualled first to improve journey times and accessibility on this most congested part of the corridor. It is also recommended that the northern section be dualled in the longer term to maximise benefits along the corridor and deliver full reliability and journey time improvements.

Mechanisms should be put in place to secure developer funding to deliver, or substantially contribute towards delivering, the strategy, to ensure the mitigation of adverse development-related transport-impacts.

The recommended corridor approach can be split into three distinct stages as follows:

(i) Policy, planning and regulation: A robust demand management approach should be required for all new development and applied to planning applications for proposals that impact on the corridor. In particular, any new development should seek to:

- Minimise the level of private car trips generated through provision of good non-car modes;
- In line with national and local guidelines, provide lower levels of car parking than has traditionally been provided, particularly at employment locations;
- Promote a holistic development site approach to car parking management to reduce the need for significant increases in car parking provision across the sites; and
- Promote the use of non-car modes through appropriate investment in supply-side measures and focussed travel planning to encourage the required mode shift.

(ii) Delivery of multi-modal ‘quick wins’: The recommended strategy requires sequential delivery of “quick wins” – comprising public transport, pedestrian and cycle enhancements and active parking restraint to promote mode shift away from the private car, and a series of prioritised localised highway improvements to create capacity for additional trips to deter potential re-assignment of trips onto less suitable routes. The proposed strategy includes early implementation of:

- the pedestrian and cycle routes and measures; and
- individual junction improvements along the A10 route.

(iii) Longer-term transport interventions: Implementation of the ‘quick-win’ proposals alongside ambitious travel planning for new and existing communities in the corridor should potentially create some headroom for early, moderate scale, development at Waterbeach and at Cambridge Northern Fringe East and the Cambridge Science Park. In order to release full development aspirations, however, longer-term transport interventions will be phased in as follows:

- The existing Waterbeach rail station should be enhanced and relocated nearer to the proposed new town north of Waterbeach;
- A form of segregated rapid-transit corridor extending from Waterbeach to Cambridge should be implemented, together with supporting interchange enhancements required to support this; and

- The capacity of the A10 route should be further improved through dualling and through the upgrade of key junctions such as Milton Interchange.

Overall, the provision of increased carriageway capacity on the A10 represents a good value-for-money investment, by removing a significant proportion of longer distance/through-traffic from the A10 and enhancing the reliability and functionality of the corridor for all users.

Options to accelerate the implementation of the different corridor package interventions have been explored aimed at realising the benefits as early as possible in terms of addressing traffic congestion, as well as facilitating development proposals. Two potential delivery routes have been explored to date, in high-level initial terms only, comprising conventional planning and highways powers (via the Town and Country Planning Act) and the alternative via a Development Consent Order (DCO). At the time of writing, the Combined Authority are continuing to explore and seek wider advice on what the most appropriate approach to seeking consents might be. In both cases, the aim is to achieve the most efficient and cost-effective project implementation schedule.

Although many scheme development and delivery processes are linear, there can be scope to run some stages of the process in parallel which can potentially save time but at some cost and wider risk to the promoting authority. These options, and their pros and cons, can be considered in more detail as each corridor intervention progresses through the business case process, taking into account legal, financial and risk aspects.

The Next Steps

Further work should be undertaken to develop more detail on the preferred transport solutions and elaborate the full business case documentation for each of the core interventions identified to improve movement and reliability along the corridor. Key tasks envisaged include the following:

- The CPCA should reach a decision in relation to the full list of intervention projects proposed for the Ely to Cambridge Corridor outlined in this strategic case and selection of these for further development;
- The full list of selected projects for the corridor should be fully integrated with the outcome of current work being undertaken to develop a rapid transit network across the city, extending to the Ely to Cambridge Corridor, serving both Milton and Waterbeach interchanges;
- For each intervention project, the programme of works should be packaged appropriately, supported by agreed project governance arrangements to manage implementation; and
- Appropriate professional consultancy support should be procured to support the continued development of the business case work and subsequent implementation of schemes.



A10 Ely to Cambridge Corridor

Park and Ride Options

August 2018

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A10 Ely to Cambridge Corridor

Park and Ride Options

August 2018

Executive summary

Study background

In January 2018 and on behalf of Cambridgeshire County Council, Mott MacDonald produced a Preliminary Strategic Outline Business Case (PSOBC) for the Ely to Cambridge corridor which considered options for increasing the corridor's movement capacity and performance in the context of predicted future traffic growth and local development activity. This indicated that capacity enhancements to the A10 and some form of Park & Ride (P&R) will be required to accommodate future increases in strategic traffic on the corridor, while improvements for non-car modes will be required to accommodate significant growth in local trips without a corresponding increase in local traffic levels. Key non-car options considered to connect the proposed new town north of Waterbeach with Cambridge were new walking and cycle routes, a new segregated non-rail public transport link, and a northwards relocation and expansion of the existing Waterbeach rail station to better serve the new development. These latter measures, in turn, also open up new possibilities for P&R facilities and routes on the corridor.

Since January, the elected Mayor has produced an Interim Transport Statement¹ for the Combined Authority (CA) area which sets out the CA's strategy to develop a world-class public transport system, with less reliance on P&R. In light of this recent shift in the policy landscape regarding the study corridor, and also in response to the need to better understand the potential interactions between the non-car mode options currently tested in the PSOBC, the purpose of this follow-on study is both to review the current and future need for P&R in the Ely to Cambridge corridor and to explore how all non-car mode options for this corridor might be most effectively packaged together.

Summary of study findings

The case for intercepting highway trips

The combination of a high rate of trip attraction in Cambridge and constrained housing supply means that a high proportion of trips to the city start from outside it, and this trend is likely to continue in the future. Because of the rural nature of the city's surroundings, many of these trips also have few viable alternatives to the car at point-of-origin. Until such alternatives are available, therefore, it is considered that a means of modal intercept on the approaches to Cambridge will likely continue to be an important means of ensuring that not all the trips which begin by car outside the city also end by car within it.

Review of current P&R system

Evidence shows that the existing Cambridge P&R system potentially currently removes over a million one-way car trips per year from city centre roads and has limited the growth of car traffic on routes downstream of the P&R sites. On the other hand, however, it is recognised that the abundant availability of free PNR parking in Cambridge, together with a P&R bus network which is mostly unsegregated from the same congestion that car users endure, pose significant limitations on the potential effectiveness of the system. This is particularly the case for the

¹ Cambridgeshire & Peterborough Combined Authority (30 May 2018) *Annual Meeting Agenda item 3.2, Mayoral Interim Transport Strategy Statement*.

Milton P&R service, which serves about 11% of total P&R demand and is currently under-utilised. The location of this site also potentially limits the intercept market available.

Study corridor intercept options

The above analysis firstly confirms the current policy function of P&R by showing that car trips using the A10 are predicted to continue to be drawn from predominantly rural areas where there are currently few alternatives to the use of private transport at point-of-origin.

The analysis also shows that the effectiveness of P&R, within a wider package of complementary measures, depends on a combination of suitable intercept location and effective final mode, with there also being an element of interdependency between the two.

The first finding is that, the closer to Cambridge the intercept point is located, the greater the potential intercept market available. However, this factor must also be balanced against where approach route congestion for the city begins and the site not being so close to trip destinations that the interchange penalty is not justified. Full final mode segregation, frequent services and cheap fares would help reduce the impact of this latter factor and, indeed, would be desirable for all options.

The second finding is that non-rail and rail final modes are potentially complementary in terms of the destination markets they serve.

With respect to the hypothetical 'no P&R' scenario, it is noted that this could be effective in the case where journey-origin alternatives to the car become so attractive that P&R is no longer needed, as per the Mayoral vision, but it is also acknowledged that this vision will prove challenging to achieve in the current transport economy climate.

In the event that the Milton P&R service was removed within the existing climate, however, it is estimated that this could lead to:

- An increase in passing A10 traffic flows of between 1% and 4%
- An increase of between 37,000 and 144,000 extra one-way car trips within the city per year
- The need to increase city centre parking stock from between about 35 to 135 spaces, and
- The potential loss of about 126,000 visits to the city per annum

Study corridor public transport options

An analysis of predicted local responses to the introduction of new non-car mode improvements in the study corridor shows that these modes serve different markets. P&R improvements solely benefit trips to the city, while the potential segregated non-rail PT link to Cambridge is also primarily focussed on the city centre travel market, with the local bus picking up the city fringes and further afield. Rail then serves markets further afield again and, though the non-rail mode reduces rail trips to the city centre, relocating the station towards the new development results in more rail trips overall.

As a result of these changes, trips by the improved non-rail PT, P&R and rail modes increase in total, and the analysis suggests that, of these increased trips:

- About 35% are from the car,
- 43% from the bus, and
- 19% are from other destinations.

Overall, it is concluded that these measures generate positive net impacts and increase the accessibility of the corridor, but there is evidence of some competition for similar local markets between the non-rail PT and rail modes which would need to be investigated further as part of the individual business cases for these proposals.

Study recommendations

Based on the study evidence, analysis and conclusions, we present a number of recommendations below. These fall into two categories:

1. Development-independent recommendations
2. Development-dependent recommendations

These are presented in turn below.

Development-independent recommendations

The following table presents study recommendations for P&R on the Ely to Cambridge corridor which do not depend on the delivery or otherwise of development north of Waterbeach.

Ref	Recommendation	Application		
		Short-term	Medium-term	Longer-term
I1	Retain P&R facility within A10 corridor	Retain existing Milton P&R facility	Consider relative pros and cons of moving facility to a location on the A1309 to access greater intercept market	Investigate potential to phase out need for P&R by introduction of demand responsive mobility service connections to appropriate final-mode options
I2	Improve final-mode segregation between P&R site and city centre	Implement and enforce bus priority measures on Milton Road	For Milton site, investigate options for bus to avoid congestion at Milton Interchange	Investigate potential for CAM to replace bus as final-mode from P&R site to city centre
I3	Manage usage of private non-residential (PNR) parking within Cambridge	Investigate options for demand management of city's PNR parking	Implement policy if viable and effective	Monitor and evaluate policy

Source: Mott MacDonald

Development-dependent recommendations

The following table presents study recommendations for public transport on the Ely to Cambridge corridor which are contingent on the delivery of development north of Waterbeach.

Ref	Recommendation	Application		
		Short-term	Medium-term	Longer-term
D1	Implement new segregated non-rail PT mode between development and Milton/city	Establish best option, whether it be CAM or a bus-based surface route	Implement scheme, together with P&R interchange within development if future A10 conditions justify	Gradually phase out P&R function as demand responsive mobility and appropriate final-mode options come forward
D2	Enhance and relocate Waterbeach rail station to serve both existing village and new development	Establish feasibility, viability and effectiveness of the proposal	Implement scheme if effective, together with P&R parking facility to allow interchange from car	Gradually phase out P&R function as demand responsive mobility and appropriate final-mode options come forward

Source: Mott MacDonald

6 Conclusions and recommendations

6.1 Study conclusions

Based on the above study evidence and analysis, the following subsections provide specific responses to the seven questions posed in Section 1.1 above.

6.1.1 How does the current A10 Milton P&R site operate and what role does it fulfil?

It is recognised in Section 3.3 above that, though the Milton P&R site currently accounts for about 11% of the total P&R usage for Cambridge, it is nonetheless performing below its potential. The main reasons for this underperformance are:

- The site's location north of the A14, making it less able to intercept trips from this significant approach corridor to Cambridge, and
- The lack of final-mode segregation or priority between the site and the city, giving the service little to no performance advantage over private car users

In addition, the high level of free PNR parking provision within Cambridge is likely further undermining the use of this service.

On the other hand, however, it is estimated that the Milton site still intercepts about 7% of trips which pass the site, and potentially removes up to about 144,000 one-way car trips from city roads per annum. It therefore provides a valid function on the A10 corridor, removes car trips from the congested Milton Interchange, and provides for a mix of commuter, shopper and visitor uses.

6.1.2 What might be the consequences of not having a P&R in this corridor, particularly on A10 traffic flows?

Estimates vary on the level of car trips which P&R removes from the local network. A recent survey of busway users⁶ suggested that nearly half of respondents would have made their journey by car if the busway were not available, while modelling analyses suggest that the transfer rate for P&R users specifically would be more like 13%-19%. Based on these estimates, Table 9 above shows that the removal of this facility could lead to:

- An increase in passing A10 traffic flows of between 1% and 4%
- An increase of between 37,000 and 144,000 extra one-way car trips within the city per year
- The need to increase city centre parking stock from between about 35 to 135 spaces, with potential associated traffic generation and congestion issues, and
- The potential loss of about 104,000 visits to the city per annum, as visitors choose other destinations to travel to

These impacts could, of course, be potentially offset by the provision of a significant new alternative system, such as the proposed CAM scheme, but it is noted that those proposals are still in the early stages of development and so will not provide an alternative in the short-term.

Overall, therefore, though the lack of final-mode segregation along congested links and the abundant availability of free PNR parking within the city currently constrain the potential of the city's P&R system from being fully realised, the system nonetheless generates a positive impact

⁶ SYSTRA (August 2017) *Cambridgeshire bus user research: current guided busway users*.

for the city by allowing non-car trips into the centre which would have otherwise either arrived by car or travelled elsewhere.

6.1.3 What role would an expanded park and ride site at Waterbeach have and what role would it fulfil?

The drawback of providing a P&R facility at Waterbeach, or at the new town development north of Waterbeach, is that the level of Cambridge-bound trip market on the A10 is about half the size at this location than it is at the current Milton P&R site (see Section 4.3.3 above). On the other hand, however, if such a facility provided a strong performance advantage from this location to key sites in Cambridge, it would nonetheless attract some demand and, unlike the Milton site, would remove trips from the southern and busiest section of the A10.

Currently, and as shown in Section 3.3.3 above, there is considerable peak hour congestion on the A10 and A1309 between Waterbeach and the city centre, so if a P&R site at Waterbeach were to be combined with a final-mode option that avoided this congestion, the performance advantage would likely make this facility attractive.

If the final mode is rail, then this does provide full segregation. As noted in Section 4.3.4, however, this advantage is tempered by the detour required from the A10 to reach a rail station, the cost of fares, peak-hour crowding issues, the frequency of service, and the limited availability of destinations reachable from city stations. Despite this, though, rail P&R from this location will remain attractive to a proportion of the market, as long as congestion between Waterbeach and the city centre remains

If the final mode is some form of non-rail PT, then the performance advantage from Waterbeach to the city centre will depend on the degree to which the route is segregated from congestion. In this respect, if there is no segregation between Waterbeach and the Milton site, then there is unlikely to be merit in providing non-rail P&R at this location. If there is, but then no segregation between Milton and the city centre, then there is potentially merit, but limited by 'final-mile' congestion issues. The strongest case for non-rail P&R from this location would therefore be if congestion persists from Waterbeach to the city centre and if there is full final-mode segregation for the length of that route.

Where the case for non-rail P&R from this location potentially weakens is if future upgrades of the A10 between Waterbeach and the A14 result in there being little peak-hour congestion along this section. If this were to occur, then there would be reduced incentive for car drivers to transfer to another mode before reaching the existing Milton P&R site. This would likely be the case even if the non-rail PT mode were segregated between the P&R site and the A14, so the potential for this mode to provide a corridor intercept option needs to be balanced against future A10 performance aspirations.

Overall, therefore, though it is recommended that the relocated Waterbeach rail station provides sufficient and attractive parking for the proportion that would choose to 'park and rail' from this location, it is suggested that a non-rail P&R from this location would only likely be successful where there continues to be congested highway conditions between Waterbeach and the A14 and where the non-rail final-mode is fully segregated over this distance, and preferably all the way to the city centre. Where these latter conditions are not met, non-rail P&R from the Milton site location, or similar, will likely continue to provide the best opportunity for effective intercept on the corridor.

6.1.4 What role would rail-based P&R fulfil and what destinations and OD pairs would this intercept/address?

As noted above, the advantage of rail P&R on the Ely to Cambridge corridor is a fully segregated service to Cambridge North and Cambridge stations which avoids A10 congestion on the approach to Milton Interchange and then A1309 congestion into the city. The service is also comparatively reliable and predictable, all of which makes interchange to this mode potentially attractive to some A10 car users.

As also noted, though, the drawback with this form of intercept is the detour required from the A10 to reach a rail station, the cost of fares, peak-hour crowding issues, the frequency of service, and the limited availability of destinations reachable from city stations, and these factors will equally deter some of the potential market.

Overall, however, though the proportion of the potential P&R market appealed to by this mode is likely to be relatively small (see Section 4.3.3 above), the mode already exists and measures to make interchange as attractive as possible are readily deliverable and should therefore be pursued regardless. The delivery of the proposed Cambridge South station, and its ability to serve the large and growing employment based at the Bio Medical Campus, would further enhance the role of this mode.

6.1.5 What is the role of the proposed non-rail public transport corridor?

One of the main drivers behind the proposal for segregated non-rail public transport in the corridor is to serve the potential new development north of Waterbeach. Without such a facility, the main options for travel to Cambridge from this development would be rail, bus, cycle or car. As noted above, rail avoids highway congestion but offers limited city destinations, whereas the current bus offer is the opposite: a wider range of destinations but longer journey times than the car. Given these two choices, some will choose to cycle to Cambridge, but it is likely that many would opt for the car.

The concept of a segregated non-rail option between the development and the city would therefore be to provide a third choice which combines the congestion avoidance benefits of the rail offer with the wider destination choice benefits of the current bus offer. For such an option to be effective, however, it would need to be segregated or strongly prioritised as far into the city centre as possible, and preferably all the way.

Unlike for potential P&R users of this mode, though, it would not be expected that local resident users of this mode would be as sensitive to whether or not there is congestion along the parallel A10 route into Cambridge. This is an important factor for users who are already in their cars, as it represents the default journey option against which the alternative mode would have to offer an improvement, including with interchange penalties. For local resident users, however, the non-rail PT mode would be one of their options from point-of-origin, so would be potentially attractive to all users, depending on its degree of segregation, price and other attraction factors.

6.1.6 What destinations and OD pairs would this intercept/address that are different to those served by rail?

The potential destination analysis undertaken in Section 4.3.3 above further highlights how a non-rail PT option from the new town north of Waterbeach could be complementary to the current rail offer in that they serve different city markets and so, together, connect the corridor with a greater proportion of destination sites. If the Cambridge North station was located closer to the Science Park and the Cambridge station was located in the city centre core, then the rationale for a new non-rail route to the city would be less apparent, but the potential

complementarity of the destination-sets which could potentially be reached by the two modes suggests that both could function well together.

6.1.7 How would the emerging CAM proposals potentially interact with all of the above?

The evidence above indicates that the provision of a segregated non-rail PT mode in the corridor is desirable, as it could serve wider local destination markets than can be reached by rail while also offering rail's segregation benefits. Such a mode would therefore provide an attractive alternative to the car for local trips and, with appropriate P&R interchange conditions, for more strategic trips also.

The effectiveness of this mode option, however, all depends on the level of highway segregation that can be achieved along its route to the city centre. Without segregation, or at least high levels of priority, performance would be no better than the current local bus and P&R services.

In reality, however, full segregation between the Waterbeach development site and the city centre will be challenging to deliver. Surface level segregation is potentially physically feasible as far as Milton Interchange due to the rural nature of this section of route but, beyond this point, options for full surface-level segregation are very limited. More likely is the option of increased bus priority along Milton Road, as is being currently developed, but this will in reality only provide the service with partial isolation from highway congestion impacts.

By offering grade-separated segregation, CAM could therefore be the solution that releases the full potential benefit of a non-rail PT mode in the Ely to Cambridge corridor.

The ideal option would be for CAM to start at the new town north of Waterbeach and to link this development directly to the city centre. This would provide the development with a strong alternative to the car for local trips to the city, and would also provide opportunities for A10 car trip interception at an appropriate point along its route.

If CAM were not to extend as far north as the Waterbeach development, then a terminus somewhere near the existing Milton P&R site would nonetheless provide the corridor with a highly effective P&R option for final non-car mode trips into Cambridge. A surface-level segregated non-rail PT route from the Waterbeach development to this terminus might also be considered to effectively extend the benefits of the service further into the corridor.

Overall, therefore, CAM has the potential to strongly serve the Ely to Cambridge corridor, both for local corridor-generated trips and for intercepting longer distance trips from outside the corridor. In time, this intercept function could also gradually be replaced with demand-responsive mobility services which bring users to a CAM stop from their point-of-origin without need to use private transport. In the meantime, however, using CAM for P&R purposes would ensure that not all trips to Cambridge which start by car would arrive by that mode.

6.2 Study recommendations

Based on the above study evidence, analysis and conclusions, we present a number of recommendations. These fall into two categories:

1. Development-independent recommendations
2. Development-dependent recommendations

These are presented in turn below.

6.2.1 Development-independent recommendations

The following table presents study recommendations for P&R on the Ely to Cambridge corridor which do not depend on the delivery or otherwise of development north of Waterbeach.

Table 12: Study recommendations independent of future corridor development

Ref	Recommendation	Application		
		Short-term	Medium-term	Longer-term
I1	Retain P&R facility within A10 corridor	Retain existing Milton P&R facility	Consider relative pros and cons of moving facility to a location on the A1309 to access greater intercept market	Investigate potential to phase out need for P&R by introduction of demand responsive mobility service connections to appropriate final-mode options
I2	Improve final-mode segregation between P&R site and city centre	Implement and enforce bus priority measures on Milton Road	For Milton site, investigate options for bus to avoid congestion at Milton Interchange	Investigate potential for CAM to replace bus as final-mode from P&R site to city centre
I3	Manage usage of private non-residential (PNR) parking within Cambridge	Investigate options for demand management of city's PNR parking	Implement policy if viable and effective	Monitor and evaluate policy

Source: Mott MacDonald

6.2.2 Development-dependent recommendations

The following table presents study recommendations for public transport on the Ely to Cambridge corridor which are contingent on the delivery of development north of Waterbeach.

Table 13: Study recommendations dependent on future corridor development

Ref	Recommendation	Application		
		Short-term	Medium-term	Longer-term
D1	Implement new segregated non-rail PT mode between development and Milton/city	Establish best option, whether it be CAM or a bus-based surface route	Implement scheme, together with P&R interchange within development if future A10 conditions justify	Gradually phase out P&R function as demand responsive mobility and appropriate final-mode options come forward
D2	Enhance and relocate Waterbeach rail station to serve both existing village and new development	Establish feasibility, viability and effectiveness of the proposal	Implement scheme if effective, together with P&R parking facility to allow interchange from car	Gradually phase out P&R function as demand responsive mobility and appropriate final-mode options come forward

Source: Mott MacDonald



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD MEETING	AGENDA ITEM No: 4.4
DATE OF MEETING: 27 MARCH 2019	PUBLIC REPORT

BUS REFORM TASK FORCE – GOVERNANCE AND SUBSIDIES

1.0 PURPOSE

- 1.1. The purpose of the report is for the Board to approve the governance arrangements of the Bus Reform Group/Task Force and approve the work required to design and implement a system for the evaluation and award bus subsidies.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor James Palmer
Lead Officer:	Interim Transport Director Chris Twigg
Forward Plan Ref: 2019/020	Key Decision: Yes
<p>The Combined Authority Board is recommended to:</p> <ul style="list-style-type: none">a) Approve the governance arrangements for the Bus Reform Task Force including proposals for member engagement;b) Approve the work required to design and implement a system for the evaluation and award of bus subsidiesc) Approval to draw-down up to £400k, of the £1m allocated within the 2019/20 budget, to commence the work of the Bus Reform task force including preparing the brief, bus subsidy assessment framework and procuring external consultancy support for the business case.d) Delegate authority to the Transport Committee to spend funding within the allocated £1M budget upon	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

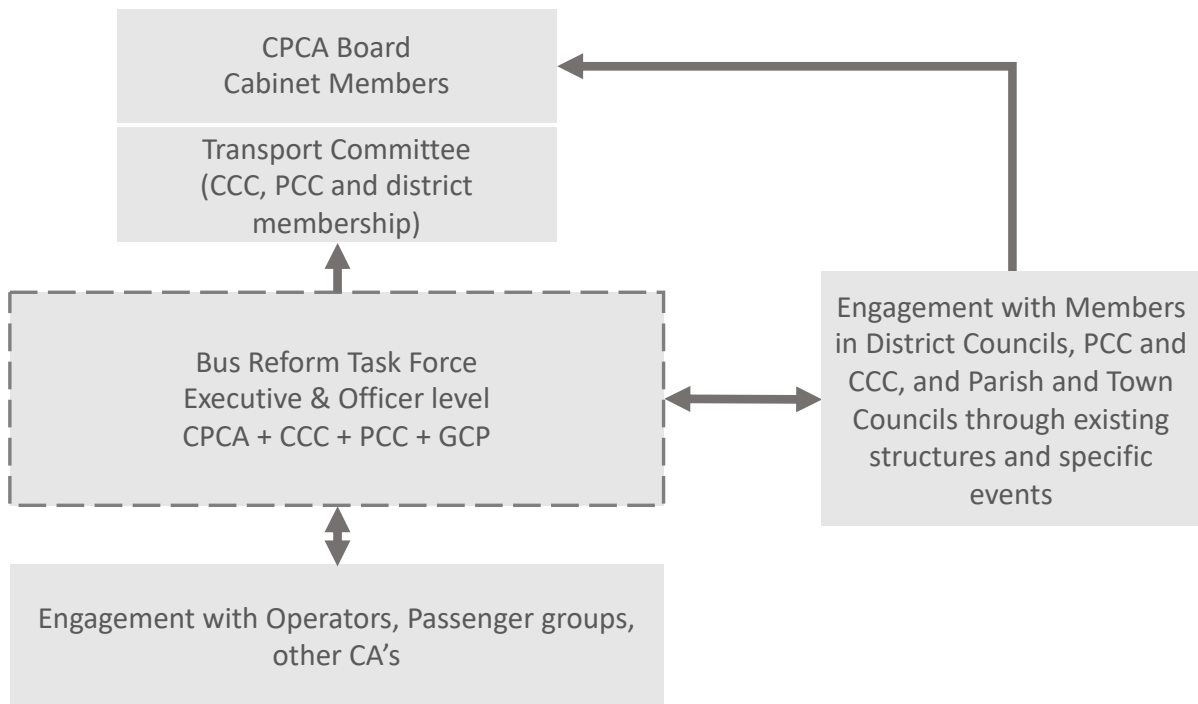
recommendation from the Bus Reform Task Group	
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2.0 BACKGROUND

- 2.1. As part of the Devolution agreement, Transport Authority powers were transferred to the Cambridgeshire and Peterborough Combined Authority (CPCA) from Cambridgeshire County Council and Peterborough City Council. Such powers include responsibility for passenger transport which, in the context of this paper, relate to bus services.
- 2.2. In November 2017, The Cambridgeshire and Peterborough Combined Authority commissioned a Strategic Bus Review intended to undertake a high-level study of the bus network in the area, considering that some commercial services were withdrawn.
- 2.3. In January 2019 the Board took note of the recommendations of the Strategic Bus Review and instructed the Bus Reform Group to respond to the Strategic Bus Review by developing an implementation strategy. The recommendations in this paper will build up on the previous decision of the board to introduce an integrated approach to public transport in the area.

3. BUS REFORM TASK FORCE GOVERNANCE STRUCTURE

- 3.1. The figure below sets out the proposed governance for the bus reform task force; it is founded upon the following principles:
 - i. That the Transport Committee provides Combined Authority Member oversight of the bus reform programme
 - ii. That the task force is formed of officers from the Combined Authority, Cambridgeshire County Council (CCC), Peterborough City Council (PCC) and the Greater Cambridge Partnership (GCP)
 - iii. That engagement with members in these organisations and the District councils is conducted through existing structures and specific events.



3.2. A member and public engagement programme will be prepared for consideration by Transport Committee on 3rd April 2019.

4. PROPOSED BUS SERVICE ASSESSMENT FRAMEWORK

4.1. Current spend on local bus services exceeds the available budget and a mechanism is required to bring this spend back within the funding available.

4.2. Initial work has been undertaken by the Combined Authority and Cambridge to design a suitable assessment framework that would enable the Combined Authority to objectively assess which bus routes should be subsidised

4.3. This initial work has identified the potential for a five stage approach as set out below:

- Stage 1: Is there market failure? (i.e. no alternative commercial service available)
- Stage 2: Does the available transport for the area affected meet the Service Intervention Point (SIP) benchmark? (based on population size and standard service levels)
- Stage 3: Does the service offer value for money? (using a simple cost per passenger cut off point)
- Stage 4: What is the impact on current transport users? (community impact assessment using deprivation and car ownership data)
- Stage 5: Conclusion

- 4.4. The Bus Reform Task Force will build upon this initial work and prepare detailed proposals for the bus service assessment framework for consideration and approval by the Board in Autumn 2019. Following that approval, the Combined Authority will use the assessment framework to determine which routes to fund for financial year 2020/201 and beyond.
- 4.5. The review of all services, along with establishing potential Enhanced Partnerships with operators, could enable the services funded to be adjusted and provided within the existing budget.

5. FINANCIAL IMPLICATIONS

- 5.1. The work as set-out in this report will be funded from the £1m allocated in 2019/20 within the Medium Term Financial Plan (MTFP) as approved at the January meeting of the CA Board.

6. LEGAL IMPLICATIONS

- 6.1. The Combined Authority is the local transport authority by virtue of the Cambridgeshire and Peterborough Combined Authority Order 2017. It is in this capacity as the local transport authority that it has the power to conduct this review.
- 6.2. The Bus Reform Task force will be tasked with reporting back to the Transport Committee and ultimately to the Board later this year. The five stage approach described above will lead to decisions made by the CA Board that will need to be compliant with public law principles. The Task Force will need to ensure that they carry out their review fairly and rationally and can be seen to have undertaken the review for proper purposes.
- 6.3.1 Section 63 of the Transport Act 1985 places certain duties on Transport Authorities when they consider service provision in their areas. They should seek to secure the provision of public passenger transport services that they consider appropriate to meet public requirements. The Task force will review the services across the CA area in line with the stages outlined above. This process will enable the transport authority to identify routes that may attract a subsidy enabling the Combined Authority to identify and support certain local passenger services.

7. SIGNIFICANT IMPLICATIONS

- 7.1. None

8. APPENDICES

- 8.1 None

<u>Source Documents</u>	<u>Location</u>
<p>List background papers:</p> <ol style="list-style-type: none"> 1. CA Board Report November 2017 2. CA Board Report January 2019 	<p>List location of background papers</p> <ol style="list-style-type: none"> 1. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Agenda-29th-November-2017.pdf 2. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/agenda-document-pack-30.1.19.pdf



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY	AGENDA ITEM No: 4.5
27 MARCH 2019	PUBLIC REPORT

CAMBRIDGE SOUTH STATION – INTERIM SOLUTION STUDY

1.0 PURPOSE

- 1.1. This report requests to release funds that have been identified for the use of the Cambridge South Station (Interim) project in the 2019/20 budget, in order to appoint consultants to provide to the Combined Authority a report which details the feasibility of implementing an interim station on an accelerated timescales, and the likely capital and revenue costs of doing so.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor James Palmer, Portfolio Lead for Transport
Lead Officer:	Chris Twigg, Interim Director of Transport
Forward Plan Ref: N/A	Key Decision: No
<p>The Combined Authority Board is recommended to:</p> <p>(a) Release the £100k allocated in the 2019/20 budget under the <i>Cambridge South Station – Interim Concept</i>.</p> <p>(b) Delegate authority to the Chief Executive to appoint an external consultant to deliver a Cambridge South Station – Interim Station Study following the conclusion of the procurement process.</p>	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

2.0 BACKGROUND

- 2.1. The permanent Cambridge South Station project will be situated adjacent to the Cambridge Biomedical Campus (CBC), an internationally significant health and life sciences cluster expected to accommodate 27,000 jobs by 2031. The development of the CBC is closely aligned with HM Government's Industrial Strategy and the importance of the area is highlighted within the Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report. This project is being led by Network Rail, with the Combined Authority one of four funding bodies for the current phase of works (Outline Business Case).
- 2.2. The permanent station is currently not expected to deliver a functioning station until 2025. As a result, the Combined Authority wishes to investigate the opportunity to develop an interim station offering that will provide functional services in an earlier time frame.
- 2.3. This report requests to release funds that have been identified for the use of the Cambridge South Station (Interim) project in the 2019/20 budget, in order to appoint consultants to provide to the Combined Authority a report which details the feasibility of implementing an interim station on an accelerated timescales, and the likely capital and revenue costs of doing so.

Alternative Options Considered

- 2.4. The only alternative option to be considered is the *Do Nothing* option. This would mean that the Combined Authority accepts the current timescales for the Cambridge South Station (permanent) solution and does not seek to accelerate this delivery.

3.0 FINANCIAL IMPLICATIONS

- 3.1. The cost to the Combined Authority of the work is estimated to be circa £90,000. The project will expect to break the work into two phases of work with a gateway following the first phase. The expected cost of the first phase is circa £45,000. If the gateway point is not successful, the project will report back to board.
- 3.2. A budget for this work has been identified in the 2019/20 Combined Authority's Revenue Budget under *Cambridge South – Interim Concept*. The budget allocated was £100,000.
- 3.3. This expenditure will result in a detailed piece of work which provides the authority with the expected costs of progressing an interim station near the Cambridge Biomedical Campus. It is anticipated that this work will be undertaken in the following stages. Firstly an initial investigation of timetabling implications with, as a follow on, the option to expand the study to a further investigation around land usage and potential integration with the permanent scheme.
- 3.4. Committing to undertaking the initial investigation will not commit the Combined Authority to finance the wider interim station project; however the Combined

Authority is the lead organisation for the interim station project and its progress would be dependent upon continued funding from the Combined Authority. The results of this study, if they prove positive, will be brought forward to the Combined Authority Board in order to progress.

4.0 LEGAL IMPLICATIONS

4.1. By virtue of the devolution of powers under the Cambridgeshire and Peterborough Combined Authority Order 2017, the Combined Authority is the local transport authority for the strategic road network and for major transport corridors like the A14. It is in this capacity as local transport authority that it has the power to formulate policy to seek improvements to traffic provision and encourage and plan for alternative transport modes.

4.2. The proposal to construct a Cambridge South Station has been identified as a priority project for the Combined Authority in the medium-term financial plan public January 2019. This location is central to the development of the Cambridge Biomedical Campus which has seen considerable recent growth with jobs and opportunities with the inflow of major renowned medical and research facilities.

4.3. The advice received so far confirms that provision of a new station will take several years to complete. However, it is possible that an interim solution can be provided in a shorter timescale. This would serve the local area in the short term. A budget has been identified to fund studies that will identify the consenting process, the interrelationship of the stations' implementation works with the operational railway and how the early works can be applied to a more permanent solution. The study will also identify land take required, the powers required to construct and suggest a shorter timescale to provide a station at this location.

5.0 SIGNIFICANT IMPLICATIONS

5.1. No significant implications for ICT, data ownership or human resources have been identified for this project. It is expected that the resource required to manage the appointed consultants would be absorbed into the capacity of the Transport team.

6.0 APPENDICES

6.1. Appendix 1 – *Cambridge South Station – Interim Concept* Project Inception Document

<u>Source Documents</u>	<u>Location</u>
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<p>2019/20 Budget and Medium Term Financial Plan 2019-2023 (Board Report, January 2019)</p>	<p>http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/agenda-document-pack-30.1.19.pdf</p>
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APPENDIX 1

CAMBRIDGE SOUTH STATION (INTERIM) STUDY – INITIAL BUSINESS CASE

1. One Page Summary

Project outcome:	This project will undertake a study that will investigate the opportunity to develop an interim station offering that will provide functional services in an timeframe that accelerates the current expected delivery date of the Cambridge South Station (permanent) project (currently expected to be 2025), and the capital and revenue implications of doing so.
Project outputs	The core deliverable from the product will be a report which details the feasibility of delivering an interim station and the likely infrastructure and revenue cost of doing so.
Strategic fit	Cambridge South Station is one of the Combined Authority's key priorities.
Total Project Value (£K): Total Funding from CPCA: Total Scheme Value:	£100,000 £100,000 The total scheme value will be understood through the completion of this work.
Source of CPCA funding:	Funding has been identified on the MTFP as a revenue budget for 2019/20 as <i>Cambridge South Station – Interim Scheme</i> .
Procurement route:	The procurement route will be confirmed following advice from the procurement officer.
Project programme	The project programme is currently TBC.
Exit strategy	Following the completion of the study, the Combined Authority will need to make a decision as to whether it wishes to continue with an interim scheme for Cambridge South Station.
Risk Register	<p>Political – The project has significant political enthusiasm and members have publicly expressed their commitment to pursuing an interim station.</p> <p>Technical – There is a risk that, following the completion of the technical work, it is identified that it is not feasible to implement an interim station. We have sought to mitigate this risk by ensuring that the study quantifies that changes that would need to be made in order to enable the project to move forward.</p> <p>Programme – Project risks remain in relation to slippage of the programme for the study. This will be addressed through the project management controls of the project.</p>
Evaluation method	The project will be evaluating the soundness of the case to move forward with the corridor project. Given the stage of the project, a further evaluation is not appropriate.
CPCA Director:	Chris Twigg, Interim Director of Transport
Project Manager(s):	Katie Randall, Transport Programme Manager
Other staff and resources:	Engagement will be required with the Cambridge South Station permanent team; it is proposed that reporting on the outcomes of the study is presented

	through the existing permanent team project structure.
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2. Project Outline

2.1 What is the project trying to achieve?

The project will identify the opportunity (if any) to implement an interim station ahead of the establishment of the Cambridge South Station (permanent) project.

2.2 Project description

The project seeks to undertake a study which will assess the opportunity to implement an interim station ahead of the Cambridge South Station (permanent) project's current timelines.

In order to do so, the delivery team will produce a report which assesses the opportunity for acceleration on three key areas of rail project delivery:

1. Timetabling
2. Assessment of land and usage
3. Planning & integration with the long-term rail scheme.

The review of timetabling is the most important factor to consider in relation to the study. A gateway will be implemented which assesses the results of the timetabling; and a decision will be made as to whether to progress with the assessment of land and usage and the planning & integration with the long-term rail scheme.

2.3 Strategic fit

The relevant Mayor's Interim Transport Strategy objectives are outlined below:

- Travel choice including transforming public transport, optimising the rail network and designing integrated walking and cycling solutions – providing residents and businesses with a public transport system and new pedestrian and cycle-friendly infrastructure and facilities that are the automatic choice for residents and businesses.
- Creating and upgrading our major road network – to cater for longer distance car and freight journeys; and providing vital connectivity with the strategic roads network and key origins and destinations outside of our region.
- Creating a network fit for the future – by adopting a longer-term perspective on transport, we will build a network that meets the long-term needs of businesses and residents and ensure that shorter term interventions support these future aspirations.
- Expanding access – connecting people with jobs and services that will enable businesses to grow that addresses social exclusion and supports the development of new housing and employment sites.

In a 'Do Nothing' scenario, the additional transport link between Cambridge and the Fenland district does not exist, and therefore does not provide a transport solution to redistributing economic opportunity across the Combined Authority area.

This project has significant links to the Cambridge South Station (Permanent) project, which is being led by Network Rail and the Department for Transport. That project will be

situated adjacent to the Cambridge Biomedical Campus, an internationally significant health and life sciences cluster expected to accommodate 27,000 jobs by 2031. The development of the CBC is closely aligned with HM Government's Industrial Strategy and the importance of the area is highlighted within the Cambridgeshire and Peterborough Independent Economic Review (CPIER) Final Report. This project is being led by Network Rail, with the Combined Authority one of four funding bodies for the current phase of works (Outline Business Case). Details on Cambridge South Station (Permanent) can be found in MDN12-2018 and the *TRANS017 Cambridge South Station* folder.

The project is currently not expected to deliver a functioning station until 2025. As a result, the Combined Authority wishes to investigate the opportunity to develop an interim station offering that will provide functional services in an earlier time frame.

2.4 Project outcomes and project deliverables (outputs)

The project will provide a recommendation of the forward pathway for the Cambridge South Station (Interim) project, and allow the Combined Authority to make an informed decision on the project.

In order to do so, the project will provide a report which, at minimum, details the investigation into the timetabling in the area and the resulting capital and revenue cost implications in order to create feasible stopping times that would be acceptable to the local population in terms of servicing.

If the study continues through to the second phase (an analysis of land and usage planning and integration with the permanent project), outputs on these elements would also be expected.

2.5 Funding

Total project value (£k): *Estimated* £90,000

The project will be delivered in two phases: the first will assess the timetabling allowances and what amendments will need to be made in order to facilitate meaningful stopping at an interim station. Should the results of that study prove acceptable to the Combined Authority, the second stage will be triggered, up to a maximum expected amount of £90,000 above.

Funding requested from CPCA: £100,000

Total scheme funding: This project is designed to explore the opportunities to implement an interim station; the total cost of the scheme is unlikely to be understood until after the project concludes.

Source of CPCA funding: Revenue from the 2019/2020 budget.

Existing budget entry on the Medium Term Financial Plan: Yes

2.6 Procurement route and contracted position

Procurement route: The procurement route will be determined following discussion with the procurement officer.

2.7 Project programme

Programme: The detailed programme for the project needs to be agreed with the external consultant team prior to appointment. It is anticipated that the works will be circa 8 – 12 weeks, depending upon the gateway process between the first and second phases. Internal governance for the project is not taken into account for the above programme estimate.

2.8 Exit Strategy

Following the completion of the Interim Station Study, the Combined Authority will be required to make a decision whether or not to pursue acceleration or implementation of the interim station based upon the expected capital and revenue costs. As the Combined Authority is the lead project promoter for this scheme, if it decides not to move forward at this point, the project will not go any further.

2.9 Risks and Special Requirements

Key risks which will be detailed within the risk register include:

Political – The project has significant political enthusiasm and members have publicly expressed their commitment to pursuing an interim station.

Technical – There is a risk that, following the completion of the technical work, it is identified that it is not feasible to implement an interim station. We have sought to mitigate this risk by ensuring that the study quantifies that changes that would need to be made in order to enable the project to move forward.

Programme – Project risks remain in relation to slippage of the programme for the study. This will be addressed through the project management controls of the project.



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2.10 Evaluation method

Treasury Five-Case compliant evaluation will be utilised. Evaluation methodology for the whole project will be considered during later phases of the project, following the decision whether to proceed to the next stage.

2.11 Completion acceptance criteria and method

There will be two key phases to the project.

The first phase will assess the timetabling opportunities within the project, to understand the infrastructure that would be required to offer an interim service as well as the alterations to timetables that may also be required to do the same. This phase is expected to conclude by offering an estimated cost for the infrastructure and timetabling changes. This will allow the Combined Authority to decide whether it should continue through to the second phase of the study, through an appropriate gateway process.

The second phase will consider the planning and land usage factors as well as the integration with the permanent station scheme. It will only be undertaken if the work in the first phase indicates that it is worthwhile to move to the second phase.

3. Project Governance and Resources

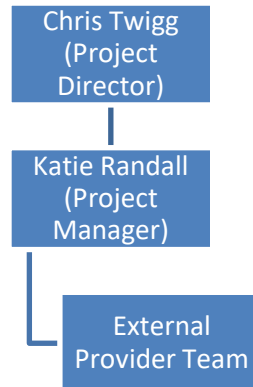
3.1 Project staff

Project Director: Chris Twigg, Interim Director of Transport

Project Manager: Katie Randall, Transport Programme Manager

Project Manager, External: To be confirmed following procurement.

Project Team:



The CPCA Project Manager and Project Director will collectively act as the project sponsor for the external project team. The external project team will be responsible for managing the programme and deliverables on time and to fixed fee.

3.2 Project governance

It is expected that there will be a project board which convenes on a regular basis in order to track the progress of the work, particularly during the first phase. This work will then be quality assured by Network Rail, and finally recommended for consideration to the Combined Authority.

3.3 Other resources

There is a requirement for remit assurance from the Department for Transport and quality assurance from Network Rail. These have been included in the estimated project costs.

There are no anticipated ongoing support or training needs.

There is no anticipated IT implications.

There are no anticipated additional office facilities required.

4. Stakeholder and Risk Management

4.1 Stakeholder Management

Key stakeholders include:

- Network Rail: As the current delivery partner for the Cambridge South Station permanent scheme, and the key rail interface for the interim project, Network Rail will need to be fully engaged and bought in to any interim solution that is proposed. To that end, we are expecting that Network Rail will undertake quality assurance and review of the technical work completed by the external providers in order to ensure appropriate buy in.
- Department for Transport (DfT): The DfT is the lead organisation for the Cambridge South Station permanent scheme, and their buy in will need to be secured in order to ensure any potential proposals around interim schemes are supported in the future. As such, they will be involved in the interim station project as it progresses.

- Greater Cambridge Partnership: The GCP is one of the funding partners for the permanent scheme, and will be kept abreast of any conclusions from the funding study.
- AstraZeneca: AstraZeneca is another funding partner for the permanent scheme, and will also be kept abreast of any conclusions from the funding study.

4.2 Risk Management

A project risk register will be maintained for the interim station project, with mitigations established as appropriate. One of the key risks to the project will be in relation to programme slippage, as there is a limited window to interface with the permanent station solution.

5. Project Reviews and Assurance

5.1 Project Delivery Assurance

At the commencement of the project, the Project Director and Programme Manager will agree milestones with the appointed providers. These will be regularly reviewed and progress against milestones measured.

Highlight reports will be completed on a monthly basis as per corporate guidelines.

5.2 Audit

All projects should assume that they will be audited, or part of a wider CPCA audit, and keep clear records regarding decision-making and financials.

6. Deliverables

Deliverables will be distributed to appropriate audiences and distilled into a report for consideration by the Combined Authority.



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD MEETING	AGENDA ITEM No: 4.6
DATE OF MEETING: 27 March 2019	PUBLIC REPORT

HUNTINGDON THIRD RIVER CROSSING

1.0 PURPOSE

- 1.1. The purpose of the report is for the Board to approve the release of funding for the Huntingdon Third River Crossing and delegate authority to enter into arrangements to procure and manage the study.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor James Palmer
Lead Officer:	Interim Transport Director Chris Twigg
Forward Plan Ref: 2019/028	Key Decision: Yes
The Combined Authority Board is recommended to: a) Agree to release £200k of funding from the 2019/20 and carry forward £198k from 2018/19 for the procurement and development of the Huntingdon Third River Crossing feasibility study b) Delegate authority to the Chief Executive, in consultation with the Chair of the Transport and Infrastructure Committee, to enter into the contractual relationships following the procurement of the external consultants required to undertake the study.	Voting arrangements Simple majority of all Members

2.0 BACKGROUND

- 2.1. At the January meeting of the Combined Authority Board, the CA resolved that the Huntingdon Third River Crossing would be a priority project within the Medium-Term Financial Plan and Business Plan and allocated £200k of revenue funding for 2019/20. The existing Crossings are located on the route of the A14 and an historic narrow stone bridge to the south of Huntingdon.
- 2.2. The Cambridgeshire and Peterborough Combined Authority wishes to build on existing study work on the Alconbury-Huntingdon-Wyton-St Ives corridor, in order to understand how the highway network north of the Great River Ouse can be more effectively connected with the wider strategic road network, and in particular the A14.
- 2.3. A number of studies have been commissioned in previous years to support the development of the emerging Huntingdonshire Local Plan; in addition, associated transport strategy work has acknowledged the Great River Ouse to be a key constraint which impacts strategic development sites in this area. Since those studies further work has been undertaken looking at an upgrade to the A14 another study has looked at extending the M11 and work has looked at improving the A141.
- 2.4. A proposal for additional highway capacity in the form of a new river crossing was first put forward in the consultation draft of the County Council's Long Term Transport Strategy (LTTS). A lot of the earlier modelling work was undertaken to identify interventions for the LTTS which will support Huntingdonshire District Council's Local Plan.
- 2.5. The Combined Authority has recently commissioned several transport studies, some of which directly impact on the study area that is now proposed. It is anticipated that the live study on the extension of the M11 to the A47 will report a direct impact on the transport area. The Combined Authority wishes to commission this new third crossing study so that all parties are able to have a full understanding of any scheme's wider impacts, consider mitigation taking into account previous concerns and so that the local planning authority is better informed plan when taking its planning decisions beyond the 2036 Local Plan in a way that hitherto has not been possible.

3. PURPOSE

- 3.1. The Cambridgeshire and Peterborough Combined Authority wishes to build on existing study work on the Alconbury-Huntingdon-Wyton-St Ives corridor, in order to understand how the highway network north of the Great River Ouse can be more effectively connected with the wider strategic road network, and in particular the A14, to relieve existing congestion and provide additional capacity for future development.

- 3.2. The proposed study will need to provide the decision-makers (CPCA Board) with a robust and comprehensive evidence base to understand if there is a technical case for an investment which could be advanced into a Strategic Outline Business Case stage. The work will need to review the existing evidence, consider and identify any additional information required, and thoroughly review the options to achieve the Combined Authorities strategic objectives in this area.
- 3.3. A number of studies have been commissioned in recent years to support the development of the emerging Huntingdonshire Local Plan; in addition, associated transport strategy work has acknowledged the Great River Ouse to be a key constraint which impacts strategic development sites in this area. A summary of work undertaken to date is included below in the Scheme Background section. As part of the feasibility study, an initial due diligence review and validation of the evidence and assumptions to date will be required to establish a strong technical foundation to the work.
- 3.4. A critical element of this study will involve examining the feasibility, viability, benefits, and impacts of a high standard road link crossing the River Great Ouse that connects the A141 primary route to the north of the river, and the existing A14 trunk road, or a future de-trunked strategic route. The study should comprehensively consider opportunities, constraints and risks that would affect delivery of any future scheme using a fully multi-disciplinary approach. In providing an additional connection across the Great Ouse, it is anticipated that this new link would:
- Provide transport and highway capacity that would be needed to cater for the travel demand of additional economic and housing growth in the core study area of Alconbury-Huntingdon-Wyton-St Ives, as well as providing for additional demand across from neighbouring areas, and providing a platform for Economic and Social growth facilitating improved access to growth areas. The study team will assess any options against development scenarios. These scenarios should be comprehensively assessed to evidence the levels of growth which could be supported by any potential major transport investment
 - Reduce travel demand and alleviate congestion on the existing highway network, and at the river crossings, specifically at the B1044 in Godmanchester, the A1096 south of St Ives and the A1123 in Earith, and at key connections to the trunk road network.
 - Improve connectivity locally and demonstrate alignment with the wider strategic context and ambitions of the Combined Authority.

4. OBJECTIVES

- 4.1. The feasibility study will provide a robust understanding of current and future travel demand in the area (development scenarios). It will provide an understanding of the viability and economic and other benefits of options that might be brought forward. A mixture of disciplines will be required to undertake

the study, including inter alia economic analysis, transport planning, transport modelling, engineering, planning, environmental and ecological assessments.

- 4.2. High level issues, risks, and opportunities associated with each route option considered should be identified. At each stage of assessment, options should be compared with 'do nothing' and 'do minimum' options. The scope of a do-minimum option will need to be agreed, but is likely to include limited improvements to existing highway and public transport infrastructure in the study area. It should also build upon the findings of the Huntingdonshire Strategic Transport Study.
- 4.3. The key aims of this feasibility study work and any recommendations from it are:
- To thoroughly review previous analysis and complete due diligence of completed options and analysis to date.
 - To establish whether an acceptable option, including an additional river crossing can be delivered that facilitates inward investment in the area and provides the potential for additional development (over and above that already planned).
 - To review, add to, and set out the evidence base and narrative supporting any proposal, and clearly articulate in planning and transport terms any case for investment
 - Using a multi-disciplinary approach, identify clearly the constraints, issues, opportunities, and risks in bringing any such proposal forwards, and propose clear mitigation strategies and deliverable solutions where possible,
 - To identify appropriate mitigation measures to address any environmental concerns arising from implementation of a scheme at the study locations.
 - To accelerate delivery of planned, and aspirational employment and housing growth, and to quantify and set out an action plan to achieve this.
 - To quantify and address current congestion and delay, including the impact on journey times and reliability on the strategic and local road networks.
 - Consider fully the other study work in the area being brought forwards by the Combined Authority and the County Council, and identify, assess and recommend any complementary local transport measures or investment that would maximise any transport, planning, economic or social benefits from a new high standard link.
 - Provide a clear understanding of the impacts of introducing a new high standard link in this area, including opportunities to maximise positive impacts, and mitigate negative ones, and a clear set of recommendations to address the brief.
 - Assess the risk/ opportunity/ impact of ongoing programmes of works
 - Provide decision makers with a robust evidence base, to inform future investment decisions.
 - Fully satisfy the Combined Authority's Assurance Framework and undertake the study to WebTAG requirements.

5. FINANCIAL IMPLICATIONS

- 5.1. This study will be funded from the CA's revenue budget; made up of £198k of carry forward from 2018/19 and the £200k allocated for 2019/2020.

6. LEGAL IMPLICATIONS (TO BE COMPLETED)

- 6.1 By virtue of the devolution of powers under the Cambridgeshire and Peterborough Combined Authority Order 2017, the Combined Authority is the local transport authority for the strategic road network and for major transport corridors like the A14. It is in this capacity as the local transport authority that it has the power to formulate local transport plan policy to seek improvements to traffic management and to plan for interventions and enhancements of the highway network.
- 6.2 The preparation of studies to assess the need for a further crossing of the River Ouse at Huntingdon may form the basis of a future strategic outline business case. A supplier will be selected to complete this work. The commissioning of the work could involve a direct procurement with a direct contractual relationship with the supplier or the engagement of a partner to carry out the procurement and then project manage the delivery of the study on the CA's behalf.

7. SIGNIFICANT IMPLICATIONS

- 7.1. There are no additional significant implications for this report.

8. APPENDICES

- 8.1 None

<u>Source Documents</u>	<u>Location</u>
List background papers: 1. CA Board Report September 2017 2. CA Board Report October 2017 3. CA Board Report March 2018 4. CA Board Report May 2018 5. CA Board Report July 2018 6. CCC LTTS	List location of background papers 1. http://cambridgeshirepeterborough-ca.gov.uk/meetings/combined-authority-board-27-september-2017/ 2. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Agenda-Document.pdf 3. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/180328-Agenda-Document-Pack2.pdf

<p>7. CA Board Report January 2019 (Revenue Budget 2019/20)</p>	<p>4. http://cambridgeshirepeterborough-ca.gov.uk/meetings/cambridgeshire-and-peterborough-combined-authority-board-11/</p> <p>5. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/untitled.pdf</p> <p>6. https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/long-term-transport-strategy/</p> <p>7. http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/agenda-document-pack-30.1.19.pdf</p>
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**CAMBRIDGESHIRE
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COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.7
27 MARCH 2019	PUBLIC REPORT

A505 STRATEGIC STUDY

1.0 PURPOSE

- 1.1. This report recommends an investment decision to proceed with the A505 strategic study identified in the Combined Authority Business Plan, to evaluate the current transportation challenges and opportunities between Royston and Granta Park to include the A505 and side road challenges, including the interaction with the M11, A11, A1301 and A1307, and how these interact with the proposed CAM route serving this area.
- 1.2. In response to the significant levels of housing and employment growth identified in the area broadly defined by the A505 corridor, it is essential to fully understand the transport evidence base in this area and identify opportunities for investment to support and deliver this growth by delivering additional transport capacity, and relieving congestion.
- 1.3. Ultimately, the question the study will seek to answer is: what, if any, infrastructure interventions are required in addition to the CAM to enable the significant levels of housing and employment growth in the area? This study will therefore be undertaken concurrently with the work by the GCP on this CAM corridor.

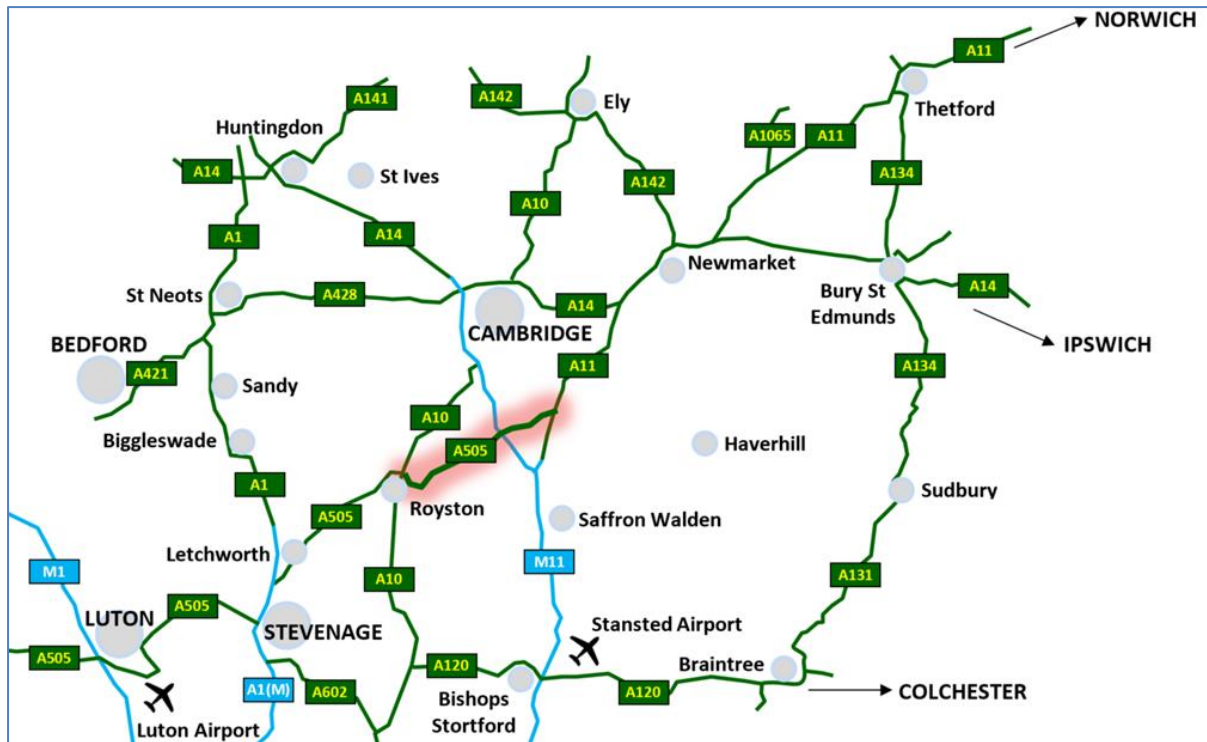
<u>DECISION REQUIRED</u>	
Lead Member:	James Palmer, Mayor
Lead Officer:	Kim Sawyer, Chief Executive
Forward Plan Ref: 2019/029	Key Decision: Yes
<p>The Combined Authority Board is recommended to:</p> <ol style="list-style-type: none"> 1. Endorse the commissioning of a multi-modal strategic transport study for the A505 corridor; 	<p>Voting arrangements</p> <p>Two thirds of the constituent council members must</p>

2. Release to CCC the £1m allocation within 2018/19 capital budget; 3. Agree the project inception and instruct officers to commence the procurement by competitive tender of this work; 4. Following the completion of the procurement, delegate authority for contract award to the Chief Executive Officer, in consultation with the Chair of the Transport and Infrastructure Committee.	vote in favour to include Cambridgeshire County Council and Peterborough city Council
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2.0 BACKGROUND

- 2.1. The Local Plans for Cambridge and South Cambridgeshire identify the need for 33,500 homes and 44,000 new jobs by 2031. This need derives from the expectation that the buoyant economy of the area will bring continued economic growth. Significant growth, and development, is planned at the science parks and research campuses that make up the life science cluster to the south east of Cambridge. These include Cambridge Biomedical Campus/Addenbrooke's Hospital, Babraham Research Campus, Granta Park, Wellcome Genome Campus and, outside the area in Uttlesford district, at Chesterford Research Park, and collectively form an internationally significant research and economic cluster.
- 2.2. Major housing and employment growth is also planned around Haverhill, and options for major growth in the Great Chesterford area are under consideration as part of the emerging Uttlesford Local Plan. Developers are also proposing other large sites for consideration close to the A505/A1301.
- 2.3. The area is also at a key location on the strategic highway network, and connects the M11, M1, A11, and has a number of pinch-point locations which are already experiencing congestion for both strategic and more local trips.

Map 1 A505 Royston to Granta Park regional context (Primary Route Network shown)



- 2.4. In addition to the committed Local Plan growth, the Combined Authority aims to double GVA in the area over the next 25 years. This will require action by both the private and public sector. Many of the large employers such as the Genome Campus, Granta Park and the Babraham Research Campus already have plans for significant expansion, providing considerable numbers of highly skilled, high value jobs in the area and a considerable boost to both the local and national economy. The continued and future success of this science cluster is dependent on reliable and effective transport connections.
- 2.5. In addition to the employment growth, there are strategic housing sites being built out in Cambridge's Southern Fringe, and proposals for a new garden community in nearby Uttlesford are also being developed.
- 2.6. The CPIER recommends 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.

3.0 STRATEGIC TRANSPORT STUDY

- 3.1. To support proposed and aspirational growth, provide additional transport capacity and relieve existing highway congestion a multi-modal study is required to assemble and review the evidence base, develop and test future year growth scenarios, and robustly identify appropriate and proportionate transport investments.
- 3.2. Key output will include a strategy to deliver the transport interventions required to unlock and respond to growth in the corridor, which will be supported by all stakeholders, and provide a compelling strategic case for

investment, evidence and analysis in accordance with the Combined Authority's Assurance Framework.

- 3.3. In a similar way to the Ely to Cambridge Study, it is expected that this strategic study will identify potential schemes which will then need to be further developed to enter into funding programmes.
- 3.4. Officers have reviewed the business case for the proposed study using a DfT appraisal tool, which is compliant with the requirements of the Treasury's Green Book. This review indicates that the study has a good strategic fit with the Combined Authority's objectives and scores well on economic criteria. This evidence therefore supports the decision to invest in the study.

4.0 FUNDING

- 4.1. The Combined Authority already has £1m identified for this study in the 2018-19 capital budget, and a further £0.5m in the Medium-Term Financial Plan and Business Plan.
- 4.2. It is proposed to authorise the 2018/19 budget allocation through this Board paper, with the majority of the expenditure expected to be required for consultancy to carry out the work. It is proposed to allocate some of the funding allocation for risk and contingency given the nature of the work and recognising that there may be some programme efficiencies in being able to instruct additional detailed work into potential 'quick win' elements, should these be identified.
- 4.3. This is a significant study which will take time to deliver, but there will be some efficiencies from using the transport model which has already been completed.

6.0 SIGNIFICANT IMPLICATIONS

8.1. Resource Implications

- The work will be delivered by consultancy, to be procured and managed by Cambridgeshire County Council, with the Combined Authority providing the Sponsor and leadership roles.

8.2. Procurement/Contractual Implications

- It is proposed to use the ESPO Framework to carry out a competitive tender.

8.3. Statutory, Legal and Risk Implications

- The combined authority is the local transport authority by virtue of the Cambridgeshire and Peterborough Combined Authority Order 2017. It is

responsible for transport policy for the key road network and major routes across its area.

- The A505 connects key transport infrastructure with potential employment and housing growth areas.
- The proposed study seeks to explore multi modal solutions to increase capacity ease congestion along this route and to encourage an understanding of the potential interventions required to unlock future growth and development sites along the corridor. It will complement work currently being undertaken by the Greater Cambridge Partnership.
- The study has been identified in the CAs Medium-Term Financial plan and a budget has been identified for the work. The study will be procured by competitive tender.
- A risk register will be developed during project inception and maintained throughout the project.
- A financial contingency will be allocated to manage changes and issues during the project.
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8.4. Engagement and Communications Implications

- None

8.5. Localism and Local Member Involvement

- A project board will be established, and stakeholder and political representation will be fully considered during project inception.

<u>Source Documents</u>	<u>Location</u>
Combined Authority Business Plan	http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/CPCA-Business-Plan-2019-20-dps.pdf



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.8
27 MARCH 2019	PUBLIC REPORT

ADULT EDUCATION BUDGET DEVOLUTION: DELEGATION OF GRANT PROVISION FOR 2019/20 ACADEMIC YEAR

1.0 PURPOSE

- 1.1. This report seeks delegated authority for the Skills Committee Chair and Director of Business & Skills to award the Adult Education Budget (AEB) Grant allocation to the 12 local colleges and Local Authority Providers in April 2019.

<u>DECISION REQUIRED</u>	
Lead Member:	Councillor John Holdich – Portfolio Holder for Skills and Chairman of Skills Committee
Lead Officer:	John T Hill, Director of Business and Skills
Forward Plan Ref: 2019/024	Key Decision: Yes
<p>It is recommended that the Board:</p> <p>a) Provide delegated authority to the Chair of the Skills Committee and Director of Business & Skills to award Grants to the 12 Grant Funded Providers of AEB upon successful completion of Delivery Plans including a variance of up to a 25% on the condition that a new learning aim or approach is demonstrated in line with the Cambridgeshire and Peterborough Combined Authority (CPCA) Strategic Priorities.</p>	<p>Voting arrangements</p> <p>Simple majority of all members</p>

2.0 BACKGROUND

- 2.1 In November 2018, the CPCA recommended that the Board authorises Officers to enter a negotiated grant commissioning process to develop and work with the indigenous and contiguous Cambridgeshire and Peterborough Colleges and Local Authority providers currently grant funded by the Education Skills Funding Agency (ESFA).
- 2.2 In December 2018, the ESFA released the Funding Calculation to all providers and informed Mayoral Combined Authorities of the split in funding that the local providers would receive for learners in area, and out of area.
- 2.3 In January 2019 an analysis of the funding was undertaken to inform officers of the allocated resource that the ESFA would have awarded to our providers if devolution had not occurred; this included the Community Learning funding to each individual provider.

3.0 THE FUNDING CALCULATION

- 3.1 Table one below, provides the overall indicative allocation to the 12 Grant funded Providers that support Cambridgeshire & Peterborough learners. In receiving the devolved AEB funding, the CPCA agreed to enter into a Memorandum of Understanding with the Department for Education (DfE) that would not destabilise the further education institutions within the CPCA area. The ESFA have traditionally operated on the basis of allocating approximately the same level of resource that the Provider received the year before. Officers have provided an indicative allocation to the Providers based on the calculation as if the area had not had devolved AEB funding.

Table 1

Provider Name	2019/2020 illustrative CPCA <i><u>potential</u></i> allocation (devolved)
BEDFORD COLLEGE	£191,318
CAMBRIDGE REGIONAL COLLEGE	£2,435,600
CAMBRIDGESHIRE COUNTY COUNCIL	£2,115,455
CENTRAL BEDFORDSHIRE COUNCIL	£47,186
HILLS ROAD SIXTH FORM COLLEGE	£22,701
NEW COLLEGE STAMFORD	£316,398
NORTH HERTFORDSHIRE COLLEGE	£39,717
PETERBOROUGH CITY COUNCIL	£1,251,088
PETERBOROUGH REGIONAL COLLEGE	£1,682,967
RUTLAND COUNTY COUNCIL	£2,186
THE COLLEGE OF WEST ANGLIA	£405,339
WEST SUFFOLK COLLEGE	£108,889
TOTAL	£8,618,844

- 3.2 In early February 2019, officers provided a Delivery Plan template to the local Providers requesting that they (a) inform the CPCA how their future adult learning provision would achieve the strategic aims identified within the Commissioning Strategy, Local Industrial Strategy and Skills Evidence Base; and (b) return the aforementioned Delivery Plan to the CPCA by early March 2019. Clarification interviews are set to be undertaken in mid-March 2019.
- 3.3 It is intended that on completion of the evaluation process, offers of grant provision will be made to the 12 local Grant Providers in April 2019. Officers recommend that a 25% variance on individual contracts is sought to be able to offer grants which respond to this exercise evaluating proposed skills provision growth against strategic priorities.
- 3.4 Due to the pre-election period, and the requirement to ensure that Providers have sufficient time to create the necessary infrastructure to mobilise and provide courses from August 2019, the report seeks for delegated authority to the Skills Committee Chair and Director of Business & Skills to approve the grant offers in April 2019 and provide Grant Agreements. The results of the award of Grants will be report to Board in June 2019.

4.0 FINANCIAL IMPLICATIONS

- 4.1 The CPCA has signed a MoU with the DfE which commits it to not “destabilising” local providers who have historically received grant funding for AEB provision. By following the indicative allocation set out in the report the CPCA would ensure that the grant funded providers have a similar resource level as in prior years and thus fulfil the commitment to maintaining stability.
- 4.2 The amount of the AEB which has been awarded via contracted provision will be known prior to the finalisation of grant allocations. This prevents inadvertent overprovision of courses as the value of grants awarded can be tailored to the remaining funds once the contracted values are known.

5.0 LEGAL IMPLICATIONS

- 5.1. Officers should ensure, by means of a grant agreement, that it is clearly understood that this is a grant which is being given to subsidise the services being offered by providers with the aim being to enable them to continue to develop and improve the quality of services. The Authority will not receive anything in return or control how the services are delivered.
- 5.2. As grants are not subject to procurement regulations, it is important that the grant agreement is drafted to reflect the points made in clause 5.1. above.
- 5.3. To avoid the potential for challenge, there should be transparency when awarding grants and providers need to be fully aware of the criteria they need to satisfy in order to receive an award.

6.0 SIGNIFICANT IMPLICATIONS

- 6.1 The CPCA is required to ensure that the Providers have the necessary time to prepare, plan and market their courses. If the contract were not to be awarded until May or June, it would be detrimental to the ability of local Grant funded Providers to deliver their learning offer. This could potentially result in (a) courses not being subscribed to; and/ or (b) courses not being provided from August 2019 onward.

<u>Source Documents</u>	<u>Location</u>
CPCA Board Minutes July 2018 CPCA Skills Committee Minutes 21st November 2018 CPCA Board Minutes November 2017	The Incubator 2, First Floor, Alconbury Weald Enterprise Campus, Alconbury Weald, Huntingdon, PE28 4WX



CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 4.9
27th MARCH 2019	PUBLIC REPORT

MONITORING AND EVALUATION FRAMEWORK

1.0 PURPOSE

- 1.1. The purpose of the report is to present the 2019 Monitoring & Evaluation Framework for the Combined Authority and to seek board approval for it.
- 1.2. It is a requirement of the Combined Authority's central government funding that a Monitoring & Evaluation Framework is in place. The purpose of the framework will be to support effective decision making and to measure the impact of investment decisions, giving us a stronger evidence base on value for money.

<u>DECISION REQUIRED</u>	
Lead Member:	Mayor James Palmer
Lead Officer:	Paul Raynes, Director of Strategy & Assurance
Forward Plan Ref: N/A	Key Decision: No
<p>The Combined Authority Board is recommended to:</p> <p>(a) Agree the 2019 Monitoring & Evaluation Framework for the Combined Authority.</p> <p>(b) Note the resource implications for effective Monitoring & Evaluation to be delivered alongside the Combined Authority's major projects.</p>	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

2.0 BACKGROUND

- 2.1. As part of a wider commitment to 'assurance' made to central government, a Monitoring and Evaluation Framework was prepared for the Combined Authority prior to inception. Further, more developed versions were submitted during 2017 and 2018. This latest version reflects the updated Combined Authority investment strategy and incorporates (positive) feedback received from central government on the autumn 2018 version.
- 2.2. Monitoring and evaluation (M&E) is a critical component of an effective performance management regime. Monitoring supports the effective tracking of a scheme or series of policy interventions ensuring that intended outputs are being achieved. Evaluation quantifies and assesses outcomes, including how schemes were delivered and whether the investment generated had the intended impact and ultimately delivered value for money.
- 2.3. This strategy ensures local ownership for the commitment to M&E and also provides a robust guide as to how the CPCA aims to carry out its own M&E. It will continue to be shaped by ongoing dialogue with the Department for Business, Energy & Industrial Strategy (BEIS) and other relevant government departments as well as sources of best practice for evaluating schemes to encourage local economic growth.

Commitment

- 2.4. The commitments made in the M&E framework provide reassurance to funding departments and the public on the following points:
 - That the CA will take steps to effectively demonstrate the impact of locally devolved funding and the associated benefits being achieved;
 - That the CA will support external evaluation requirements. Specifically, M&E will be used to independently demonstrate local progress and delivery;
 - That the CA will use M&E to provide an effective feedback loop for the Authority and relevant stakeholders.
 - That the CA will develop an evidence base to support effective M&E work.
- 2.5. The framework sets out the detailed roles and responsibilities needed in order to achieve this commitment. In particular, the roles of the relevant Director within the CA, programme managers and the additional support provided by the County Council's Research Team (part of the wider Cambridgeshire Insight Partnership).

Methodology

- 2.6. The methodology section maintains consistency with HM Treasury guidance, in particular the emphasis is on designing in M&E activity at an early stage of any programme. The choice of evaluation approach should be based on a statement of the policy's underlying theory or *logic model* and stated objectives – how the policy was supposed to have its effect on its various target outcomes. The more complex the underlying logic, the more important it will be to account for other factors which might affect the outcome. Having a clear idea about the questions that need to be addressed and the required type(s) of evaluation at an early stage will help inform the design of the evaluation and the expertise required therefore each funded project will be expected to have an accompanying 'logic model' at the outset.

Application

- 2.7. The M&E framework is aligned to the current business plan for the Combined Authority and outlines a tiered approach towards the project portfolio. The twelve key projects (see section four of the Business Plan 2019-20) will be subject to comprehensive external evaluation and the M&E framework includes a *logic model* for each of these. Other projects will have an M&E approach in proportion to expenditure / resources invested, with less involvement from external bodies.
- 2.8. M&E is being implemented with a standardised approach to project management for the Combined Authority. Project monitoring is in place to measure the delivery of the 'inputs' and (where appropriate) the 'outputs'. The Research Team are also collating baseline measurements, for example an understanding of rail passenger movements against which to measure progress. Input has already been gained from the government-sponsored What Works Centre For Local Economic Growth, including a training session for project managers, to support the Combined Authority in meeting best practice standards.

3.0 FINANCIAL IMPLICATIONS

- 3.1. The cost of M&E activity will need to be met from within the planned expenditure of each project.

4.0 LEGAL IMPLICATIONS

- 4.1. The Monitoring and Evaluation Strategy forms part of the wider assurance framework for the Combined Authority.

5.0 SIGNIFICANT IMPLICATIONS

- 5.1. None not mentioned above.

6.0 APPENDICES

6.1. Appendix 1 – Combined Authority Monitoring & Evaluation Strategy 2019

<u>Source Documents</u>	<u>Location</u>
Combined Authority Business Plan 2019/20	http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/CPCA-Business-Plan-2019-20-dps.pdf



CAMBRIDGESHIRE & PETERBOROUGH
COMBINED AUTHORITY

Cambridgeshire and Peterborough Combined Authority

Devolution Deal Monitoring and Evaluation Framework

March 2019
Version 1.4

Document Details

Title:	Devolution Deal Monitoring and Evaluation Framework
Date Created:	5 th September 2018
Revision Timetable	n/a
Description:	The purpose of the Monitoring & Evaluation Framework is to provide a clear description of all the activities/policies within the Combined Authority and the M&E arrangements for each. For policies that are covered by this framework, logic models are finalised and key monitoring metrics identified.
Produced by:	Michael Soper, Research Team Manager, Cambridgeshire County Council.
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On behalf of:	Cambridgeshire and Peterborough Combined Authority
Geographic Coverage:	Cambridgeshire & Peterborough
Time Period:	2019/20 Update
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Executive Summary

This document confirms Cambridgeshire and Peterborough Combined Authority's (CPCA) commitment to Monitoring & Evaluation and the approach to be taken by the authority. The key points are as follows:

- This framework should be viewed in the context of the publication of the Cambridgeshire & Peterborough Independent Economic Review (CPIER¹). **The CPIER document provides a strategic baseline for the Combined Authority area** for the performance of the economy and progress on key areas such as housing, jobs and the rate of growth.
- A heavy emphasis is placed by the CPCA on a **partnership approach to Monitoring and Evaluation**. The CPCA will work very closely with the shared Cambridgeshire County Council / Peterborough City Council, Business Intelligence Service, as part of the wider CambridgeshireInsight² partnership. The CPCA will fully utilise the national evaluation arrangements for the 'single investment fund' funding stream. The CPCA is also building closer working arrangements with the What Works Centre for Economic Growth and the Office of National Statistics Cities team. Finally the CPIER has been established as a forum for developing effective challenge regarding the nature and the rate of growth (and its measurement) for the area. These arrangements **will collectively support the CPCA in having an effective methodology for M&E**.
- The evaluation schedule table in section three provides an overview of the practical approach to M&E that is being taken in relation to the current CPCA investment decisions.

Projects will be subject to one of three levels of Monitoring & Evaluation (1. Major Independent, 2. Local Independent, and project 3. Self-Evaluation). In addition programmes may also be subject to the national evaluation framework for Gateway One (**Major Independent Evaluation**). For example it is anticipated that the **CPCA Market Town Strategy** will be subject to these arrangements.

Locally we are currently planning to commission major independent evaluation of the **programme to deliver affordable homes and local evaluation** for a number of other projects.

- The government's published guidance requires that both the Business Board (LEP) and CPCA Local Assurance Frameworks reference their monitoring and evaluation arrangements and recommends that these are completed as part of the same body of work. **Therefore the Business Board will be asked to co-adopt this M&E Framework alongside renewal of their Local Assurance Framework.**

¹ www.CPIER.org.uk

² www.CambridgeshireInsight.org.uk

1. Introduction

Background

- 1.1 Monitoring and evaluation (M&E) is a critical component of an effective performance management regime. Monitoring supports the effective tracking of a scheme or series of policy interventions ensuring that intended outputs are being achieved. Evaluation quantifies and assesses outcomes, including how schemes were delivered and whether the investment generated had the intended impact and ultimately delivered value for money. M&E forms a significant part of the policy feedback loop to inform future policy development, priorities and budgets.
- 1.2 The purpose of this document is to set out both the commitment and the approach of the Cambridgeshire and Peterborough Combined Authority (CPCA) to M&E. The Devolution Deal between Government and the CPCA specifically includes a commitment to work together in developing an approach to monitoring and evaluating the impact of the Deal.
- 1.3 This document ensures local ownership of the commitment and also provides as robust guide as to how the CPCA aims to carry out its own M&E. This document will be reviewed at least annually so that it remains relevant and fully aligned to progress on delivering the Devolution Deal. It will also be shaped by ongoing dialogue with the Department for Business, Energy & Industrial Strategy (BEIS) and other relevant government departments as well as sources of best practice for evaluating schemes to encourage local economic growth.
- 1.4 For a complete understanding of the background, this document should be read in conjunction with a number of other publications.
 - The CPCA Business Plan for 2019/20
<http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/CPCA-Business-Plan-2019-20-dps.pdf>
 - The CPCA four year plan (2018/19 to 2021/22) and 2030 ambition_
<http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/OS-Agenda-250618.pdf>
 - The Green Book: appraisal and evaluation in central government_
<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>
 - The Magenta Book: HM Treasury Guidance on Evaluation_
<https://www.gov.uk/government/publications/the-magenta-book>
 - Local Enterprise Partnerships: National Assurance Framework 2016_
<https://www.gov.uk/government/publications/local-enterprise-partnership-national-assurance-framework>
 - Evaluation of Local Growth Interventions Framework, SQW, 2018
(not in the public domain)

The Cambridgeshire and Peterborough Combined Authority Commitment to Monitoring and Evaluation

1.5 The CPCA is committed to implementing effective M&E so that it is able to:

- a. Provide local accountability to the public by demonstrating the impact of locally devolved funding and the associated benefits being achieved.
- b. Comply with external scrutiny requirements i.e. to satisfy conditions of the Devolution Deal. Specifically, M&E will be used to demonstrate local progress and delivery to senior government officials and Ministers who are ultimately accountable to parliament for devolved funds.
- c. Understand the effectiveness of policies or investments and to justify reinvestment or modify or seek alternative policy. M&E provides a feedback loop for the Authority and relevant stakeholders;
- d. Develop an evidence base for input into future business cases and for developing future funding submissions. M&E will collect, collate and analyse data which can be utilised for future work.

1.6 The remainder of this framework document aims to ensure that these commitments are delivered by setting out the approach, principles, resource and responsibilities together with the proposed approach to evaluating each element of the Devolution Deal.

Roles and Responsibilities

1.7 The overall responsibility for monitoring and evaluation (this framework and the execution of the activity associated with it) is held at director level at the CPCA within the post of Strategy & Assurance Director³. The CPCA has agreed a contract with Cambridgeshire County Council (part of the wider CambridgeshireInsight⁴ partnership) to provide an appropriate level of officer support for M&E including local knowledge, expertise and supporting capacity in order to undertake the work associated with the framework in the period leading up to and including the first 'Gateway' assessment for the Authority (see Partnership Approach below).

1.8 In addition the Finance Director (Section 73 officer) maintains a responsibility to regularly report on spend and to support the integration of this reporting with the wider monitoring and evaluation work. This is particularly relevant when assessing the effectiveness of specific funding streams such as the Investment Fund Grant (£20 million over 30 years). Although this funding is added into the CPCA's 'single pot' (along with Transport Grant and Adult Education Budget and other funding) there are specific arrangements agreed with central government to evaluate this funding (see partnership approach below).

³ See CPCA Leadership Structure <http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Staff-structure.jpg>

⁴ <https://cambridgeshireinsight.org.uk/>

1.9 The board for the CPCA meets monthly. As part of this framework there is a commitment for the board to receive a **Quarterly Performance Monitoring Scorecard** together with an annual **Strategic Overview of Performance** against key metrics. The frequency of reporting will be kept under review and is dictated in part by the availability of metrics at a local level that track, for example, the rate of economic growth or the rate of housing building completions. The work in this area will also be available for review by the CPCA Overview and Scrutiny Committee. There will also be an evaluation reporting time-table (with interim reporting where appropriate to ensure the benefits of investment decisions are understood and lessons learnt incorporated back into policy work. Specific responsibilities are outlined in the table below.

Figure 1: Roles and Responsibilities for Monitoring and Evaluation

Responsibility	Resource
Setting the CA's strategic approach to Monitoring and Evaluation, including annual review	Director of Strategy & Assurance reporting to CPCA Board.
Monitoring progress against Devolution Deal objectives and of the wider CPCA programme of activity, including funded projects and programmes.	Evaluation and Performance Monitoring Officer (role supplied by Cambridgeshire County Council), with support from Head of Finance and individual project leads.
Preparation of individual Monitoring and Evaluation Plans	Theme Leads / funding applicants with quality assurance carried out by Evaluation and Monitoring Officer.
Undertaking individual evaluation	As per framework. Independent evaluation teams where appropriate. Local Evaluation and Monitoring Team in all other cases (roles supplied by Cambridgeshire County Council),
Developing the Local Evaluation Framework for the Single Investment Fund (SIF) in support of the Gateway Assessment	Director of Strategy & Assurance with support from Evaluation and Performance Monitoring Officer.
Maintaining a repository of Monitoring and Evaluation data; Extend and curate current evidence base	Evaluation and Monitoring Team (supported through Cambridgeshire Insight)
Dissemination of evaluation conclusions	Director of Strategy & Planning supported by CPCA Communications Team

Partnership Approach

1.10 At the core of the CPCA approach to Monitoring and Evaluation is the commitment to build a strong partnership to support activity.

- Cambridgeshire County Council / CambridgeshireInsight (CI) Partnership

The CPCA has agreed a contract with Cambridgeshire County Council to provide direct officer support in managing the Monitoring and Evaluation Framework (full details of the scope of the arrangements are in appendix 1). The commissioned work includes a) Refresh and Manage the Monitoring and Evaluation Plan; b) Curate Strategic Evidence; c) Lead Performance Management for the CPCA; d) Manage the Independent Evaluation Arrangements for the CPCA.

Cambridgeshire County Council's Research Team hosts the 'County's shared evidence based www.CambridgeshireInsight.org.uk into which a number of local partners already invest, drawing together evidence about Cambridgeshire and Peterborough's economic, housing, planning, health needs and other issues. Much of the Monitoring and Evaluation work will be driven through this platform.

The Research Team supported the development of the previous versions of the CPCA Monitoring and Evaluation Plan and is familiar with the policy area and the current context as well as the historic approach to monitoring and evaluation for devolution deals. The team has also actively supported the Cambridgeshire and Peterborough Independent Economic Commission (CPIER), the development of skills evidence and other policy work of the Combined Authority. Establishing this method of leadership for monitoring and evaluation provides continuity of evidence across a range of organisations and partners including the Greater Cambridge Partnership.

The new arrangements were put in place from August 2018 onwards.

- The What Works Centre for Economic Growth⁵

The What Works Centre (WWC) for Local Economic Growth was set up in October 2013 to analyse which policies are most effective in supporting and increasing local economic growth. It is jointly run by the LSE, Centre for Cities, and Arup and funded by the Economic and Social Research Council and a number of Government Departments.

It is very much the intention of central government for all Combined Authorities to engage with the Centre and build a thorough understanding of evaluation methodology. From initial engagement between the CPCA and the Centre it has been identified where possible gaps in local knowledge around Monitoring and Evaluation lay. For example in relation to tracking the precise impact of skills development programmes. The CPCA will take up the WWC offer for further bespoke workshop sessions and is committed to working jointly to identify an opportunity for specific evaluation support from the Centre.

This framework (see methodology section) also reflects advice from the WWC in regard to our

⁵ <http://www.whatworksgrowth.org/>

approach to evaluation.

- SQW (Investment Fund Grant Evaluation)

Within the prescription around the Investment Fund Grant Funding, central government has committed to having an independent expert group reporting every five years on how investments have made a difference to the local economy. The Secretary of State (MHCLG) will then decide whether or not the funding should continue for the next five years⁶.

SQW Ltd have been appointed to manage the independent expert group and to also lead evaluation of selected initiatives within each Combined Authority area. The CPCA has been actively negotiating with SQW as to the precise focus for their evaluation work. At the present time it is clear that this work stream will cover a proportion of the evaluation work required (the long list for this SQW focus is reflected later in this framework).

Importantly the engagement with SQW around the scoping of their work has served to increase understanding of evaluation approaches within the CPCA and the authority will look to enhance and apply this knowledge (and approaches learnt from engagement with SQW) across the rest of its programme (outside of the Investment Fund Grant) going forward. We have also noted the importance in learning from other Combined Authorities / Devolution deals from across the Country (forth-coming shared learning event).

- Cambridgeshire and Peterborough Independent Economic Review Team (CPIER)⁷

- The CPIER has been commissioned by the Authority to enable Cambridgeshire and Peterborough to articulate the case for greater devolution, demonstrate how the area delivers benefits across the UK and allow local stakeholders (through its partnership approach) to unite behind a common economic strategy.

The CPIER (through its work on reviewing the region's economy) provides an excellent, independent, evidence baseline against which to evaluate the progress of the Cambridgeshire and Peterborough economy. It was published in mid-September 2018 so this work has not yet been fully incorporated into the M&E framework. Through the technical review team for the CPIER the CPCA has established access to a robust level of challenge in regard to economic policy and a growing body of local evidence to both complement and challenge input from the Office of National Statistics (ONS).

Specifically our local understanding of business growth has been greatly enhanced by the work of Cambridge University⁸ on the Cambridge Cluster (as well as businesses in other areas). Tracking the extent to which Cambridge and Peterborough based companies are growing and contributing to the national economy and the extent to which national statistics under estimate local growth.

6

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/608527/Plain_English_Guides_to_Devolution_Cam_and_Peter.PDF

⁷ <http://www.cpier.org.uk/>

⁸ <https://www.cbr.cam.ac.uk/research/research-projects/cambridge-ahead-the-cambridge-corporate-database-regional-growth/>

- The Office of National Statistics (ONS)

The CPCA has commenced the process of working closer with ONS through the Cities Analysis Team. A recent workshop considered how this collaboration could develop in order to meet the data and evaluation needs of the CPCA.

Specific areas of interest were the development of a localised view of UK exports⁹, reaching an agreed understand of the precise rate of employment growth within the Cambridge Sub-region and gaining value for the monitoring work of the CPCA from the ONS Data Science Campus¹⁰. The development of the relationship is on-going with the key point of contact being between Cambridgeshire County Council (through Cambridgeshire Insight) and the ONS Cities Team.

- 1.11 Collectively these strands of work will come together to provide a significant level of support around the CPCA for monitoring and evaluation and the development of a robust evidence base for the area.

Integration with LEP (Business Board) / the future of M&E

- 1.12 The relationship between the CPCA and its local LEP is unique. The work of the LEP Cambridgeshire and Peterborough is now conducted by a 'Business Board' which is supported by the Business and Skills Team within the Cambridgeshire and Peterborough Combined Authority (CPCA).

- 1.13 The government's published¹¹ guidance requires that both the Business Board (LEP) and CPCA Local Assurance Frameworks reference their monitoring and evaluation arrangements and recommends that these are completed as part of the same body of work. Therefore the Business Board will be asked to co-adopt this M&E Framework alongside renewal of their Local Assurance Framework.

- 1.14 Further the government has stated its determination to *"help local areas learn from what works best and where, so that we can work together to refine and maximise the impacts of major investments. Government will support all Local Enterprise Partnerships to develop a strong local evidence base of economic strengths, weaknesses and comparative advantages within a national and international context. We will require robust evaluation of individual projects and interventions."* (Page 18, Strengthening Local Enterprise Partnerships, 2018). Therefore emphasis will be placed on further developing and strengthening the 'shared evidence' base as far as possible.

⁹ <https://blog.ons.gov.uk/2017/10/02/building-a-better-understanding-of-local-level-service-exports/>

¹⁰ <https://www.ons.gov.uk/aboutus/whatwedo/datasciencecampus>

¹¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/768356/National_Local_Growth_Assurance_Framework.pdf page 49 paragraph 189.

2. Methods

Best Practice that Underpins Monitoring and Evaluation

2.1 The CPCA's approach uses the Magenta Book¹² definition of monitoring and impact evaluation: -

- Monitoring: Seeks to check progress against planned targets, formal reporting and evidencing that spend and outputs are successfully delivered and milestones met.
- Evaluation: The assessment of effectiveness and efficiency during and after policy/intervention implementation. It seeks to measure outcomes and impacts to assess whether anticipated benefits are realised.

2.2 The CPCA approach also makes wider use of the guidance within the Magenta Book (as complementary guidance to the HM Treasury Green Book¹³) which itself acknowledges that whilst it is the *"recommended central government guidance on evaluation that sets out best practice for departments to follow."* It is *"not a textbook on policy evaluation and analysis, rather, it is written and structured to meet the specific and practical needs of policy makers and analysts working in public policy"*. This encapsulate the CPCA's own broad intentions which are to make best use of academic advice and to also be guided by practical considerations around capacity when implementation monitoring and evaluation across a large range of different projects.

2.3 The Green Book presents the recommended framework for the pre-appraisal and evaluation of all policies, programmes and projects. This framework is known as the "ROAMEF" policy cycle, and sets out the key stages in the development of a proposal, from the articulation of the Rationale for intervention and the setting of Objectives, through to options Appraisal (long list and short list) and, eventually, implementation, Monitoring and Evaluation, including the Feeding back of evaluation evidence into the policy cycle.

2.4 HM Treasury Business Case Guidance also provides the framework for preparing business cases for spending proposals. Business cases are prepared according to a model which views proposals from 5 interdependent dimensions – known as the Five Case Model¹⁴ outlined below. The CPCA has committed to following this model which in this context provides the thinking upon which the Monitoring and Evaluation work will be based, for example by providing the strategic and economic case against which to assess if predicted benefits have been achieved.

¹² <https://www.gov.uk/government/publications/the-magenta-book>

¹³ <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

¹⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/190609/Green_Book_guidance_short_plain_English_guide_to_assessing_business_cases.pdf

Figure 2: The Five Business Case Model

Five Cases	Detail
Strategic Case	The strategic case sets out the rationale for the proposal, it makes the case for change at a strategic level. It should set out the background to the proposal and explain the objective that is to be achieved.
Economic Case	The economic case is the essential core of the business case and should be prepared according to Treasury's Green Book guidance. This section of the business case assesses the economic costs and benefits of the proposal to society as a whole, and spans the entire period covered by the proposal.
Commercial Case	The commercial case is concerned with issues of commercial feasibility and sets out to answer the question "can the proposed solution be effectively delivered through a workable commercial deal or deals?" The first question, therefore, is what procurement does the proposal require, is it crucial to delivery and what is the procurement strategy?
Financial Case	The financial case is concerned with issues of affordability, and sources of budget funding. It covers the lifespan of the scheme and all attributable costs. The case needs to demonstrate that funding has been secured and that it falls within appropriate spending and settlement limits.
Management Case	The management case is concerned with the deliverability of the proposal and is sometimes referred to as programme management or project management case. The management case must clearly set out management responsibilities, governance and reporting arrangements, if it does not then the business case is not yet complete. The Senior Responsible Owner should be identified.

The Core Approach to Monitoring and Evaluation

2.5 CPCA will develop a comprehensive performance management system and evaluation framework that will operate at both a strategic level and at the individual programme/project level. This will enable CPCA to:

- Monitor impacts and progress towards organisational goals, and to understand whether projects are on track to deliver projected outputs and outcomes.
- Assess the additionality of activities (and impacts) and to assess whether a project or programme has achieved VfM.
- Identify the sustainability of impacts, and the equality implications of activities.
- Maintain scrutiny and accountability.
- Inform future investment prioritisation and resource allocation.
- Identify what works (and what does not), and in what circumstances, to inform future activities and delivery and the sharing of best practice.

- 2.6 All projects funded by the CPCA (regardless of the size), will have a **basic monitoring plan in place** as a part of the business case (as per the Green Book) and all funding awards with external bodies will include monitoring obligations. The monitoring arrangements should be sufficiently detailed to guide the collection of data from individual projects and be designed to ensure that it captures information required by both the CPCA and government.
- 2.7 **Evaluation plans will be proportionate**, corresponding with procedures for appraisal, and be in line with the latest government department guidance where relevant. For example, all transport schemes (over £5m) will follow Monitoring and Evaluation Guidance for Local Authority Major Schemes. This will enable assessment of the effectiveness and impact of investing public funds, and the identification of best practice and lessons learnt that can inform decisions about future delivery.
- 2.8 The CPCA will identify the projects that will be subject to a **more detailed evaluation**. The level of evaluation will depend on the following:
- A. Project funded through *growth funding* (in the CPCAs case the core agreement with central government to devolve £20m per year over 30 years). Therefore subject to the agreed national evaluation framework, independent evaluation led by SQW Ltd.
 - B. Project funded through other streams and identified as being '*major*' in terms of the relative size of the funding and / or the expected benefits to be achieved. Therefore subject to full independent evaluation commissioned by the CPCA (an example would be evaluating the effectiveness of projects commissioned under the £100m affordable housing fund).
 - C. Project identified locally as one where *significant learning* could be available that would help to inform future policy making either locally or nationally. This will include projects that are innovative or considered 'pilots'. Evaluation work in this case would be either be commissioned independently or carried out locally by the Research Team for Cambridgeshire County Council.
 - D. Other projects not included above subject to minimal '*self-evaluation*' based on submitted business cases.
- 2.9 All monitoring and evaluation arrangements (which will form part of final Business Cases) and interim and final monitoring and evaluation reports will be published on the CPCA website. The CPCA Overview and Scrutiny Committee will also have the opportunity to review decision making against the above criteria. The funding award to specific projects will set out the key milestones for the delivery of the scheme together with the outputs and outcomes detailed in the business case that will be embodied in the monitoring and evaluation plans. Proportionally timed (quarterly as standard) monitoring returns will be used to capture progress against agreed milestones and metrics as part of the funding contracts.
- 2.10 Individual project monitoring information will feed into an overall monitoring scorecard for the CPCA, which will be published and reported to the CA Board, including an annual judgement to the extent to which projects are contributing to the overall objectives of CPCA. The achievement of wider impacts will be gathered as part of the evaluation work.

Monitoring (Detailed Considerations)

- 2.11 Effective monitoring indicators measure and describe the delivery system. They also help understand how the projects are working or can be improved. Key performance indicators (KPIs) can apply both at an organisation as a whole as well as to individual projects. At an organisational level, a Key Performance Indicator (KPI) is a quantifiable metric that reflects how well an organisation is achieving its stated goals and objectives; collectively these can be gathered into a scorecard. Section three of this framework looks at the headline KPIs for GVA, House Building, Productivity and Employment Growth in particular.
- 2.12 Methodologically it is important to choose the most accurate KPIs for business performance; it is equally useful if project managers define their own KPIs for members of their teams. While considering measures and metrics, we should look at a blend of lagging and leading indicators. Lagging indicators are based on prior performance, history of the delivery. They measure if the CPCA is ahead, on target or behind in reaching strategic goals. However, lagging indicators don't explain what is happening to achieve the goals. Indeed, only focusing only on lag measures doesn't give any direct credit on influence to reach our goals and can be frustrating at a board level.
- 2.13 The lead measure is an activity that leads to the goal and is predicative of goal achievement (these should be underpinned with a logic model that demonstrates how interventions are expected to work. Leading performance indicators will help the CPCA attain business plan objectives by defining the monthly, quarterly and yearly activities needed to meet the desired outcomes.
- 2.14 The following questions can help when defining effective KPIs:

Understanding the context

- What is the vision for the future?
- What is the strategy? How will the strategic vision be accomplished?
- What are the organisation's objectives? What needs to be done to keep moving in the strategic direction?
- What are the Critical Success Factors? Where should the focus be to achieve the vision?

In Defining KPIs

- Which metrics will indicate that you are successfully pursuing your vision and strategy?
- How many metrics should you have? (Enough, but not too many!)
- How do we define indicators?
- How often should you measure?
- Where does the data come from?
- Are there any caveats/warnings/problems?
- Are particular tests needed such as standardisation, significance tests, or statistical process control to test the meaning of the data and the variation they show?
- Who is accountable for the metric?
- How complex should the metric be?
- What should you use as a benchmark?
- How do you ensure the metrics reflect strategic drivers for organisational success?

- What negative, perverse incentives would be set up if this metric was used, and how will you ensure these perverse incentives are not created?

2.15 Performance indicators provide valuable information and must be defined very carefully to balance the need to be proportionate in collecting information, with the level of detail that is required in order to be operationally useful. Work to develop key performance indicators should take account of changes in data availability at a government level. A key part of the CPCAs partnership approach will be to work with ONS to ensure the required measures are available.

2.16 Having agreed the title and definition of the performance measures, appropriate targets can be set. It is important that targets are achievable with an appropriate level of additional effort i.e. stretch targets. The useful acronym is that targets need to be SMART: Specific, Measurable, Achievable, Realistic, Time bound.

Evaluation (Detailed Considerations)

2.17 Evaluations can be designed to answer a broad range of questions on topics such as how the policy was delivered, what impact it made, whether it could be improved and whether the benefits justified the costs. Broadly, these questions can be answered by three main types of evaluation.

A. Process evaluations assess whether a policy is being implemented as intended and / or what, in practice, is felt to be working more or less well, and why.

B. Impact evaluations attempt to provide an objective test of what changes have occurred, and the extent to which these can be attributed to the policy.

C. Economic evaluations, in simple terms, compare the benefits of the policy with its costs.

2.18 Understanding why an intervention operated in a certain way and had the effect it had generally involves combining the information and analytical approaches of the different types of evaluation and they should, therefore, be designed and planned at the same time.

2.19 The choice of evaluation approach should be based on a statement of the policy's underlying theory or **logic model** and stated objectives – how the policy was supposed to have its effect on its various target outcomes. The more complex the underlying logic, the more important it will be to account for other factors which might affect the outcome. Having a clear idea about the questions that need to be addressed and the required type(s) of evaluation at an early stage will help inform the design of the evaluation and the expertise required therefore each funded project will be expected to have an accompanying 'logic model' at the outset.

2.20 Prompted by initial discussions with the 'What Works Centre for Local Economic Growth', the CPCA does not intend to undertake a complex meta-evaluation of the whole Devolution Deal, or a programme level evaluation as the overall effectiveness of such an approach is likely to prove negligible, and come at a very high cost. It is also likely that such an approach would duplicate significant aspects of the five-yearly gateway reviews and future Revisions of the

CPIER.

- 2.21 Where in depth evaluation is undertaken this will include methods to identify the counterfactual – comparison with the expected outcome had there been no additional intervention – such as randomised control trials and/or the use of control variables in regression analysis.
- 2.22 Independence: To ensure independence for evaluations, these will be expected to be conducted externally to the commissioning department or organisation. Evaluation will either be undertaken ‘in-house’ where the department conducting the evaluation is independent of the commissioning department and where appropriate ethical walls exist, or else by external parties who are independent from the business case or project being evaluated.
- 2.23 Quality Assurance: In a further effort to ensure the quality of all evaluation work, the CPCA will further develop its relationships with the ‘What Works Centre for Local Economic Growth’, the academic community and other organisations such as the Urban Transport Group plus government departments. External quality reviews will be undertaken on evaluation activities.

3. Four Year Plan and 2030 Ambition

3.1 The mayor and the CPCA have published its immediate four year plan and also a 2030 vision¹⁵, these are then accompanied by a medium term financial strategy. Collectively these documents provide the reference material for the detailed activity associated with this framework, in terms of required monitoring data and planned evaluations.

3.2 The 2030 Ambition sets out the CPCA broad objectives

- Double the size of the local economy;
- Accelerate house building rates to meet local and UK need;
- Deliver outstanding and much needed connectivity in terms of transport and digital;
- Provide the UK's most technically skilled workforce;
- Transform public service delivery to be much more seamless and responsive to local need;
- Grow international recognition for the area's knowledge-based economy;
- Improve the quality of life by tackling areas suffering from deprivation;

With the Cambridgeshire and Peterborough Combined Authority core funding and powers from Central Government grouped around

- £170 million to deliver new homes over a five-year period in Peterborough and Cambridgeshire which includes affordable, rented and shared ownership housing
- £20million a year funding over 30 years to boost growth in the region
- responsibility for chairing a review of 16+ skills provision in the area

The four year plan then outlines the initial investment decisions and practical steps that the CPCA are taking to achieve the 2030 Ambition; organising these under five distinct themes.

Cambridgeshire & Peterborough 2030 Ambition



¹⁵ <http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/OS-Agenda-250618.pdf>

Strategic Approach and Logic Models

- 3.3 Following his election in May 2017, the Mayor published 100-day plan outlining the actions to deliver on his agenda. The 100-day plan kick-started the activities to progress the devolution deal commitments.

A. Initial Investment In Strategic Working: Underway to develop core strategies including for example, the local industrial strategy, housing strategy, skills strategy, local transport plan, strategic spatial planning framework and market towns masterplans;

B. Current Investment Decisions: The Combined Authority has progressed key investment decisions in a range of transport and infrastructure, skills, housing and economic development initiatives. These include for example:

- The establishment of the Economic Commission which will bring forward independent advice and evidence on the local economy which will enable political and business leaders to agree on economic priorities and to come together more effectively in pursuing them;
- Investment in developing core transport and infrastructure such as the Cambridge Automated Metro, A10, A47;
- Investment in specific local interventions across the Combined Authority geography.

- 3.4 Whilst further investments are being made as the strategy work develops (see 2019 Business Plan), the practical elements for this version of the monitoring and evaluation plan take a cue from the mayor's **Long Term Objectives** and **Previous** investment decisions. In this respect reference to the July 2017 Combined Authority Board papers¹⁶ (for affordable housing and skills) and the October 2017 papers¹⁷ (for priority transport schemes) is important as they outline the earliest investments (post-election of the mayor in May 2017); projects that will come forward first for detailed monitoring and evaluation.

- 3.5 Figure 3 overleaf then outlines two things.
- a. How the on-going development of strategy (largely funded from Investment Fund grant) will drive future investment decisions under each of the mayoral themes.
 - b. Where the current investment decisions sit in relation to themes and the proposed split between the national, SQW led Investment Fund evaluation work, and the selection for evaluation against the criteria within section two of this framework. The remainder of section three then outlines our monitoring against strategic goals followed by more detailed monitoring and evaluation around current investment decisions.

This outline is then followed by the Logic Models for the CPCAs major projects.

¹⁶ <http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Combined-Authority-July-2017-Agenda.pdf>

¹⁷ <http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Priority-Transport-Schemes.pdf>

Figure 3: CPCA, Monitoring & Evaluation Schedule for Major Projects and Investment Decisions

		A Good Job within Easy Reach of Home	Healthy Thriving and Prosperous Communities	A Work-Force Founded on Investment in Skills and Education	UKs Capital of Innovation & Productivity	A High Quality Sustainable Environment								
A: Initial Investment in Strategic Working	Local Industrial Strategy	☑	☑	☑	☑	☑								
	Housing Strategy	☑	☑	☑		☑								
	Local Transport Plan	☑	☑											
	Strategic Spatial Plan	☑	☑											
	Skills Strategy	☑	☑	☑	☑	☑								
	Infrastructure Strategy	☑	☑	☑	☑	☑								
	Finance and Investment Strategy	☑	☑	☑	☑	☑								
B: Current Investment Decisions														
	Investment Fund Grant Eligible for first gateway evaluation by SQW (subject to agreement) or subject to future gateway impact evaluation	Gateway One Candidates	- Cambridge South Station (interim)	- Market Town Masterplans - Supporting package including Regeneration of Fenland Railway Stations and ‘minor’ transport improvement schemes.	n/a	- Investment in Connecting Cambridgeshire, (Achieve 99% superfast broadband across the county, Roll out of 5G services).	n/a							
		Future Gateways	- Cambridge Autonomous Metro (CAM) - A47 Dualling; - A10 upgrade; - Alconbury Station	Market Towns continued - Wisbech Garden Town - Wisbech Rail / Wisbech Access, - Ely Rail Improvements, - Soham Station, - Huntingdon Third River Crossing (A141)	- Development of the University of Peterborough including new university campus.	n/a	n/a							
	Other funding Application of CPCA Monitoring & Evaluation Framework	CPIER (Cambridgeshire and Peterborough Independent Economic Review)												
		- Kings Dyke - Quantum of Package of minor road transport measures (see appendix two) not included in national evaluation.	- Housing fund investments for affordable homes (site specific) - East Cambs Housing Company Loan - ECTC Haddenham CLT Loan Supporting Infrastructure to unlock housing sites - HIF Yaxley Loop Road - HIF Soham Eastern Gateway	- Development of the centre for skills (AGE Grant) - Health and Care Sector Progression Academy	- Incubator and Accelerator Hub (and Satellites) - Innovation & Business Growth Fund	- Local Energy Hub								
<table><tr><th colspan="2">KEY</th></tr><tr><td>b. Full independent evaluation commissioned by the CPCA.</td><td></td></tr><tr><td>c. Evaluation work commissioned independently or carried out locally</td><td></td></tr><tr><td>d. Scheme ‘self-evaluation’ based on submitted business cases.</td><td></td></tr></table>							KEY		b. Full independent evaluation commissioned by the CPCA.		c. Evaluation work commissioned independently or carried out locally		d. Scheme ‘self-evaluation’ based on submitted business cases.	
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c. Evaluation work commissioned independently or carried out locally														
d. Scheme ‘self-evaluation’ based on submitted business cases.														

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: ALCONBURY STATION

Policy Context

- Delivery of the Alconbury Weald Enterprise Campus is identified as a key part of the Devolution Deal.
- The CPCA is committed to delivering better transport links to support growth of the local economy.

Programme Objectives

- Support the delivery of a new Alconbury Weald rail station, which is planned as part of a £22 billion investment in East Coast Mainline, Crossrail, and Thameslink.

Programme Rationale

- CPCA as Local Transport Authority, should have coordinated oversight of key transport infrastructure projects.
- Provision of a new station will improve transport links for the Alconbury Weald Enterprise Zone, and ensure successful development.

Delivery

Inputs

- No current committed funding from CPCA, the project is anticipated to be wholly funded through developer contributions.

Activities

- Formalise partnership structures with the developer Urban&Civic.
- Work with Network Rail to support plans for rail link.

Outputs

- Potential outputs of the scheme include:
- Station building
 - Infrastructure

Benefits

Outcomes

- Support opportunities for growth planned for Alconbury Weald Enterprise Zone (6,000 new homes and 290,000m2 of employment floor space).
- Improve connectivity.
- Reduce car usage.

Impacts

- It is anticipated that a new station could:
- Improve local connectivity and unlock economic growth.
 - Reduce congestion on surrounding strategic roads

Underlying Assumptions

- There will be demand for rail travel.

Possible Metrics

- Rail usage
- Traffic flows
- Employment numbers
- Housing units

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: CAMBRIDGE AUTONOMOUS METRO

Please note: that whilst this logic model focuses on the potential future benefits of the scheme, the project has currently been funding for the strategic outline case development only.

Policy Context

- The Combined Authority has set out clear ambition to deliver growth with the Cambridgeshire and Peterborough region, setting out the target of doubling the size of the local economy over the next 25 years, boosting regional GVA from £22bn to £40bn in line with the findings for growth of the CPIER.
- Despite the significant investment planned across Greater Cambridge, significant constraints will remain part of the transport network. The historic, highly constrained nature of the city centre streetscape will always limit the public transport connectivity and capacity that can be achieved for trips to, across and within the city.

Programme Objectives

- To provide a reliable metro network to connects Cambridge City Centre, key rail stations (Cambridge, Cambridge North and future Cambridge South), major city fringe employment sites and key 'satellite' growth areas, both within Cambridge and the wider region.

Programme Rationale

- Transport infrastructure is a fundamental 'enabler' to supporting the additional housing and jobs growth required to deliver the wider growth ambitions of the Combined Authority and its partners.
- Providing a high-quality, fast and reliable transport network will transform transport connectivity across the Greater Cambridge region, enabling acceleration of economic growth through investment to alleviate the region's transport constraints and by supporting the sustainable delivery of additional jobs, housing, and GVA..

Delivery

Benefits

Inputs

- See March 2019 Board Paper.

Activities

- Strategic Outline Case development.
- Assessment of options for funding
- Integration with existing infrastructure schemes being progressed by others.

Outputs

- Potential outputs include:
- Tunnelled infrastructure underneath the city
 - Metro type public transport service
 - Zero-emission electric powered vehicles
 - Regional transport corridor infrastructure

Outcomes

- Possible outcomes of the scheme include:
- Increase public transport capacity, connectivity and accessibility.
 - Increase labour market catchments.
 - Reduction in air pollution city and regionally.
 - Employment and housing sites unlocked.

Impacts

- Potential impacts of the scheme include:
- Improve local connectivity and unlock economic growth.
 - Enhancing access to and attractiveness of the city for residents, businesses and visitors.
 - Increase productivity of CPCA area.

Underlying Assumptions

- Funding will be available to enable the scheme to come forward.

Possible Metrics

- Traffic counts
- Air quality
- Metro usage
- GVA
- Housing units
- Employment

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: SOHAM STATION

Policy Context

- Soham station was identified as a priority project within the Devolution Deal
- The CPCA is committed to delivering better transport links to open up the economy and to accelerate the growth of local housing.
- The Local Plan identifies Soham as an area which can accommodate housing growth.

Programme Objectives

- To create a new railway station at Soham and reopen the rail link between Soham and Ely.
- To improve poor existing transport links for Soham residents, which are currently linked with high car usage and congested roads.

Programme Rationale

- CPCA input will bring forward the project quicker.
- Provision of a new station will improve transport links for residents and reduce car usage, enabling housing and commercial growth to be unlocked.

Delivery

Benefits

Inputs

- £3.2 million **committed** to current phase (GRIP stage 3).
- £20 million **anticipated** to deliver the station (*of which £7 million is ring fenced for a second platform and footbridge*).

Activities

- Feasibility/options (single option for August 2019).
- Potential design construction and build of the new station.

Outputs

Potential outputs of the scheme include:

- Station building
- Footbridge
- Infrastructure

Outcomes

- Support opportunities for growth planned for Soham (1,600 new homes by 2031 and wider regeneration proposals for employment of 125 tech jobs).
- Improve connectivity.
- Reduce car usage and consequently reduce congestion along the A142.

Impacts

It is anticipated that a new station could:

- Make Soham an attractive place to live and work.
- Increase property values.
- Increase public transport usage leading to environmental benefits.

Underlying Assumptions

- There will be rail usage and travel demand.
- Strategic housing and employment sites will be brought forward for development.

Possible Metrics

- Station usage
- traffic counts
- employment and housing unit numbers
- Property prices

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: A10 Corridor

Please note that whilst this logic model focuses on the potential future benefits of the whole A10 corridor, the progression of the identified projects within this programme are anticipated to be delivered by both the CPCA and partner organisations, through securing additional funding and developer contributions.

Policy Context

- The A10 corridor was identified as a priority project within the Devolution Deal
- The CPCA is committed to delivering transport connectivity, accelerating house building rates and increasing the local economy.
- The A10 corridor has been identified as a significant growth corridor with much of Cambridge’s future growth expected to be concentrated within the study corridor where a number of strategic sites and associated developments are planned up until 2031 and beyond. These include a new town north of Waterbeach and developments on the Cambridge Science Park.

Programme Objectives

- To improve capacity on the A10 corridor, which provides the main transport connections between Ely and Cambridge and for journeys through this corridor
- Enabling the build-out of the new settlement at Waterbeach; releasing up to 17,000 new homes
- Ensuring residents and businesses have a public transport system and pedestrian and cycle-friendly infrastructure and facilities.
- Expanding access and upgrading this major road corridor between Fenland and Cambridge.

Programme Rationale

- Improving capacity on the A10 corridor will reduce peak period traffic congestion, and network reliability issues, improving travel journey times and supporting housing and economic growth along the route.

Delivery		Benefits		
Inputs	Activities	Outputs	Outcomes	Impacts
<ul style="list-style-type: none">£250,000 committed by CPCA for assessment and feasibility work.£0.5 million anticipated for the next phase of the dualling project.Circa £500million estimated for whole A10 corridor improvements, to be delivered by both the CPCA and partners.	<ul style="list-style-type: none">Park and ride review, junction improvement study, refresh of strategic outline case and model to assess traffic model.Development of the specific route options for the A10 dualling to support funding applications.<i>Anticipated delivery/construction of A10 infrastructure improvements.</i>	<ul style="list-style-type: none">Pedestrian and cycle route measures <i>(delivered by partners)</i>Potential junction improvements along the A10 route <i>(may be delivered by partners)</i>.Potential dualling of A10.	<ul style="list-style-type: none">Reduced travel congestion and journey times along routeImproved safety along routeImprove transport connectivity for strategic sites which have the potential for up to 17,000 new homes and 14,000 new jobs	<ul style="list-style-type: none">Improve transport capacity to cater for the travel demands of additional growth.Improve local connectivity and unlock economic growth between Fenland and Cambridge.

Underlying Assumptions

- Funding will be available to deliver the corridor improvements.
- Strategic sites and development will come forward with investment.

Possible Metrics

- journey times
- traffic counts
- employment and housing numbers
- road traffic accidents

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: CAMBRIDGE SOUTH STATION

Please note that this logic model considers the Cambridge South Station scheme as a whole, however there are two workstreams within this scheme, one of which is being led by the Department for Transport and National Rail, and the other which seeks to explore the opportunity to accelerate the provision of a station on the site (an 'interim' solution). There is therefore crossover in the benefits between the two schemes.

Policy Context	<ul style="list-style-type: none">The CPCA CPIER recommended for rapid infrastructure responses to be introduced where the need is most pressing.The Southern Fringe and Biomedical Campus development is expected to enable significant economic growth. The Southern Fringe is identified in the Cambridge Local Plan as an 'area of major change' in which approximately 3,500 new homes will be provided. The development will be integrated with the adjacent Biomedical Campus, which by the mid-2020s could be home to more than 15% of all employment within Cambridge.
Programme Objectives	<ul style="list-style-type: none">To explore interim solutions to bring forward an interim train station at Cambridge South, ahead of the development of a permanent solution to increase public transport connectivity for the Southern Fringe and Cambridge Biomedical Campus.Reducing reliance on central Cambridge transport infrastructure for the significant growth expected in this area. Improve sustainable transport access to housing, services, and employment within the Cambridge Southern Fringe and Biomedical Campus area, to fulfil existing and future demands.
Programme Rationale	<ul style="list-style-type: none">By 2020, the Cambridge Biomedical Campus is expected to house the largest concentration of biomedical expertise in Europe, and strong employment growth is anticipated to coincide with this. Excellent connectivity and transport provision is crucial to success, and therefore a provision for high quality public transport is needed.An interim solution would support this immediate growth, ensuring effective recruitment of a highly skilled workforce who can easily travel to the campus and reduce the reliance on central Cambridge transport infrastructure.

Delivery		Benefits		
Inputs	Activities	Outputs	Outcomes	Impacts
<ul style="list-style-type: none">£90,000 committed from CPCA for a study to assess the interim solution.£1.75m committed from the CPCA towards the cost of the permanent solution.£ 175-350 million estimated cost for the overall scheme.	<ul style="list-style-type: none">Study to look at the viability of bringing forward an interim station 2-4 years earlier than the anticipated permanent solution.Work with Department for Transport to deliver a permanent solution for the station.	<p>Possible interim outputs:</p> <ul style="list-style-type: none">Infrastructure and interim station at Cambridge South <p>Anticipated permanent outputs:</p> <ul style="list-style-type: none">Four tracking of the West Anglia Main LineReconstruction of the Long Road rail bridgeNew four platform station at Cambridge South	<ul style="list-style-type: none">Reduced congestion, the need for car travel and improve journey times.Improved public transport infrastructure and capacity.Link the Biomedical campus to international transport networkContinued economic growth of national significance	<ul style="list-style-type: none">Attraction of highly skilled workforce to the area; contributing to creation of 2500 additional jobs over 20 yearsImprove local connectivity and unlock economic growth.Increased GVA.

Underlying Assumptions	Possible Metrics
<ul style="list-style-type: none">The permanent station scheme will be brought forward and delivered.Continued successful growth and development to attract demand.	<div>Page 365 of 605</div> <ul style="list-style-type: none">Traffic countsStation usageemployment and housing numbersGVA

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: MARKET TOWN MASTERPLANS

Policy Context

- The CPCA is committed to increasing the local economy and the Cambridgeshire and Peterborough Independent Economic Review (CPIER) recommended that Market Towns are key if the region is to meet the goal of doubling GVA.
- Historically, growth strategies have been city focused. Market Towns feel the impact of growth, but do not always see the associated investment and therefore growth has not been inclusive. This programme is aimed at creating more geographically and socially inclusive growth across the county
- The eleven market towns of Cambridgeshire and Peterborough, represent the places where much of the planned housing growth will occur over the next twenty years.

Programme Objectives

- To have an individual plan and focused set of headline strategic interventions for each of the market towns, co-ordinated by CPCA and co-produced by businesses, residents and the communities which live and work in them.
- This programme is aimed at creating more geographically and socially inclusive growth across the county.

Programme Rationale

- Having individual plans for each market plan, will focus CPCA direct investment on top strategic priorities and create the evidence-based prospectus to attract investment from other sources.
- A co-ordinated overall CPCA oversight of all masterplans will ensure they are complimentary of each other and with the Local Industrial Strategy will enable each Market Town to achieve their full potential.

Delivery

Benefits

Inputs

- £500,000 committed by CPCA for 2018/19 and 2019/20 (£50,000 for each masterplan).
- £5 million capital and £600k revenue allocated 2019-2022 to implement market town masterplans priorities.

Activities

- Production of ten evidence based action plans for each market town.
- Implementation of market town masterplan top strategic priorities.

Outputs

- 2018/19: market town masterplans for Chatteris, March, Littleport, St Ives and Whittlesey.
- 2019/20: market town masterplans for Wisbech, Ramsey, Ely, Soham and Huntingdon.

(Expected to be completed by December 2019)

Outcomes

- Each Market Town has a shared set of ambitions for the future looking at :
 - job opportunities
 - education and skills provision
 - health
 - community facilities
 - local attractions

Impacts

- Future investment in market towns, direct from CPCA and attracted from other sources.
- Market towns thrive, are successful economic centres, and are vibrant places individuals want to live and work in.

Underlying Assumptions

- Market town masterplans will make recommendations for and stimulate future investment

Possible Metrics

- GVA
- Population
- Investment
- Employment
- Highstreet footfall
- Retail

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: KING'S DYKE

Construction of the A605 King's Dyke Level Crossing bypass commenced in November 2018 and is being delivered in partnership with Cambridgeshire County Council and growth deal funding.
This logic model looks at the scheme as a whole, drawing out CPCA specifics.

Policy Context

- The CPCA is committed to delivering transport connectivity, accelerating house building rates and increasing the local economy.
- The Peterborough to Fenland corridor has been identified in the CPIER as a significant growth corridor.
- The eastern side of Peterborough and Whittlesey have both been identified as growth areas for both economic growth.

Programme Objectives

- Upgrading this major road corridor between Peterborough and Fenland to improve travel and safety between Whittlesey and Peterborough along the A605.

Programme Rationale

- Improving travel along the A605 will reduce peak period traffic congestion at the level crossing, improving safety, reducing travel journey times and supporting the economic growth along the corridor, specifically for Whittlesey.
- Without additional funding this scheme, which improves transport capacity and local economic growth, could not have come forward.

Delivery

Benefits

Inputs

- £16.9million **committed** from the CPCA to match the £30million cost needed compared to the original anticipated £13.6million:
 - £5.6million Cambridgeshire County Council funding
 - £8million growth deal funding
- (Note: figures quoted above rounded)

Activities

- Construction of the level crossing bypass
- CPCA input specifically supports:
- Stabilisation work
 - Design changes
 - Land costs

Outputs

- New roundabout constructed at either end of the diverted route, with underpass access and a bridge over the rail route.
- (Anticipated completion December 2020)

Outcomes

- Reduction in journey times and congestion.
- Unlocking land for potential employment and housing sites.
- Improve train travel along the Birmingham – Stansted Cross Country key rail route.
- Reduction in accident/increased safety at the level crossing.

Impacts

- Increase in attractiveness of Whittlesey as a place to live and work.
- Improve local connectivity and unlock economic growth between Peterborough and Fenland.
- Reducing the environment impact along North Bank road.

Underlying Assumptions

- Sites will come forward for economic growth
- Car users will no longer divert along North Bank road

Possible Metrics

- journey times
- traffic counts
- planning site allocation
- road traffic accidents

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: A47

The combined Authority is working in partnership with Highways England to assess the viability of the A47 dualling. Please note that whilst this logic model focuses on the potential future benefits of the scheme, the project has currently been funding for the viability stage only. This scheme is competing nationally against other schemes for inclusion in the Roads Investment Strategy Period 2 programme.

Policy Context

- The CPCA is committed to delivering transport connectivity, accelerating house building rates and increasing the local economy.
- The A47 corridor has been identified as a strategic network trunk road by Highways England for requiring improvement. The route connects and passes through several areas that have strong growth aspirations, including the proposed Wisbech Garden Town.

Programme Objectives

- Improving this strategic route between Peterborough and Lowersoft to increase capacity and improve transport links for Wisbech.

Programme Rationale

- Improving travel along the A47 will reduce traffic congestion and travel journey times along the route. Increasing capacity will cater for future demand of employment and housing growth along this strategic corridor between Peterborough and Kings Lynn.

Delivery		Benefits		
Inputs	Activities	Outputs	Outcomes	Impacts
<ul style="list-style-type: none">£1million allocated from Transforming Cities fund to support viability (2018-19)£60million estimated to develop business case for scheme (2020-25)<ul style="list-style-type: none">£30million CPCA£30million Highways England£600-700million overall estimated cost for build (2025-27)	<ul style="list-style-type: none">Project control framework documents for stage 0, strategy, shaping and prioritisation to enable Highways England to assess viability.Potential development of business case following viability workPotential dualling of the A47	<ul style="list-style-type: none">Potential duelling of A47 between A16 Peterborough and Walton highway.Possible option for new road bypass.	<p>It is anticipated that improvements could:</p> <ul style="list-style-type: none">Reduced travel congestion and journey times along routeImprove transport connectivity along a strategic route.Support strategic sites which have the potential for up to 12,000-30,000 new homes into the area.	<ul style="list-style-type: none">Improve transport capacity to cater for the travel demands of additional growth.Improve local connectivity and unlock economic growth.
Underlying Assumptions		Possible Metrics		
<ul style="list-style-type: none">The scheme will get through to RIS2Funding options will be available to support the build		<ul style="list-style-type: none">journey timestraffic countsplanning site allocationhousing units built		

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: WISBECH RAIL

Please note that whilst this logic model focuses on the potential future benefits of the scheme, the project has currently been funded for the cost and viability stage only.

Policy Context

- The CPCA is committed to delivering better transport links to open up the economy as identified in the latest CPIER.
- Wisbech has been identified as an area suitable for strategic growth, including the Wisbech Garden Town.

Programme Objectives

- To reopen the disused railway line between Wisbech and March, connecting Wisbech to the local rail network

Programme Rationale

- Opening the disused railway will improve the current public transport options in Wisbech. Public transport improvements will enhance the Garden Town proposals by reducing the car dependency of the development as well as increasing capacity for future demand of employment and housing growth.
- Improved connectivity will alleviate capacity and reduce peak travel times around Wisbech and the strategic A47 route.

Delivery

Inputs

- £1.5 million **approved** for cost and viability of a single option solution for the line.
- £75-110 million **estimated** cost to reopen the line between Wisbech and March (based on GRIP 2 study).

Activities

- Feasibility, viability and cost estimates including a single option solution of potential heavy/non-heavy for the line.
- Potential business case design and construction.

Outputs

- It is anticipated that Wisbech rail could include:
- A new station building at Wisbech.
 - A bridge over the A47.

Benefits

Outcomes

- It is anticipated that a new rail link could:
- Support opportunities for growth planned for Wisbech.
 - Improve connectivity for Wisbech residents, particularly enhancing links to regional employment hubs.
 - Increase public transport usage and reduce the need for car usage.

Impacts

- It is anticipated that a new rail link could:
- Improve local connectivity and unlock economic growth.
 - Reduce congestion on surrounding strategic roads
 - Make Wisbech a more attractive place to live and work.

Underlying Assumptions

- There will be demand for rail travel.
- Future strategic housing growth will be approved.

Possible Metrics

- Rail usage figures
- Traffic flows
- Employment numbers
- Houses built

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: £100M AFFORDABLE HOUSING PROGRAMME

Policy Context

- The development of sites for affordable housing (or the proportion of a site allocated to affordable housing) can be slowed or even stalled for a number of reasons, including land ownership, planning conditions and the financial viability of the site. This has led to unmet need within the local housing market and a lack of new delivery models for affordably housing delivery.
- Cambridge is an attractive place to live and work, with high salaries and low unemployment levels driving up house prices. Housing affordability ratios are high, especially for some employment sectors (e.g. care workers/admin).

Programme Objectives

- To increase delivery of affordable homes in Cambridgeshire and Peterborough, through utilisation of a variety of tools to using different models to expand the housing choices to suit the different geographies of the Combined Authority area.
- To establish a revolving fund to continue to invest in affordable housing models within Cambridgeshire and Peterborough beyond the initial programme investment.

Programme Rationale

- In the current economic climate, traditional commercial development will not provide enough affordable housing to meet the need. Through CPCA intervention, more sites capable of development can be brought forward quicker.

Delivery

Benefits

Inputs

- Devolution Deal funding of **£100 million**:
- Grants to improve scheme viability and provide affordable housing
 - Loan investment to other bodies (e.g. local authority delivery vehicles) to accelerate delivery
 - Potential direct development of affordable housing via a CPCA development company.

Activities

- Working across CPCA programmes (ie including transport and infrastructure) to increase overall growth and development
- Grant funding, inc infrastructure funding
- Loan investment
- Direct development and delivery

Outputs

- 2,000 affordable homes started on site by 31st March 2022
- Market and affordable homes enabled through the programme
- Sites brought forward for development
- Loans repaid and return on investment (recycled fund).

Outcomes

- Increase in local, affordable housing available.
- Stabilisation of wage/rent/mortgage affordability ratios within the CPCA area.
- Reduction of people living in temporary accommodation.

Impacts

- Employee recruitment improved.
- Trend of increase in long distance commuting into the area stabilised.
- Projected 'stalling' in the rate of CPCA employment growth avoided.

Underlying Assumptions

- Sites will come forward with investment
- Housing plots created will be sold/rented

Possible Metrics

- Units built
- Housing affordability to wage ratio
- Business/resident surveys
- Travel to work

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: PETERBOROUGH UNIVERSITY

Policy Context

- Peterborough has been identified as a cold spot for HE Education. Inequalities exist in accessing Higher Education, in some of the more deprived parts of the CPCA area. Raising aspirations for HE education is crucial to upward social mobility.

Programme Objectives

- Support the development of an independent university in Peterborough with its own degree awarding powers.
- Increasing participation and narrowing the attainment gap by enabling residents to take up higher education.
- Matching curriculum delivery with local employer needs and skills gaps locally.

Programme Rationale

- A more locally based institution will encourage students access to higher education, providing a higher level skills set locally and attracting talented individuals to the area.

Delivery

Inputs

- £13.35million **committed** from the CPCA to support feasibility, viability work and support infrastructure and site preparations.
- Cost for the signature building will be confirmed at business case stage.

Activities

- Feasibility and viability work.
- Infrastructure and site preparations.
- Anticipated signature building and student accommodation for the site.

Outputs

- 10 acres of site developed to house 2,000 students by 2022.
- A university which offers varying models of delivery including digital platforms.
- Student accommodation.
- Variety of technical courses delivered to address CPCA priority sectors.

Benefits

Outcomes

- Greater skills of residents.
- Skills gaps of the local economy reduced.
- Individuals attracted to the region to study a technical/vocational offer.

Impacts

- Increased employment opportunities.
- Increased earning opportunities.
- Narrowing gap between skills outcomes across CPCA area.
- Increased productivity.

Underlying Assumptions

- Students are highly motivated to take up university places to study locally.

Possible Metrics

- Earnings
- Skills levels
- GVA
- Student numbers
- Employer survey

EVALUATION AND MONITORING FRAMEWORK LOGIC MODEL: HUNTINGDON THIRD RIVER CROSSING

Please note that whilst this logic model focuses on the potential future benefits of the scheme, the project has currently been funding for the feasibility stage only. This will provide an understanding of the viability and economic benefits of possible options that might be brought forward. The initial feasibility report is expected in early 2020.

Policy Context	<ul style="list-style-type: none">The CPCA is committed to delivering transport connectivity, accelerating house building rates and increasing the local economy.A number of studies supporting the development of the emerging Local Plan, and the associated transport strategy work have identified that the existing road network in the areas of Alconbury-Huntingdon-Wyton-St Ives is unable to accommodate any large-scale development and is therefore a key constraint impacting the unlocking of strategic development sites.
Programme Objectives	<ul style="list-style-type: none">To improve capacity on the highway network north of the Great River Ouse, and to connect this area with the wider strategic road network in the most sustainable way, to unlock the areas of Alconbury-Huntingdon-Wyton-St Ives economic growth potential.
Programme Rationale	<ul style="list-style-type: none">Improving the capacity of the road network in this area will enable the potentially strategic sites of Wyton Airfield, Giffords Park, Sapley Park and Lodge Farm to be unlocked for future development.

Delivery		Benefits		
Inputs	Activities	Outputs	Outcomes	Impacts
<ul style="list-style-type: none">£0.5million committed to examining the feasibility, viability, benefits and impacts of a road link crossing the river£136million estimated to fund a potential dual carriageway river crossing	<ul style="list-style-type: none">Feasibility, viability and impact work of a new road link connecting the primary road route north of the River Great Ouse and the existing wider strategic road network.Potential construction of the preferred link.	<ul style="list-style-type: none">A potential new road link connecting the primary road route north of the River Great Ouse and the existing wider strategic road network. <p><i>(Note, other highways-based interventions will be tested at feasibility stage.)</i></p>	<p>It is anticipated that a new link could:</p> <ul style="list-style-type: none">Reduce travel demand and alleviate congestion at existing river crossingsUnlock strategic sites which have the potential for up to 12,000 new homes	<p>It is anticipated that a new link could:</p> <ul style="list-style-type: none">Improve transport capacity to cater for the travel demands of additional growthImprove local connectivity and unlock economic growth.

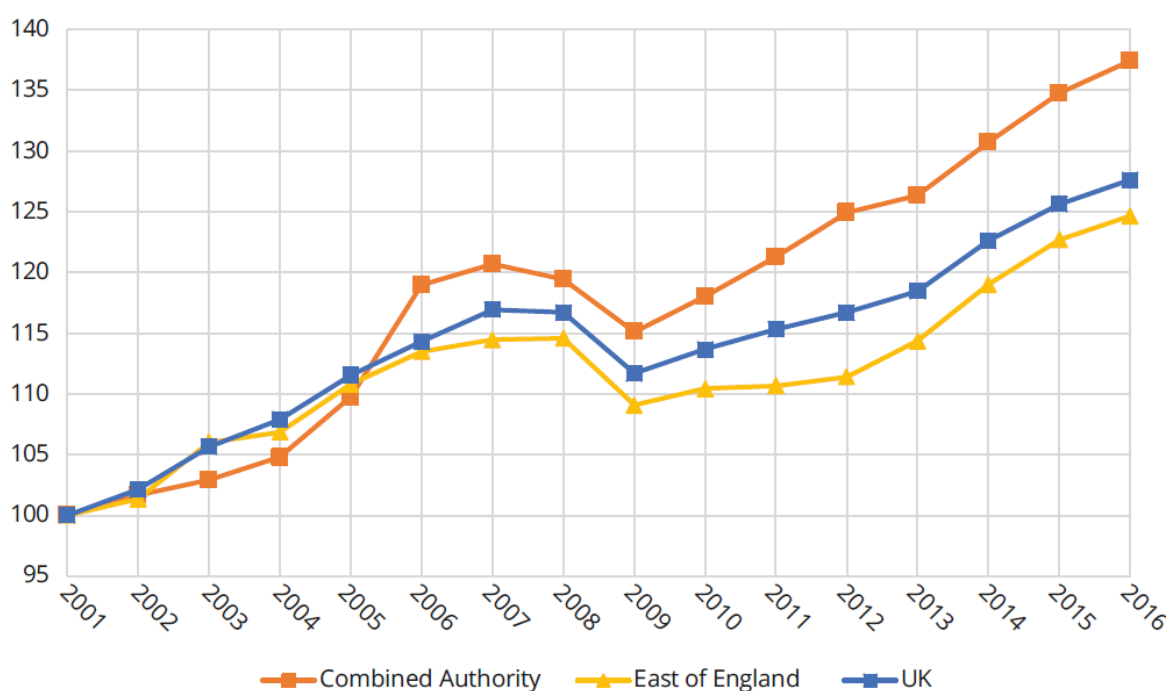
Underlying Assumptions	Possible Metrics
<ul style="list-style-type: none">That following any construction, the demand and funding will be available for additional economic or housing growth	<ul style="list-style-type: none">journey timeshousing deliveryemployment growth

Progress against Strategic Goals - Doubling GVA

- 3.6 A distinguishing feature of the area is how strongly it has grown recently. Economic growth has outpaced both the East of England and UK over the last decade. (See Figure 2 showing Gross Value Added (GVA)). This has been driven primarily, but not entirely, by rapid business creation and growth in the south – Cambridge and South Cambridgeshire. This business is innovation rich, supported by waves of finance, with early acquisitions of companies (often by US firms) providing additional finance which could be invested in other new business. Peterborough is also relatively innovative, with rapid population growth as a factor in driving economic growth – it is the fourth fastest growing city (for population) in the UK.

Figure 4: GVA Growth for the CPCA (extract from CPIER)

Figure 3 – Real Gross Value Added (GVA) – index 2001=100



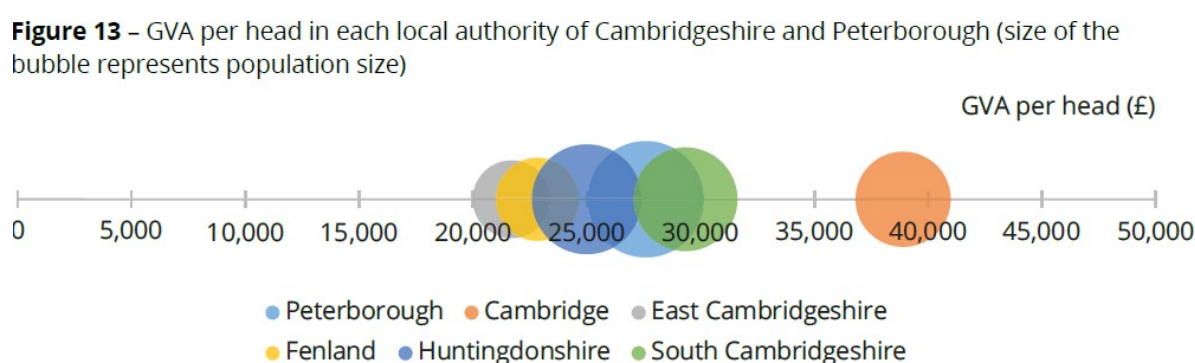
Source: ONS Regional GVA figures

- 3.7 The broad narrative within the Cambridgeshire and Peterborough Independent Economic Review (CPIER) is that for this model of high performance for GVA growth to continue there needs to be significant investment in infrastructure, hence the CPCA initial approach within the four year plan of evaluating a range of these investment proposals.
- 3.8 The CPIER contains a specific narrative on the mayors GVA target. *“To double an economy over twenty-five years requires an average annual growth rate of 2.81%. Historically, since 1998, the local economy has grown at around 2.5%. Viewed in this light, it is a “stretch target” – it requires the area going beyond what it has before.”* Further challenge will arise from the rate of participation in the labour market being already at historically high levels, outstripping Ireland, France and the United States and

the uncertainty around Brexit.

- 3.9 As the CPIER goes on to say, ‘these challenges do not mean the target is unattainable (the effect of the financial crisis in 2007 was clearly felt, but the CPCA economy bounced back strongly from this, the 2.5% historic GVA growth rate includes the period of the financial crisis). However the growth model will need to change. Future growth will have to involve elements of both *employment growth* and *productivity growth*, with ‘the dial pushed firmly in the direction of productivity improvement’.
- 3.10 This is a helpful narrative as it unpacks the headline GVA¹⁸ indicator more and places the emphasis on a wider set of indicators. Clearly the partnership work with ONS (see partnership section) is important in precisely defining what these are but they need to include economic participation rates and wages / household income. In terms of productivity GVA per head for places like Peterborough (see below) will need to improve.

Figure 5: GVA Per Head for the CPCA constituent districts (extract from CPIER)



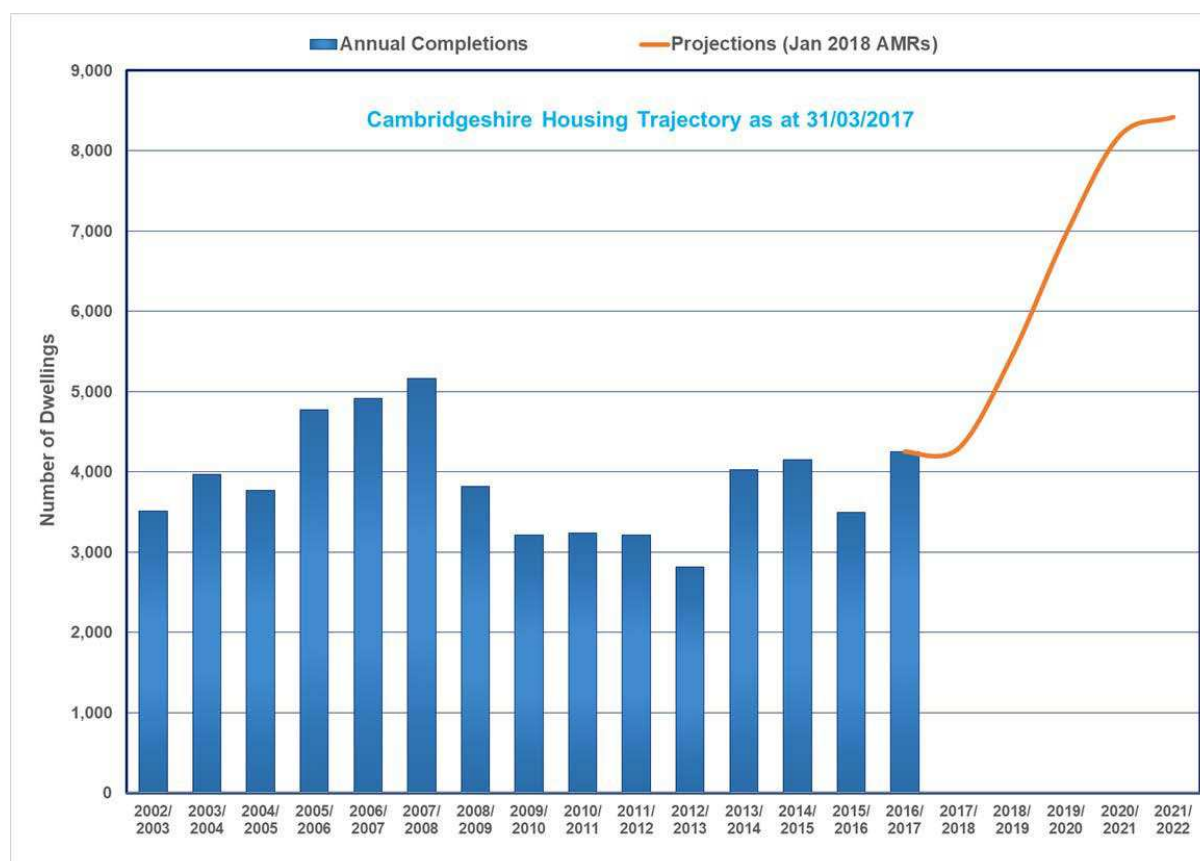
Progress against Strategic Goals - Accelerating house building rates

- 3.11 The challenge of delivering homes is not unique to the CPCA however this is seen as major issue due to the significant size of the gap between demand and supply (driven by economic growth) and the problem of affordability. The housing topic is also very prominent within local conversations, certainly employment growth is outpacing the growth in the housing stock across the Combined Authority leading to longer commuting journeys for many.

¹⁸ (From the CPIER) measuring GVA is not straightforward. The assessment of GVA must be real and not nominal. That is, inflation will tend to increase the ‘face value’ of the economic output of the area regardless of whether real economic output has increased or not. The preferred ONS method of measuring GVA – the ‘balanced’ measure, which takes into account both ‘income’ and ‘production’ factors – is a nominal measure, i.e. with values being given in that year’s prices it is important to use the ONS’ official figures (to give credibility) [for the measurement of the GVA target and progress towards it], but we also need to capture the real value of the economy. The ONS does provide ‘deflators’ for the production approach to GVA measurement. While not perfect, [the CPIER Recommends] that the GVA target should be measured using the ONS (Balanced) GVA measure, deflated by the ONS GVA (Production) GVA deflators.

- 3.12 The figure below explains the housing challenge for the CPCA in terms of accelerating housing delivery. The peak build year was in 2007/08 (just prior to the economic crash) with over 5,000 homes being completed within Cambridgeshire (excluding Peterborough); since then build rates have been considerably lower. The combined district Annual Monitoring Reports (AMRs) show a five year housing supply designed to meet the immediate needs of the local economy **but** build rates per year will need to surpass the 2007/08 peak in order for this to be fulfilled.

Figure 6: Past dwelling completions compared to current ambition for the CPCA.



- 3.13 At present the monitoring of house building within Cambridgeshire and Peterborough (and government returns) are based upon an annual survey. For closer monitoring purposes there needs to be a review of this time-scale (and the suitability of quarterly returns, perhaps using a different data approach). Beyond that there needs to be an understanding of where the CPCA in particular are playing a role in unlocking specific sites and enabling them to come forward as early as possible.

Progress against Strategic Goals – Five Key Themes

- 3.14 The four year plan, the initial investment decisions and practical steps that the CPCA are taking to achieve the 2030 Ambition, is organised under five distinct themes.

- A Good Job within Easy Reach of Home;
- Healthy Thriving and Prosperous Communities;
- A Work-Force Founded on Investment in Skills and Education;
- UKs Capital of Innovation & Productivity;
- A High Quality Sustainable Environment.

At the point these were agreed (February 2018) a draft set of indicators were proposed for each theme. These are outlined in Appendix One (with the data view being incorporated in a draft format across a series of reports on the CambridgeshireInsight website¹⁹)

- 3.15 This strategic monitoring is currently being reviewed in light of the recent publication of the CPIER²⁰. Key considerations for our approach to strategic monitoring will need to incorporate the CPIER's findings in relation to:

- The three distinct sub-economies for the CPCA; Greater Cambridge, Greater Peterborough and Rural Fenland.
- Cambridge and Peterborough Futures. Monitoring against CPIER projects for growth and indicators of 'stresses' within the local economy.
- Quality of 'natural assets' for the CPCA area (e.g. highest grade farmland)
- Suggested measures for GVA, Productivity and Business Growth and the pros / cons of local monitoring (Cambridge Centre for Business Research V BRES data²¹)
- The CPIER emphasis on addressing the health of the workforce as a key element to increasing productivity (the draft monitoring framework is limited on how it measures workforce health).

- 3.16 The CPCA will focus on its partnerships (see section one) to further develop its indicator set. In particular the future working relationship with ONS (and the Cities unit in particular) is seen as vital in order to ensure an accurate and appropriate set of metrics for the programme at a strategic level.

¹⁹ <https://cambridgeshireinsight.org.uk/economy/report/view/0e573c77dfd746d399dedbd5590cbff8/E47000008> as an example report.

²⁰ www.cpier.org.uk

²¹ CPIER subsidiary recommendation "It is important to establish a sound employment database to inform key decisions. The Office for National Statistics (ONS) should continue to work with the Centre for Business Research to clarify why differences exist between the two sources of employment growth rates

Early Investments – A Good Job within Easy Reach of Home

Specific Considerations –Transport Schemes

- 3.17 A significant part of this strategic objective involves the development of a number of transport infrastructure schemes. Proportionate monitoring and evaluation (M&E) will be developed for each scheme with the scope for evaluation being drawn from the final business case submission. The type and depth of evaluation for each scheme will be assessed against the DfT's guidance on monitoring and evaluating local major schemes, or subsequent 'WebTAG'²² guidance on evaluation techniques, hence the precise structure for M&E will vary by scheme.
- 3.18 Fundamental to the approach for scheme evaluation should be the extent to which each has contributed to the Mayor's overall economic objective. Traditionally, measuring return on investment for transportation initiatives has focused on direct user benefits and the economic impacts that arise from those cost savings e.g. minutes of travel time saved by passengers or goods. The reality is however that the CPCA is looking to transportation to play a broader role in shaping the area's economy by²³:
- Supporting business clusters and agglomeration;
 - Increases productivity;
 - Enhancing jobs and labour market accessibility;
 - Opening new markets for businesses; and
 - Enhancing supply chain efficiency.
- 3.19 A proper evaluation is therefore accomplished by assessing specific variables showing how locally the links between businesses and labour depend on the transportation system and how improvements then affect productivity, income, and revenue.

Ideally, before and after studies would be conducted to measure the impact of new or improved transportation. This would mean extensive work in establishing an economic baseline for places / people / businesses that are expected to benefit from each scheme. It should be noted that against this 'ideal' there needs to be a recognition of the challenge of apportioning observed benefits (e.g. growth in employment or wages) to a specific scheme, therefore a thorough understanding of the counterfactual (what would have happened without the scheme) will need to be considered.

Schemes for Monitoring & Evaluation (based on Current Investment Decisions)

- 3.20 An initial investment in feasibility studies for 'strategic' infrastructure schemes was made in June 2017 with a further short-list of schemes for investment being agreed in October 2017²⁴ with the budget allocation at that time being £4.53m. There was also an acknowledgement at the time that there were also other transport interventions that supported the Combined Authority objectives but were promoted by other bodies or through partnerships which may or may not include the Combined Authority (this is important to understanding the cumulative impact of infrastructure investment within future evaluation work). Collectively these create a 'pipeline' of improvements to the

²² <https://www.gov.uk/guidance/transport-analysis-guidance-webtag>

²³ <https://csengineermag.com/article/top-five-ways-transportation-impacts-economic-development/>

²⁴ <http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Priority-Transport-Schemes.pdf>

transport network for the area over the short, medium and longer term.

3.21 There are three schemes that have reached the design and construction phase:

Name	Details	Stated Benefits
A605 Whittlesey Access Phase 2 (Stanground Access)	<i>Provide a right turn lane at junction between the A605 and B1095, where right turning traffic currently blocks straight ahead traffic travelling between Peterborough and Whittlesey</i>	<i>Provide improved access between Peterborough and Whittlesey, which could otherwise inhibit the growth and development of Whittlesey</i>
A47 Junction 18 improvements	<i>Widening of slip roads and circulatory carriageway of existing grade separated roundabout</i>	<i>The improvements would increase capacity and enable Peterborough's Core Strategy of 26,000 homes and 20,000 jobs to be delivered.</i>
A605 Oundle Road Widening - Alwalton to Lynch Wood Business Park	<i>To provide an additional lanes inbound to Lynchwood Business Park, which currently employs c.4000 staff.</i>	<i>Capacity improvements would resolve the severe delays experienced on approach to the Business Park, and would maintain the attractiveness of employment on the Lynchwood Business.</i>

Of these the A605 Whittlesey work will be included within the evaluation of the cumulative impact of initiatives to support the market towns within the CPCA area, and the A47 Junction Improvements will be included in the evaluation of initiatives to support the delivery of housing across the CPCA area (see following section).

3.22 The total cost of the A605 scheme is £1.49m so will be **subject to standard monitoring**²⁵ as per guidance. The timing of the standard monitoring process is anticipated to be as follows:

- Baseline data requirements will need to be collected / collated before / during the scheme construction.
- Data used to monitor scheme delivery performance and processes should be collected during construction.
- Initial analysis of monitoring data conducted at least one year (but less than two years) after scheme opening; with a 'One Year After' report published within two years of scheme opening.
- A final report based on analysis of both 'One Year After' data and enhanced with further data collected up to approximately five years

3.23 The primary objective of the scheme is to improve the economy, reducing the costs to the wider public accounts, to business users and consumers, on congestion and journey reliability, there would also be direct measureable impact on the numbers employed at a major employment site. The broad logic model equates to that for logic models 1a and 1b from the national evaluation framework. The following measures covering, inputs, outputs and outcomes could be monitored.

²⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/9154/la-major-schemes-monitoring-evaluation.pdf

- Scheme build / delivery scheme / costs;
- Travel demand (volume), travel times and reliability of travel times (localised survey of employees at the Lynch Wood Business Park
- Impacts on economy, impact on employment numbers and employment growth at the Lynch Wood Business Park

Initial Investments – Healthy Thriving and Prosperous Communities

Specific Considerations – Market Town Master planning

- 3.24 This strategic objective places a strong emphasis on the progress of a number of market towns with the CPCA area. The core approach will be the development of market town master plans followed by targeted investments. **It is expected that SQW will lead the evaluation of this work as part of the five-year gateway process** with a probable emphasis on baseline studies for each settlement and the development of a set of comparator places as part of the ‘counter factual’ work.
- 3.25 The first Masterplan has been published for St Neots²⁶ within the context that the town already contributes £470m to GVA for the CPCA from over 10,500 jobs. The key projects are:
1. A new foot and cycle bridge in St Neots town centre alongside improvements to the riverside area (which the new bridge will link to the Market Square) (£3.1m direct investment from the CPCA for a £4.6m scheme)
 2. Creation of an enhanced events programme that will act as the springboard to create a Business Improvement District for the town - £259,000 investment from the CPCA towards a £310,000 project)
 3. Establish St Neots as the first Smart Town in the country – (£30,000 investment)
 4. A comprehensive transport study to solve the issue of traffic flow in St Neots town centre, (£175,000 investment)
 5. Improving street furniture in St Neots town centre to make it more attractive and easier for people to travel around the centre (£40,000 investment)
 6. A Business Demand Survey to better understand the future growth needs of local businesses and respond to them in Phase 2 of the Masterplan

In addition the town will likely benefit from investment from housing schemes as this CPCA programme progresses and the development over the longer term of infrastructure schemes, East / West Rail and the Oxford to Cambridge Express Way.

- 3.26 The way each market town master-plan is locally led will create variability in expected outcomes. Whilst the objectives for St Neots are to continue job growth (an additional 3,600 by 2036) and support housing growth by maintaining a vibrant town centre (4,000

²⁶ <http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/St-Neots-Masterplan-Phase-1.pdf>

additional dwellings) other areas may wish to focus on reducing inequalities. For example, local experience on the Wisbech 2020 initiative shows how important health and community cohesion are as barriers to economic success.

- 3.27 It should be noted that outside of the core master planning process the CPCA have invested in a number of schemes aimed at directly improving market towns and their attractiveness or accessibility e.g. the refurbishment of Fenland railway stations. These will be considered collectively as a package of measures for each of the market towns (rather than evaluated as a separate initiative).

Specific Considerations – Affordable Housing

- 3.28 The CPCA has also considerable commitments (and funding) related to the supply of housing in the local area. As already stated there will be a focus on the overall monitoring of build rates. The majority of the activities being taken forward in respect of housing are process-related hence subject to process evaluation (e.g. ‘lessons learned’ exercises). Similarly, milestones will be set for the processes such as monitoring of planning decisions and their speed, number of units with planning permission, allocations or parcels of land, housing starts, and changes in land value.
- 3.29 Beyond this though there are a range of tangible benefits expected to accrue in relation to the supply of ‘affordable’ homes, commuting distances / labour supply and in the case of Wisbech Garden Town, regenerative impacts. Evaluation for housing schemes, beyond process evaluation will have a blend of both quantitative and qualitative approaches. Examples include ‘Social Return on Investment’ methods²⁷ where impacts are systematically evaluated through interviews with stakeholders and frequency of occurrence and likely duration of benefit calculated.

Schemes for Monitoring & Evaluation (based on Current Investment Decisions)

- 3.30 **It is expected that the CPCA affordable homes programme will be subject to a full independent evaluation.** The reason for this decision is the relative value of the programme (£100m) and the learning that the interim evaluation work could provide for the scheme. The affordable homes scheme was also part of the initial business plan submitted to government.
- 3.31 An initial investment of £4.56m was approved in July 2017 to accelerate the delivery of 253 affordable homes (part of the CPCA target to deliver a total of 2000 new affordable homes). This initial investment was spread across 11 schemes (with further sites since being added to the portfolio).
- 3.32 At the point of investment the average Combined Authority grant per unit was £18k, comparing favourably with other Value for Money (VFM) comparators. Also on five of the sites Combined Authority grant funding was deployed alongside grant funding from other public bodies, the Homes and Communities Agency and East Cambridgeshire District Council. The total combined public grant funding for the 11 schemes equating to

²⁷ <http://www.socialvaluelab.org.uk/wp-content/uploads/2012/09/SROI-Vineburgh.pdf>

£7.16m for 355 new affordable homes, at an average of £20.2k per unit (the detail of the sites receiving investment is shown below).

Figure 7: Sites for CPCA Affordable Homes Investment, June 2017 (candidates for evaluation)

CA Area	Provider	Scheme
Fenland	Cross Keys Homes	Snowley Park
South Cambs	Flagship	Papworth
	Cambridge Housing Society	Melbourn
	Cross Keys Homes	Willingham
East Cambs	Cambridge Housing Society	Littleport
	Palace Green Homes	Soham
	Hastoe	Burwell
Peterborough	Cross Keys Homes	Perkins
	Cross Keys Homes	John Mansfield
Huntingdonshire	Cross Keys Homes	Offord D'arcy
	Havebury	Warboys

- 3.33 At the point of investment the stated baseline for delivery of affordable housing (over five years 2017/18 to 2022/23) was 1,000 homes, with the CPCA investment programme adding 2,000 homes to this figure (3,000 in total). Continued monitoring on a site by site basis and CPCA wide, will be conducted to confirm progress towards this target.

Specific Considerations – Community Land Trust Grants

- 3.34 Community Land Trusts are a form of community-led housing, set up and run by ordinary people to develop and manage homes as well as other community assets. CLTs act as long-term stewards of housing, ensuring that it remains genuinely affordable, based on what people actually earn in their area, not just for now but for every future occupier.
- 3.35 As an example, the CPCA approved a £6.5m commercial loan to the East Cambs Trading Company (ECTC), a standalone company owned by East Cambridgeshire District Council to support a development at West End Gardens (Haddenham) within which 19 affordable homes, owned by a Community Land Trust (CLT), will be delivered.
- 3.36 Nationally there are relatively strong evaluations for CLTs and their benefits are reasonably well understood. Therefore it is proposed that **CLT grants will only be subject to light touch** monitoring (against achievement of stated objectives). With their contribution to the overall affordable homes target noted.

Specific Considerations – Infrastructure to Unlock Housing Sites

- 3.37 The CPCA have secured two Housing Infrastructure Fund projects²⁸. The fund is a government capital grant programme of up to £2.3 billion, which has the stated intention of helping to deliver up to 100,000 new homes in England. The purpose of the fund is to deliver new physical infrastructure to support new or existing communities, making more land available for housing, bringing forward additional homes.
- 3.38 The CPCA projects are both funded from the 'Marginal Viability' element of the fund (housing sites being held back because of the cost of infrastructure is too high). Soham Gateway (East Cambridgeshire) has received a grant of £6.33m and Yaxley Loop (Peterborough) a grant of £4.57. Both schemes provided a robust, value for money business case.
- 3.39 The new Yaxley Loop Road will enable the delivery of 5,350 new homes on a key site in Peterborough. Construction of the road, which will be designed and built by Peterborough Highways Services, is due to start in early 2019. The Soham scheme will focus on Land Assembly. At the moment, the site is not under sole ownership and a roundabout onto the A412 is needed ahead of the site access road to unlock a development site of 553 homes.
- 3.40 Whilst separate monitoring arrangements are in place for this particularly funding stream it is proposed that both are subject to a local evaluation to ensure that there is sufficient learning to inform future projects aimed at unlocking growth sites.

Initial Investments – A Work-Force for the Modern World Founded on Investment in Skills and Education

General Considerations

- 3.41 The core approach will be the development of a number of schemes / initiatives within the CPCA skills strategy. This work has been brought together under the conceptual title of the 'Centre for Skills' and includes:

- Apprenticeship hub development;
- AGE Grant
- Devolved AEB;
- Work & Health Programme;
- Employment & Skills Board;

At the present time this work is developing (and needs to respond to the recently published CPIER work. So only two aspects of this work, the continuation of the AGE grant and the Health and Care Sector Progression Academy will be considered in detail by this version of the evaluation framework.

²⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/625528/DCLG_Introduction_to_Housing_Infrastructure_WEB.pdf

- 3.42 Collectively previous evaluation studies point to employment training schemes for adults having a positive (albeit modest) impact on earnings and employment²⁹. Although there is specific learning that can be applied to scheme design there are also gaps in knowledge for example there is little evidence which provides robust, consistent insight into the relative value for money of different approaches. As a response to this the CPCA will identify, at an early stage, an opportunity for an evaluation to contribute to knowledge in this area of policy.

Specific Considerations – Peterborough University

- 3.43 It is expected that the development of **Peterborough University will be evaluated as part of future gateways (not gateway one) in line with the national evaluation framework**. However this activity may need to be supplemented by local evaluation work supported by knowledge transfer from the What Works Centre for Economic Growth which has particular expertise in both understanding and evaluating skills / employment schemes³⁰.
- 3.44 In regard to the development of Peterborough University there is an extensive range of benefits³¹ that could accrue over time. Monitoring and evaluation will need to be selective in nature, with one or two of the expected benefits being subject to detailed evaluation. Possibilities include
- its role as an anchor institution (having a prominent role in its community, students and staff frequenting local businesses and adding value to the diversity of the area;
 - informal and formal ambassadorial roles (raising the national and overseas profile of the university and area);
 - tracking graduates (adding their newly-acquired skills to the local labour market).
 - The university itself is a major employer, both through the people it directly employs and those whose employment it supports through its purchases of goods and services; the
 - its role in tackling social exclusion (encouraging students from families with little experience of higher education to continue their studies);

Specific Considerations – AGE Grant

- 3.45 The Combined Authority administered the Government's AGE grant for an initial 12 months under its own criteria. This grant was used to support small business financially to take on apprentices. The national criteria was a payment of £1500 for a business of less than 50 employees to take on an apprentice, subject to them not having had one in the past 12 months.
- 3.46 The Cambridgeshire and Peterborough criteria, implemented by the Combined Authority, were initially £2000 for a 16-18 apprentice and £1500 for a 19-24-year-old for a business with less than 250 employees and have the opportunity to access grants for up to 5 apprentices a year. The initiative generated 524 apprentices up to July 2017

²⁹ <http://www.whatworksgrowth.org/policy-reviews/employment-training/evidence-review/>

³⁰ <http://www.whatworksgrowth.org/policy-reviews/employment-training/>

³¹ <https://www.birmingham.ac.uk/Documents/university/economic-impact-of-university-of-birmingham-full-report.pdf>

with the CPCA then committing further investment (with alterations to scheme criteria) with the target of generating 575 apprenticeships up to July 2018.

- 3.47 Whilst the CPCA does not propose to evaluate the effectiveness of apprenticeships (this exists nationally). It is proposed to monitor the outputs from this programme. The on-going development of stages two (employer / apprentice matching service) and three (establishing an apprentice training academy) of the apprentice work stream will be available for local evaluation in the future. The development of a full logic model at this point in time though would be premature.

Specific Considerations - Health and Care Sector Progression Academy

- 3.48 Developed and delivered by Cambridgeshire and Peterborough Combined Authority in partnership with the Government, the Health and Social Care Progression Academy scheme aims to train around 2,100 people (including disabled people and older people) to secure and progress in a variety of occupations in the health and care sector.
- 3.49 The scheme will target those who are disadvantaged and long-term jobseekers in the Cambridgeshire and Peterborough area with specialist tailored advice and support to get into work. This will also include training to gain employment, and also help those already working in the sector to progress. This in turn should help meet the high demand in this area of the labour market; 600 new apprenticeships will be created.
- 3.50 As this scheme is an agreed 'pilot' with government, the monitoring and evaluation will be subject to the terms of that agreement. At present, this project will self-report.

Initial Investments – UKs Capital of Innovation & Productivity

- 3.51 A number of the investments under this stream will be subject to a limited amount of monitoring as the nature and value of the interventions are clearly understood from previous national evaluation work. The monitoring will focus on ensuring successful implementation. One of the projects for more significant evaluation will be the investment in superfast broadband and 5G coverage which is expected to be included within the national evaluation framework. A second will be conducted locally and focus on the outcomes achieved through the economic review (CPIER).

Specific Considerations – CPEIR

- 3.52 Whilst the economic review won't be subject to a major evaluation, locally there will be an assessment as to the extent to which the stated aims of the review were met. This assessment could include involvement from the original CPEIR team and stakeholders who were engaged (consulted) during the development of the review. At present the CPCA is considering its response to the review so it is too early to build any detailed logic models however, two possible areas of focus could be:
- How seriously the CPCA and other agencies (including central government) are acting on recommendation 3 of the CPEIR and supporting the Knowledge Intensive Businesses of the Cambridge Cluster.

- The extent to which policy has been differentiated to reflect the three distinct economies of the Cambridgeshire and Peterborough area identified in the CPIER.

Initial Investments – A High Quality Sustainable Environment

- 3.53 This area of policy current has a limited set of initiatives although these are expected to expand with the development of the CPCA's Rural Strategy. At present the emphasis is on the modal shift to sustainable transport (see A Good Job within Easy Reach of Home') and on the development of a Local Energy Hub (LEH); this is one of five nationally³². At present the LEH will only be subject to light touch monitoring.

³² http://www.apse.org.uk/apse/assets/File/Day%201%20-%20Session%201_2%20-%20Patrick%20Allcorn.pdf

Appendices:

Appendix One: Key metrics

Possible Metric	Potential Source	Description	Released	Other Sources?	Possible Gaps/ Data Issues	Able to baseline now?
Station Usage	Office of Rail and Road - Estimates of station usage https://orr.gov.uk/statistics/published-stats/station-usage-estimates	Estimates of the total numbers of people entering, exiting and changing at each station.	Annually 1997-2018 per station	<ul style="list-style-type: none"> More detailed datasets potentially available from network rail e.g. routes passengers have taken. Possibility also to use current surveys (e.g. travel 4 Cambridge) to supplement this work. 	Peterborough equivalent. Historical data will not be available for new station/routes.	Y
Traffic Counts	Cambridgeshire County Council - Traffic Data https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/road-traffic-data/	Information on vehicle flows, flow composition, vehicle occupancy and overall trends. Based on twelve-hour manual traffic counts.	Annually 2013-2017 per Cambridge location	<ul style="list-style-type: none"> More detailed Automatic Number Plate Recognition (ANPR) data, for example Greater Cambridge ANPR Data: Trip Chain Reports. Additional traffic studies/surveys in relation to larger infrastructure projects. 	Peterborough equivalent. Historical data limited to certain sites around Cambridge.	Y
Employment Numbers	Office for National Statistics – Labour Force Survey	Estimates of employment, unemployment and economic activity. Based on a household survey.	1992-2018	<ul style="list-style-type: none"> ONS Business Register and Employment Survey data (used for EEFM) Business register kept by Cambridge University Judge Business School (data available to CCC) 	Survey based.	Y

Possible Metric	Potential Source	Description	Released	Other Sources?	Possible Gaps/ Data Issues	Able to baseline now?
Productivity	Office for National Statistics – Labour productivity	The efficiency of the UK workforce calculated as output per worker, output per job and output per hour.	Quarterly 2014-2018		Regionally, not detailed.	Y
GVA	Office for National Statistics - Regional economic activity by gross value added	Estimates of economic activity by UK country, region and local area using balanced regional gross value added (GVA(B)).	Annual 1998-2017		Historical data regionally, not detailed. From January 2018 data will be available at lower level.	N
Journey Times	Department for Transport - Journey time statistics https://www.gov.uk/government/collections/journey-time-statistics	Statistics on journey times to key services including food stores, education, health care, town centres, employment centres and transport hubs.	Annually 2014-2018	<ul style="list-style-type: none"> Potential to survey population for bespoke data per projects. Cambridgeshire live bus journeys data available along key routes. 	Detailed data on resident's journey times to work.	Y
Highstreet Footfall	Cambridge BID - Footfall and City Performance data https://www.cambridgebid.co.uk/city-performance	Data from Cambridge city footfall cameras.	Weekly and monthly 2018-2019	<ul style="list-style-type: none"> District level historical data available from retail studies. Cambridgeshire County Council anticipates updating current network of monitors. Potential to invest in/deploy new monitors. 	Limited to cameras in Cambridge.	N
Resident skills levels	Office for National Statistics - Annual Population Survey	A residence based labour market survey including qualifications.	Quarterly 2004-2018	<ul style="list-style-type: none"> Census 2011 data 	Survey based.	Y
Students numbers	HESA - Higher Education Student Data	HE student enrolments	2014/15-	<ul style="list-style-type: none"> Cambridgeshire County Council collects data on student numbers direct from institutions for 	Historical data limited to current	N

Possible Metric	Potential Source	Description	Released	Other Sources?	Possible Gaps/ Data Issues	Able to baseline now?
	https://www.hesa.ac.uk/data-and-analysis/students	by HE provider.	2017/18	population projection purposes.	providers.	
Property Prices	HM Land Registry - Price Paid Data https://www.gov.uk/government/statistical-data-sets/price-paid-data-downloads	Data in the sale prices of properties in England and Wales submitted to HM Land Registry for registration.	Monthly 1995-2019	<ul style="list-style-type: none"> Cambridgeshire County Council subscribe to Home Track data. 		Y
Retail	Cambridgeshire County Council - Cambridgeshire Retail and Town Centre Uses Completions	Amount of completed Retail floorspace (sq.m.) in each financial year. Broken down into four development use classes and includes data by district, town centre or local authority and gains or losses.	Annually 2002-2017	<ul style="list-style-type: none"> CACI – recent value of major retail centres. Goad Maps - over 3,000 retail centres are available through a subscription to the online service. 	Combining Peterborough and Cambridge data.	Y
Housing Completions	Cambridgeshire County Council - Cambridgeshire Housing Completions	Number of dwellings completed (built) includes data by district, parish, settlement, by bedrooms, on previously development land, affordable and density.	Annually 2002-2017		Combining Peterborough and Cambridge data.	Y
Road Traffic Accidents	Cambridgeshire County Council - Traffic Data https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/road-traffic-data/	Counts of road traffic collisions across Cambridgeshire. The dataset breaks down data for each month by district and contains a dataset breaking down by collision severity.	Annually 2012-2017		Peterborough equivalent.	Y

Possible Metric	Potential Source	Description	Released	Other Sources?	Possible Gaps/ Data Issues	Able to baseline now?
Population	Cambridgeshire County Council – population estimates	Local population estimates and forecasts.	2011- 2036	Census 2011 data		Y
Resident Earnings	Office for National Statistics – Annual Survey of Hours and Earnings	Information about earnings and hours of employees.	Annually 2002-2018		Survey based.	Y

Appendices:

Appendix 2: October 2017 'Short List' Schemes (Provisional).

<http://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Item-2.2-Appendix-A-280318.pdf>

Project Information							Cost / Funding						
Scheme	Location / District	Scope	Benefits	Current Status (Refers to stage completed or currently underway)	Next project stage	Owner	Total Scheme Cost (£m)	3rd Party Contributions (£m)	CA Commitment (£m)	CA Annual Spend Profile (£m)			
										Term 1			
										17/18	18/19	19/20	20/21
Cambridgeshire Capacity Study	Strategic	Strategic rail study identifying network constraints	Underpins strategic rail growth directly supporting jobs and housing	Pre-feasibility	Feasibility	CA	0.3	0.25	0.05				
Cambridge South Station	Cambridge	Development costs of a new station next to the Biomedical Campus	Provides access to a major employment site which will support new homes and 16,000 existing, and 7,000 new jobs, with further growth planned.	Feasibility	Options appraisal / business case	CA	10	8.25	1.75				
Soham Station	East Cambs	Development costs of new station at Soham	Will support the delivery of 1,655 new homes and 15ha of employment land.	Options appraisal / business case	Options appraisal / business case	CA	12	7	5				
Regeneration of Fenland Railway Stations - March, Manea and Whittlesea Station	Fenland	A package of improvements to upgrade the Fenland railway stations	To ensure greater use of the railways in Fenland for local residents, businesses and tourism. Supports Local Plan commitments to 7,200 jobs on 85ha of new employment land.	Options appraisal / business case	Preliminary design	FDC	9.5	0.5	6.5				
A505 Corridor Study	South Cambs	A Strategic economic growth and transport study to include outline business case development for a scheme on the A505	Reduces congestion, supports key employment sites including Granta Park, Babraham and the Genome campus with potential growth of over 11,200 jobs.	Pre-feasibility	Feasibility	CA	1.5	0	1.5				
A10 Foxton Level Crossing	South Cambs	Scheme development work to take forward level crossing replacement	Resolves longstanding key constraint on the network, reducing congestion, providing interchange with rail, and supporting jobs and employment.	Feasibility	Feasibility	CCC	2	0	2				
A14 Junctions Improvement feasibility Study	East Cambs	Feasibility study to understand and review J35-38 of the A14	Reduces congestion on the strategic network, supports new jobs and houses.	Pre-feasibility	Feasibility	ECDC	0.15	0	0.15				
A142 Capacity Study	East Cambs	Feasibility study to understand what the impact of growth is on the key route between Newmarket and Chatteris	Reduces congestion, supports new jobs and houses, improves road safety.	Pre-feasibility	Feasibility	ECDC	0.15	0	0.15				
A47 Junction 18 improvements	Peterborough	Widening of slip roads and circulatory carriageway of existing grade separated roundabout	The improvements would increase capacity and enable Peterborough's Core Strategy of 26,000 homes and 20,000 jobs to be delivered.	Design	Construction	PCC	5.5	1.65	3.85				
A605 Whittlesey Access Phase 2 – Stanground Access	Peterborough	Provide a right turn lane at junction between the A605 and B1095, where right-turning traffic currently blocks straight ahead traffic travelling between Peterborough and Whittlesey.	Provide improved access between Peterborough and Whittlesey, which could otherwise inhibit the growth and development of Whittlesey.	Preliminary design	Design/Construction	PCC	4	1.2	2.8				
A605 Oundle Road Widening - Alwalton to Lynch Wood Business Park	Peterborough	To provide an additional lanes inbound to Lynchwood Business Park, which currently employs c.4000 staff.	Capacity improvements would resolve the severe delays experienced on approach to the Business Park, and would maintain the attractiveness of employment on the Lynchwood Business.	Preliminary design	Design/Construction	PCC	1,493	0.773	0.72				
A1260 Nene Parkway Junction 15 improvements	Peterborough	Capacity Improvements to existing Junction 15, at the interchange between the A1260 and A47 Major Roads.	Increased capacity to enable Peterborough's Core Strategy of 26,000 homes and 20,000 jobs to be delivered.	Pre-feasibility	Feasibility	PCC	7	0.7	2.455				
Eastern Industries Access Phase 1 - Farnwell Way	Peterborough	Capacity improvements to existing infrastructure, possible dualing of link road or alternative access arrangements.	Provides access to large employment area at Red Brick Farm within the Eastern Industries, enabling the creation of 6,000-8,000 jobs.	Pre-feasibility	Feasibility	PCC	9.55	0.95	0.55				
A1260 Nene Parkway Improvement Jn 32 to Jn 3 (Fletton Parkway)	Peterborough	Capacity improvements to A1260 Nene Parkway including additional lanes	The proposal would increase capacity necessary to enable Peterborough's Core Strategy of 26,000 homes and 20,000 jobs to be delivered.	Pre-feasibility	Feasibility	PCC	4.5	0.45	4.05				
A16 Norwood dualing	Peterborough	Provide roundabout access off the A16 into the proposed Norwood development and dual the existing section of the A16 between there and its roundabout with the A47 which would also be improved.	Enable the development of Norwood comprising 2,000 houses, which would otherwise be difficult to bring forward due to developer cash flow issues as the infrastructure improvements are required from dualing of the A16.	Pre-feasibility	Feasibility	PCC	10.8	1.1	0.125				
Eastern Industries Access Phase 2 - Fengate	Peterborough	Capacity improvements to existing infrastructure, possible road widening or junction improvements.	Provides access to large employment area at Red Brick Farm within the Eastern Industries, enabling the creation of 6,000-8,000 jobs.	Pre-feasibility	Feasibility	PCC	7.5	0.75	0.2				
A47 Junction 18 Pedestrian Footbridge	Peterborough	Detailed assessment at the cost of reconstructing the existing shared used footbridge.	Enable pedestrians and cyclists to continue crossing the A47 via a shared use footbridge	Pre-feasibility	Feasibility	PCC	0.3	0.05	0.25				
Wisbech Access Study Packages	Fenland	Delivery of measures identified in the Access Study to support growth and regeneration	Reduction in congestion at key junctions, supports Local Plan commitments of over 11,000 new homes and 30ha of employment land.	Options appraisal / business case	Preliminary design	CA	13	10.5	8.5				
March junction improvements package. Capital and Revenue	Fenland	Feasibility studies and testing of options for improvements to key set of junctions on the A141 and the B1101; and phase 2 of a northern Link road. Project would then include implementation of preferred option(s) from the study.	Reduction in congestion at key junctions, supports Local Plan commitments of over 11,000 new homes and 30ha of employment land.	Feasibility	Feasibility	CCC	6.35	3.7	3.65				
Huntingdon Strategic River Crossing	Hunts	Feasibility and preliminary work on major strategic new river crossing	Development work to inform future development requirements (new homes at Wyton(4,500), Giffords Park (2,200), Sapley Park (1,300) & Lodge Farm (3,820)) and capacity involving new strategic river crossings.	Pre-feasibility	Feasibility	CA	0.5	0	0.5				
A141 capacity enhancements around Huntingdon	Hunts	Package of highway schemes on A141	Highway improvements adjacent to the strategic Alconbury development site, with congestion reduction and supporting Local plan commitments of employment and 16,000 new dwellings.	Pre-feasibility	Feasibility	CCC	7	0	6				
Queen Adelaide Road Study	East Cambs	Road study to explore acceptable highway solutions to level crossing down time as a result of increased rail flows	Enables strategic rail growth whilst maintaining local access to employment and services.	Pre-feasibility	Feasibility	CCC	0	0	0.16				

Project Information							Cost / Funding						
Scheme	Location / District	Scope	Benefits	Current Status (Refers to stage completed or currently underway)	Next project stage	Owner	Total Scheme Cost (£m)	3rd Party Contributions (£m)	CA Commitment (£m)	CA Annual Spend Profile (£m)			
										Term 1			
										17/18	18/19	19/20	20/21
St Neots River Great Ouse northern crossing / cycle bridge	Hunts	Delivery of new cycle crossing in St Neots	Provides critical infrastructure linked to the St Neots Masterplan, supporting 4000 houses and 3600 jobs.	Pre-feasibility	Preliminary design	CCC	4.5	1.5	3				
Coldhams Lane roundabout improvements	Cambridge	Remodelling roundabout to improve safety and provide crossings on each arm	Improved road safety, encourages walking & cycling to major urban development of over 1,200 new homes in East Cambridge.	Pre-feasibility	Design	CCC	3	0.2	2.8				
Smart City Network	Peterborough	To develop a plan of how Peterborough would implement a Smart City Network (including intelligent mobility). This would form the basis for joint working with Cambridgeshire County Council to develop a Smart City Strategy to serve the Combined Authority area.	Gain a comprehensive understanding of the requirements which will enable the exploitation of data to support the management and control of the network, with an aim of increasing network resilience and capacity, allowing for more informed and	Pre-feasibility	Feasibility	PCC	0.1		0.1				
Sustainable Travel Capital/Revenue	Peterborough	Promoting sustainable travel and infrastructure improvements city wide	Increased mode choice, less congestion on the roads and reduce the need for expensive transport infrastructure investment.	Preliminary design	Feasibility	PCC	0.5		0.5				
Schemes and Studies	Peterborough	Undertake small scale studies and traffic modelling in order to develop on-going pipeline of transport infrastructure schemes	Identify transport schemes that would tackle congestion, enable housing and promote job jobs creation.	Preliminary design	Feasibility	PCC	0.4		0.4				
Total							121.6	39.5	57.71	9.275	17.18	16.975	20.33

KEY

	Combined Authority Funding Approved Oct 2017
	Combined Authority Funding Request Mar 2018
	Future Investment

Performance Management and Monitoring & Evaluation Programme

The following programme outline has been prepared by the Business Intelligence Team of Cambridgeshire County Council (referred to this point forward as CambridgeshireInsight³³ with a view to supporting the development and delivery of the Combined Authority's (CPCA) Performance Management and Monitoring and Evaluation Framework - providing on-going support for the performance management of the Combined Authority whilst also integrating the CPCA's requirement for evidence with other on-going programmes³⁴ in Cambridgeshire and Peterborough, providing value for money to the public purse.

Background

The Combined Authority has published its four year plan 2018/19 to 2021/22 as well as its 'Ambition' for 2030. Both documents make significant commitments in terms of the delivering sustainable economic growth, infrastructure and housing.

The Combined Authority's agreement with central government includes two relevant commitments.

- To maintain an up-to-date Assurance Framework (which incorporates the Monitoring and Evaluation Plan); a commitment to use evidence to justify policy decisions and to effectively monitor the outputs and outcomes of policy (spending plans).
- To support an independent³⁵ evaluation framework for the Combined Authority's work up to its first Gateway Review in 2022. Providing evidence of effective interventions.

There is also a requirement to demonstrate a good fit with central government expectations for best practice³⁶ in the development and implementation of policy. This is best reflected within the treasury 'Green Book' (see figure 1). At first glance there might be an assumption that this is focused towards the end of the cycle (Appraisal, Monitoring and Evaluation). However, there is also a need to be clear about the rationale, the logic model for the proposed intervention (e.g. if we invest in training centre x we will support people into better employment in industry y) and objective setting (e.g. we expect x hundred people to be trained and gain sustainable employment in industry y; GVA will increase by z%).

³³ CambridgeshireInsight is a brand name for the County Council's Research Team and the on-line web resources under which the evidence base for Cambridgeshire and Peterborough are drawn together. www.cambridgeshireInsight.gov.uk

³⁴ The County Council Team already coordinates the monitoring of land and movement planning, the Strategic Housing Needs Assessment and is a significant contributor to the Independent Economic Review.

³⁵ The Independent Evaluation will be led by SQW Ltd.

³⁶ The Green Book, Central Government Guidance on Appraisal and Evaluation.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

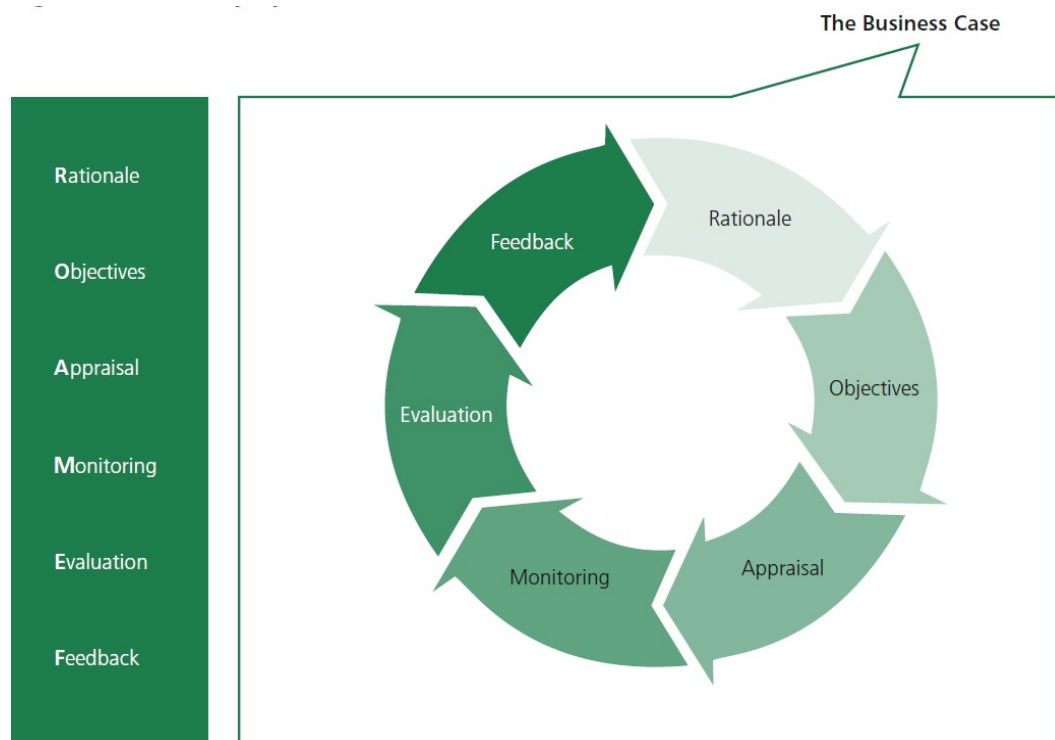


Figure 8: The Policy Cycle, Treasury Green Book, 2018

As well as the explicit requirement for monitoring and evaluation in the above model there is also a clear expectation that early stage planning for policies, the 'strategic dimension' (within the five case model), the framing of rationale and objectives should "have an objective basis in research (as set out in previous versions of the Combined Authority Assurance Framework)³⁷. Relevant evidence can be drawn from evaluations of past interventions, evidence of 'what works', international comparisons, academic and other literature and relevant experience. Key will be the evidence that has been drawn together within the Cambridgeshire and Peterborough Independent Economic Review (CPIER) and the Local Industrial Strategy. The basis for the following proposal therefore seeks to put the Combined Authority in the best possible position in these respects.

The proposal has been drawn together by CambridgeshireInsight The full details of the team's competences are given below. The team is well qualified to deliver the proposed programme:

- The County Council's Research Team (part of the Business Intelligence Service) hosts the 'County's' shared evidence based 'CambridgeshireInsight' into which a number of partners already invest, drawing together evidence about Cambridgeshire and Peterborough's economic, housing, planning, health needs and other issues.
- CambridgeshireInsight supported the development of the initial Monitoring and Evaluation plan for the Combined Authority and is very familiar with the policy area and the current context as well as the historic approach to monitoring and evaluation for devolution deals. CambridgeshireInsight already has established links with the relevant government departments and personnel.
- CambridgeshireInsight has a significant track record in managing performance management frameworks both within the County Council and for partnerships such as the CommunitySafety

³⁷ Last updated October 2017, see MEv2.doc

<http://cambridgeshirepeterborough-ca.gov.uk/meetings/combined-authority-board-25-october-2017/?date=2017-10-25>

Partnerships.

- CambridgeshireInsight has actively supported the Cambridgeshire and Peterborough Independent Economic Commission (CPIER), the development of skills evidence and other policy work of the Combined Authority. CambridgeshireInsight are familiar with the policy context, emerging evidence and interventions and can offer continuity of expertise and evidence, enabling them to 'hit the ground running' in delivering the programme.
- Developing activities together with existing County Council services provides both continuity of evidence and best value for the public purse. CambridgeshireInsight also inputs to the evidence base for the Greater Cambridge Partnership so alignment of evidence can take place.

Programme Objectives

- To develop and deliver performance management and Monitoring and Evaluation Plan for the Combined Authority.
- To integrate performance management and Monitoring and Evaluation for the work of the Combined Authority and the Business Board.
- To scope and commission 'a fit for purpose' evidence base for the Combined Authority and the Business Board.

In delivering the above, the programme provider will lead for the Combined Authority (and engage with central government) on the relevant issues regarding evidence, performance management and monitoring and evaluation.

Programme Approach

The following specification has been drawn up with reference to the four year plan, 2030 Ambition and the Green Book.

Programme Approach

The following specification has been drawn up with reference to the four year plan, 2030 Ambition and the Green Book.

Refresh and management of the Monitoring and Evaluation Plan of the Combined Authority's Assurance Framework

Specification Framework	Detail
Rationale	<p>The Assurance Framework forms part of the Combined Authority's commitment to Central Government. Part of the framework outlines in detail how the Authority will measure and evaluate the success of each of the policies that it adopts – the Monitoring and Evaluation Plan.</p> <p>The last version of the Assurance Framework was completed in Autumn 2017, pre-dating the publication of the CPCA's four year plan.</p> <p>The Monitoring and Evaluation Plan requires a significant refresh to reflect the CPCA's strategic objectives, priority programmes and target outcomes and to incorporate Central Government requirements..</p> <p>The Business Board (previously GCGP LEP) framework was last updated in 2015. There was a commitment to an annual refresh). This needs to be incorporated into the CPCA Monitoring and Evaluation Plan. This is also identified as a requirement by the recent LEP Review (July 2018) and as outlined in Appendix 1</p>
Outputs	<p>A refreshed Monitoring and Evaluation Plan as part of the CPCA's Assurance Framework no later than 27th September 2018.</p> <p>The refreshed Monitoring and Evaluation Plan will be shared and signed-off with Central Government to ensure their requirements are incorporated (dependent on feedback from cross-Whitehall analysts) – See Appendix 1.</p> <p>Compliance with all Central Government requirements for Monitoring and Evaluation (See outline in Appendix 1).</p>
Expectations for Combined Authority	<p>Engagement with the process for developing the framework/plan with input from Directors and topic leads (e.g. Business, Skills, Transport and Infrastructure, Housing, Strategic Planning).</p> <p>Sign off Monitoring and Evaluation Plan (in draft and final form) prior to release.</p> <p>Support for the Integration of approaches between the CPCA Monitoring and Evaluation Plan and previous arrangements (last updated in 2015) for funds administered by the GCGP LEP e.g. effectiveness of funding contribution to Ely Bypass and Whittlesey Crossing.</p>
Resource input	<p>Input from topic experts from within CambridgeshireInsight on monitoring and evaluation including fitting logic models to policy interventions and early identification of evidence and data.</p> <p>Meeting the engagement requirements from BEIS and MHCLG</p> <p>Engaging directly with BEIS and MHCLG, the 'What works Centre', SQW Ltd and the devolved authorities evaluation network.</p>

Curation of Strategic Evidence

Specification Framework	Detail
Rationale	<p>Completion of the monitoring programme and evaluation work requires the development of an evidence base upon which to draw.</p> <p>At present there is only a loose coordination of evidence upon which to draw through various partnerships centred on CambridgeshireInsight.</p> <p>This element of the programme will fulfil a coordination role and (in the language of the Green Book support "<i>The strategic dimension to identify where there are gaps in the evidence base</i>", and commission (or develop with partners) information to fill the gaps.</p>
Outputs	<p>An initial assessment of the evidence base for Cambridgeshire & Peterborough Combined Authority (including an understanding of the process by which evidence is commissioned) taking into account the CPIER.</p> <p>A commissioning strategy to bridge any information gaps based on the risk they pose for fulfilment of the Combined Authority's functions.</p> <p>Management of the commissioning of providers/partners in developing evidence and incorporation in performance and monitoring and evaluation reporting.</p>
Expectations for Combined Authority	<p>Engagement with the process for the assessment of the evidence base and identifying required evidence</p> <p>The lead for CambridgeshireInsight (Michael Soper) will work alongside the Directors and topic leads (e.g. Business, Skills, Transport and Infrastructure, Housing, Strategic Planning) to identify the required evidence and gaps.</p>
Resource input	<p>Input at a senior officer level (Michael Soper) to oversee the assessment of the strategic dimension and identify evidence gaps.</p> <p>Leadership to cover gaps with recommendation for the commissioning of additional evidence gathering or analysis work taking into account the CPIER.</p> <p>Management of the commission of evidence and incorporation within the Monitoring and Evaluation Plan and performance management framework.</p>

Performance Management

Specification Framework	Detail
Rationale	<p>The CPCA will need to track the delivery and achievement of the outputs and outcomes under the four year plan.</p> <p>The programme will reflect the fundamental link between performance and financial expenditure and will develop integrated performance reporting.</p> <p>At its simplest the Framework will ask: How much did we do? How well did we do it? Are people better off?</p>
Outputs	<p>Performance Management Framework, prepared, negotiated, and implemented.¹</p> <p>Performance reporting - delivered 6 times per year (in accordance with the agreed CPCA timetable)</p> <p>Development and collection of agreed performance indicator set.</p> <p>Development of a Performance Reporting Dashboard (including comparators)</p> <p>Publication of agreed performance reports(e.g. public release on the CPCA/ CambridgeshireInsight websites and other agreed communications platforms).</p> <p>Performance Management to include Combined Authority and Business Board (with alignment to GCGP as appropriate) and to include an appropriate mix of contextual, output and outcome indicators.</p>
Expectations for Combined Authority	<p>The integration of performance and financial reporting is central to the performance monitoring arrangements.</p> <p>The CPCA Finance team will support the co-design of the performance framework and support regular reporting with commentary.</p> <p>The Directors and topic leads (e.g. Business, Skills, Transport and Infrastructure, Housing, Strategic Planning) within the CPCA will support the co-design of the performance framework and support regular reporting with commentary.</p>
Resource input	<p>Design of the performance management framework to be led by a Senior Analyst. The performance dashboard will be developed and implemented by an Analyst.</p> <p>Input includes the development of an appropriate mix of contextual, output and outcome indicators.</p>

¹ Example of performance report see County Council GPC Integrated Performance Report

https://cmis.cambridgeshire.gov.uk/ccc_live/Committees/tabid/62/ctl/ViewCMIS_CommitteeDetails/mid/381/id/2/Default.aspx

Management of Independent Evaluation Arrangements

Specification Framework	Detail
Rationale	<p>Collectively BEIS / Devolved Authorities have appointed SQW Ltd to carry out an independent evaluation for elements of each devolution deal (see appendix one). CambridgeshireInsight currently represents both the Combined Authority and the Greater Cambridge Partnership on the steering group for this work.</p> <p>The pattern of engagement will be to negotiate a local evaluation framework with SQW (this will be a local translation of the national framework). Then link SQW to local data and information in order for them to complete their work.</p>
Outputs	<p>A Local Evaluation Framework (together with SQW).</p> <p>Independent Evaluation Report Prior to Gateway 1 for the CPCA.</p>
Expectations for Combined Authority	<p>A clear project programme (Four Year Plan and Medium Term Financial Strategy) so the independent evaluation panel can understand growth fund spending and intended outcomes.</p> <p>SQW input and services will be charged to the CPCA under the terms of the agreed independent evaluation contract between SQW and each of the devolved authorities.</p>
Resource input	<p>Input at a senior officer level to manage the engagement with SQW and secure the interests of the Combined Authority within the design of the local evaluation framework.</p> <p>Senior Analyst and analyst support in collating and presenting evidence to support the evaluation.</p>



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 5.1
27 MARCH 2019	PUBLIC REPORT

GROWTH DEAL PROJECT PROPOSALS

1. PURPOSE

- 1.1. The Business Board is responsible for allocating the Growth Fund subject to ratification by the CA Board with the objective of creating new jobs and boosting productivity.
- 1.2. The Board are asked in this report to consider and make recommendations against new applications that have been submitted for these funds, based upon the independent external assessment undertaken.

1.3 The Business Board report can be viewed at <http://cambridgeshirepeterborough-ca.gov.uk/meetings/business-board-meeting-25th-march-2019/?date=2019-03-25>

<u>DECISION REQUIRED</u>	
Lead Member:	Chair of Business Board
Lead Officer:	John T Hill, Director, Business and Skills
Forward Plan Ref: 2019/007	Key Decision: Yes
<p>The Combined Authority is recommended to:</p> <p>(a) Consider the confidential reports by external assessors of projects submitted for Growth Deal Funds.</p> <p>(b) Approve those schemes recommended as suitable by the Business Board</p>	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

(c) Note the update on progress of projects that were approved at the January 2019 Business Board meeting and Small Grant Scheme	
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<u>Source Documents</u>	<u>Location</u>
None	



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 5.2
27 MARCH 2019	PUBLIC REPORT

LOCAL INDUSTRIAL STRATEGY

1.0 PURPOSE

- 1.1. This report brings forward the inaugural Cambridgeshire and Peterborough Industrial Strategy to the Board for comment and approval.
- 1.2. The Cambridgeshire and Peterborough Independent Economic Review (CPIER) launched by the Secretary of State for Industrial Strategy in October 2018 was the most thorough and in-depth analysis of the region's economy ever undertaken. This evidence base and set of strategic independent recommendations established the importance to the UK of a successful Cambridgeshire and Peterborough economy, and the importance within Cambridgeshire and Peterborough of an economy that is more inclusive.
- 1.3. Cambridgeshire and Peterborough is one of the first areas nationally to bring forward a Local Industrial Strategy to deliver on the ground the ambitions of the UK Industrial Strategy published in 2017. As such, this is a ground-breaking document – taking the results of the CPIER to pioneer new Government policy in a devolved area alongside a new model Business Board.
- 1.4. The Business Board have led the development of the Local Industrial Strategy, at the request of the Combined Authority Board. Local authorities, public sector partners, and the business community have been engaged in creating a strategy that sets out how the inclusive growth of the economy will underpin the area's vision as a leading place in the world to live, learn and work.

<u>DECISION REQUIRED</u>	
Lead Member:	Chair of the Business Board
Lead Officer:	John T Hill, Director of Business and Skills
Forward Plan Ref: 2019/016	Key Decision: Yes
<p>The Combined Authority Board is recommended to:</p> <p>(a) Approve the Cambridgeshire and Peterborough Industrial Strategy to the Combined Authority Board for approval</p> <p>(b) Delegate authority to the Business Board and the Director of Business and Skills, in consultation with the Chair of the Housing and Communities Committee, to take the Industrial Strategy through the remaining stages of national sign-off, and refine.</p>	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

2.0 BACKGROUND

- 2.1. The Combined Authority Board agreed the Growth Ambition Statement in November 2018 as a collective local mandate to implement the CPIER and established how this would happen through the range of strategies and plans to be brought forward by the Combined Authority and partners. For example, the Non-Statutory Strategic Spatial Framework is the mechanism through which the CPIER recommendations for reviewing housing need are being progressed.
- 2.2. The Local Industrial Strategy is a contributor to that Growth Ambition Statement. It is focussed on the interventions which will support business growth in a way that is global, productive, and inclusive.

A global capital of innovation and better living

- 2.3. The ambition within the LIS is a bold one, backed up by the evidence of the CPIER and other key sources. Across Cambridgeshire and Peterborough there exist centres of world-leading research and industry expertise in domains with huge market and societal value. These include;
- Life Science discoveries that transform ageing well
 - AI and Data technologies transforming commercial and public life
 - Energy and circular economy practices that pioneer Clean Growth
 - Advances in sustainable and healthy food production brought about by Agri-tech
- 2.4. Not only does this area leading the way on many of the Grand Challenges set out in the UK Industrial Strategy, it is doing so in a way which is bonding

specialisms into a single innovation ecosystem which pioneers and exemplifies better living.

A bespoke response to the places that make up Cambridgeshire and Peterborough

- 2.5. In line with the findings of the CPIER, the Local Industrial Strategy has been deliberately developed to respond to the distinct economic characteristics and needs of our three economies: Greater Cambridge, Greater Peterborough, and the Fens.
- 2.6. Each of these areas is unique and as such requires a bespoke industrial strategy response as established within this LIS, and as it is hoped will evolve and develop from this point forward.
- 2.7. However, the connectivity and industrial integration across all of these areas and extending beyond the CPCA area in all directions is similarly an important factor – and this strategy seeks to facilitate these connections going forward.

Sectors that will lead our future economy

- 2.8. Also in line with the CPIER, and before that the East of England Science and Innovation Audit in 2017, this Local Industrial Strategy identifies and supports the growth of the sectors that will lead our future economy.
- 2.9. This includes the identification of four strategic growth sectors in knowledge intensive industries, as well five further supporting sectors. The LIS establishes that each strategic growth sector should be supported by the Combined Authority to produce a sector strategy which provides in-depth analysis of the opportunities, and makes recommendations for the public sector and private sector to consider going forward.
- 2.10. The first of these to be supported by the Combined Authority is the Digital Sector Strategy. This has informed the LIS and such is included as an annex in this report for information. It also contains a range of considerations beyond the LIS and therefore will be brought to the Board at a future point for more detailed discussion, as will sector strategies for Advanced Manufacturing, Agri-tech, and Life Sciences.

How the Strategy will be delivered

- 2.11. The Local Industrial Strategy is being co-produced with Government, to be delivered within existing local resources and powers.
- 2.12. The priority interventions set out in the LIS are therefore categorised into three types of delivery; those that are existing commitments and devolved functions, designed interventions which have funding strategies which will be commenced following the approval of the LIS, and interventions which will be invited from partners through a new call to the Local Growth Fund which will be issued following the approval of the LIS.
- 2.13. As part of the OxCam Arc the Combined Authority is pursuing a set of opportunities for Government co-investment into the Local Industrial Strategy, where further devolution and funding would accelerate and/or increase the impact of the UK Industrial Strategy within the Arc. These are also captured within the LIS, and these will be subject to further discussion with Government as each LIS within the Arc is taken through national sign-off in the period April to May. It is recommended that the CA Board ask the Business Board to lead the LIS through this process, and with the Director of Business and Skills give authority to make any minor amendments necessary during this process – in line with the core of the strategy agreed by the CA Board.

3.0 FINANCIAL IMPLICATIONS

The financial measures put forward in the Local Industrial Strategy describe existing commitments or measures, proposed interventions and a high-level delivery plan for bringing these forward for approval, and that the LIS will be the basis for a further call for Local Growth Fund investments from May 2019 onwards.

4.0 LEGAL IMPLICATIONS

There are no significant implications identified.

5.0 SIGNIFICANT IMPLICATIONS

There are no significant implications identified.

6.0 APPENDICES

- 6.1. **Appendix 1** – Draft Local Industrial Strategy
- 6.2. **Appendix 2** – Digital Sector Strategy – covering letter for information
- 6.3. **Appendix 3** – Digital Sector Strategy for Cambridgeshire and Peterborough – for information and future Board consideration
- 6.4. **Appendix 4** – Equality Impact Assessment

Source Documents	Location
East of England Science and Innovation Audit	http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Business-Board/Archive/2017/EoE-SIA-REPORT-Final-14.09.17.pdf
Cambridgeshire and Peterborough Independent Economic Review (CPIER)	http://www.cpier.org.uk/
UK Industrial Strategy	https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future



DRAFT Cambridgeshire and Peterborough Local Industrial Strategy

[Final Draft for Board - 15 March 2019]



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1. Executive Summary

Our vision is for Cambridgeshire and Peterborough to be a leading place in the world to live, learn, and work. This Local Industrial Strategy sets out an industrial blueprint for our area which complements this vision. The actions in this strategy are essential for delivering our Devolution Agreement, and the Cambridgeshire and Peterborough Independent Economic Review (CPIER). We are committed to doubling our economic output (Gross Value Added or GVA) over 25 years. This is a stretching but achievable goal which captures the aspirations of our newly devolved area to take charge of its future with strong local leadership and world class assets.

Our approach is to focus our resources onto the generation of global, productive and inclusive growth. Building upon the foundations of our economy and producing a greater emphasis on better living. The Local Industrial Strategy has been developed following the CPIER – one of the most ambitious analyses ever undertaken of a place in the UK – and benefits greatly from the depth of public consultation, targeted engagement, and research it undertook. It stated unequivocally that Cambridgeshire is a project of national importance, and we feel deeply the local importance of inclusive growth.

This Strategy strengthens further the connection between this area and the global economy, as one of the first places in the country to bring forward a plan jointly developed with Government to deliver the ambitions of the UK Industrial Strategy on the ground. We have world-class strengths in areas as diverse as Artificial Intelligence (AI), food production, logistics, life sciences, clean energy, and advanced manufacturing – issues at the heart of the Industrial Strategy’s Grand Challenges. Our strategy is to bring these to bear - together with our natural assets and the way we plan our physical growth - into an industrial ecosystem that collectively tackles the biggest challenges facing our society at home and across the world.

Our objective is to sustain our position as a global capital of innovation and better living. A place that makes breakthroughs in cutting edge science, technology and innovations in markets and business models, and translates them into global opportunities and local prosperity that change how we live our lives. This will include making a globally significant contribution to the societal and economic Grand Challenges that the Government sets out in its national Industrial Strategy:

- Life Science discoveries that transform ageing well
- AI and Data technologies transforming commercial and public life
- Energy and circular economy practices that pioneer Clean Growth
- Advances in sustainable and healthy food production brought about by Agri-tech

Demonstrating how all these advances can be achieved in one place, leading the way in sustainable and inclusive growth and attracting and growing the high-quality businesses which give our people good quality work.

Our Local Industrial Strategy is an important tool for delivering success. We aim to ensure that every business is able to reach its potential, and that the opportunities and benefits of growth reach deep into every part of the community. The Cambridgeshire and Peterborough economy is large, with a GVA of £22bn. As the CPIER established, it is really three sub-economies. The largest and most international is Greater Cambridge, characterised by high levels of output and skills, a rich mix of biomedical, pharmaceutical, AI and other technology companies underpinned by two leading Universities, one of which is amongst the greatest in the world. In the North, Greater Peterborough is important both as the largest city and consistently over the last decade one of the fastest growing in the country. It is an area with an important manufacturing history and existing base. It is also home to a growing range of service, financial and professional companies which – with a new fast, 38 minute, rail connection to London – are set to expand further through government and corporate relocations out of the capital. The Fens has a diverse range of market towns, much of the best farmland in the UK, and world-class agricultural production. It is a rural economy but one which is also home to highly successful niche manufacturing and service companies. Key to the success of our Industrial Strategy will be the tailoring and mix of our interventions to the needs of each of these very specific sub-economies.

Our priorities are to:

- 1. Improve the long-term capacity for growth in Greater Cambridge** to support the expansion of this innovation powerhouse, and crucially reduce the risk of any stalling in the long-term high growth rates that we have enjoyed in the city region for several decades. We will do this by investing heavily in housing, supporting supply chain development, delivering transformational transport and infrastructure, whilst leveraging the strengths and better connecting this globally important and hugely successful cluster for the greater benefit of the other two economies and the UK. We also need to continue to support the Cambridge innovation ecosystem and support its continued efforts to attract international firms to the region.
- 2. Increase the sustainability and broaden the base of our economic growth**, by identifying opportunities for high growth companies to accelerate business growth where there is greater absorptive capacity, beyond the current bottlenecks to growth in Greater Cambridge.
- 3. Expand and build on the clusters and networks that have enabled Cambridge to become a global leader** in innovative growth by encouraging individual business leaders, sectors, and places to join together to build an economy-wide business support eco-system to promote business growth, greater productivity, better commercialised innovation, greater global market access and more effective skills development to deliver a more inclusive and resilient economy.

Our key challenges relate to the underlying need to raise productivity across our wider economy by: increasing levels of employment, but above all ensuring that Cambridgeshire and Peterborough grows more high quality jobs, improving business output and providing better opportunities and therefore outcomes for people.

Our opportunity is to scale our growth further to become a truly global player in some of the fastest growing sectors and markets across the world. This relates to how we see Cambridgeshire and Peterborough taking a leading role within the OxCam Arc and our other strategic corridors, linking our economy more effectively into the fastest growing global markets through the sharing of world-class innovation assets and the networking of our most exciting firms and entrepreneurs into an Arc-wide high-growth eco-system, to create a global offer capable of enabling the Arc to become the fastest growing area of the UK economy outside London and an innovation-based Global Growth Zone to rival San Francisco, Boston, Toronto, Helsinki, Tel Aviv, Beijing or Seoul.

Our interventions are specifically and carefully designed to achieve this and are based on a highly credible, independent, evidence base. They reflect that we are a Mayoral Combined Authority area and the primary role of the new Business Board. They have been developed to ensure that we have the foundations in place on which everyone involved in our economy can join to build our success together, **bringing growth, opportunity and prosperity to everyone**, across each of our three sub-economies. This means our LIS Delivery Plan is ultimately all about place, economic activity happens in our distinctive cities, towns and rural communities. The Programme Delivery Plan is set out in Annex 2. Here, we flag some of the key initiatives we are taking in relation to each of the five foundations.

Foundation #1 – Place summarises the three different sub-economies and what the evidence shows the main requirements in each of these are. It describes too the role of our pioneering approach to supporting our Market Towns as key players in industrial strategy.

Key Place Interventions. The LIS brings together all of the interventions set out in the Combined Authority Business Plan, Greater South East Local Energy Strategy, the Connecting Cambridgeshire delivery plan and business cases for specific schemes. The LIS shows how they will be tailored and customised to the three different areas of our economy.

Foundation #2 – People looks at the steps that need to be taken through this Strategy and beyond it to improve levels of education and training, to ensure business has the supply of skills it needs and that our people are provided with more and better opportunities to fulfil their potential and share more equitably in our prosperity. Key skills initiatives include the development of a business-focused and technically-oriented University of Peterborough based on vocational and employer embedded delivery models, as well as a re-orienting of the Adult Education Budget to better align with

business and economic growth dynamics. We will also establish a Skills, Talent and Apprenticeship Hub, including Brokerage Services, to connect business needs, and skills providers, with the people and talent, to create the skills we need, at the right time, in the right sector, and the right place to drive our economy forward.

Key People Interventions. We will reshape the £11.5m Adult Education Budget, focusing courses on business, especially in areas of need, aiming to get 2,000 young people into further education or employment by 2022. We will deliver Peterborough University, with 2,000 students by 2022 and 12,500 by 2030. Our Skills Talent and Apprenticeship Hub will be operational by October 2019 and will increase the number of Apprentices to 5,000 by 2021 with 200 Employer Partners by 2024.

Foundation #3 – Ideas describes how the Local Industrial Strategy will provide the conditions for businesses to adopt and exploit new ideas either through incremental process innovation or the development of new businesses based on emerging technologies. Our priority is to ensure that the economic base of the area grows by harnessing innovation as a tool for business growth. We will ensure that both R&D and growth finance is in place and that Intellectual Property can be exploited. To do this and enable much more of our academics’ and entrepreneurs’ ideas get to market more effectively and at greater scale, we plan the creation of up to four new “**Innovation Launchpads**” based on, and partnered with, established world-class growth accelerators already successful in California, Cambridge and elsewhere. Here, diverse businesses will innovate, collaborate, cluster and connect into supply chains locally and customers globally. Our innovation launchpads will focus on key sectoral strengths in the region - Agri-Tech, Life Sciences, Advanced Manufacturing and AI Enabled Logistics. Geographically dispersed they will enable new economic activity across the region. To help our Innovation Launchpad firms along their growth journey we will ensure they are connected into our Global Growth Champion network of mentors, coaches and growth ambassadors.

Key Ideas Interventions. We will establish at least four new Innovation Launchpads, inviting bids from May 2019, delivering up to 450 new jobs in high value growth sectors in new commercial research and office space. Our Greater Cambridge Life Science Accelerator will receive its first applications in October 2019, and via 30 supported start-ups, lead to 2,550 jobs within five years. Our Eastern Agritech Growth Initiative is underway and will create or upskill 100 jobs leveraging £8m of private sector investment.

Foundation #4 – Business Environment outlines the steps we will take to deliver an integrated approach to business support. Our aim is to ensure that we have both the start-ups and scale-ups to drive our growth and productivity ambitions. That means more

businesses, more successful businesses, and the creation of more places with the ability to absorb economic growth in a sustainable way – clearly we need to support continued growth in Cambridge, but we need to match this with an emphasis on Greater Peterborough and the Fens which have lower productivity growth but currently, a greater capacity for growth in terms of infrastructure, transport and housing. We will ensure that our highest potential businesses have access to the right kind of space at every part of their evolution and access to growth coaching and support networks to help them maximize their opportunities and overcome their obstacles to growth around leadership, organisation, or market access. Key programmes include the creation of a network of 50 Innovation Fellows, an annual National Innovate to Grow (I2G) Conference and more than 1,000 Global Growth Champions to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and place. This will include access to expert, growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment

Key Business Environment Interventions. We are establishing a Mayoral Endowment for Global Growth (The EGG). It will support a range of initiatives with an initial £18m budget aimed at engaging 3,000 businesses by 2024, creating 2,600 jobs and £1.3bn of CVA growth. Included in this is our Inward Investment Programme will support between 1500 and 2250 jobs by 2024.

Foundation #5 – Infrastructure looks at the evidence that inadequate infrastructure is having on the economy of Cambridgeshire & Peterborough. The views of businesses surveyed in the CPIER and engaged in the development of place and sector strategies is that this issue is already hampering growth and is set to increase as a problem over the next decade. In Greater Cambridge and across the south, the transport system struggles to manage the movement of people and goods. House prices have reached over 13 times average salaries. Elsewhere, particularly in and around the market towns, poor roads and infrequent and sporadic bus connectivity prevent the formation of what, elsewhere, might be considered normal patterns of travel and trade. Unlocking productivity growth is only possible if the right kind of connectivity is in place in these locations. Sustaining and de-risking the area's full potential for economic growth is reliant on transforming the transport, housing and infrastructure capacity in Greater Cambridge. As with our place interventions, the major infrastructure proposals we are developing are set out in the Combiend Authority's other major strategy documents.

Our ability to act and mobilise is an important feature of this Local Industrial Strategy. We are able to fund and implement the Delivery Plan set out in Annex 2 within 12 months. Our Delivery Plan for all the initiatives and interventions to be led by the Business Board through a dedicated Cambridgeshire & Peterborough Growth Company, has been developed and costed with the distinct principle of deliverability, within the funding and

resources we have available to us locally. This has required innovative and integrated approaches to funds available from the Combined Authority, the Local Growth Fund, ERDF, ESF and collaboration with local partners and investors. It is only the broader opportunity to scale our growth further, in partnership with the LEPs and HMG across the OxCam Arc that will require additional or new approaches to funding.

Our accountability for success is an underlying operational and cultural principle within this Local Industrial Strategy. All the objectives we have set ourselves and the related outputs and outcomes from the interventions to deliver them, have all been quantified. It is essential to both set a clear destination and to be able to measure milestone progress towards it over time. Clear outputs and outcomes from each of the interventions we will deliver have been established to achieve our broader vision and objectives. These are summarised in a table in Annex 2.

Outcomes: The overarching economic goal of the Combined Authority is to double economic output (GVA) over the next 25 years. Driving productivity is core to achieving this target and will require sustained investment over the long-term as well as action now. Strategy therefore sets out our ambition to increase productivity (measured by GVA/Hour Worked) to higher than the national average by 2024. A detailed delivery plan sets out how the specific outputs and outcomes that each intervention is designed to achieve. The majority of the actions in this Delivery Plan can be met from within existing local resources, but the long-term ambition on productivity and overall GVA assumes a continuation of existing local growth-related funding beyond 2023.

2. Purpose of the strategy

The heart of any economy is its industry. Businesses employ people, lead innovation, drive productivity improvements, and generate wealth. The effects of a thriving business environment are immediately apparent in any community, as are the opposite.

We address ourselves wholeheartedly to the Government's Industrial Strategy challenge to "create an economy that boosts productivity and earning power"¹. Because we have already made excellent progress. And because we have the innovators, the entrepreneurs, the financial backing and the drive. But most importantly because we have the ability to get things done. Devolution has given Cambridgeshire and Peterborough a key advantage – to be able to be on the front foot of creating the conditions our businesses need to prosper.

This Local Industrial Strategy is not just a dash for any growth at any price. Growth must be sustainable, and avoid environmental damage, to ensure the long-term health of our area – both environmental and economic.

We have world-class strengths in areas as diverse as AI, food production, logistics, life sciences, clean energy, and advanced manufacturing – opportunities at the heart of the national Industrial Strategy. Our strategy is to bring these together, along with our natural and environmental assets and the way we plan sustainable physical growth (supporting in particular the pioneering focus on natural capital across the Oxford-Cambridge Arc) - into an industrial eco-system that collectively tackles the biggest challenges facing our society at home and across the world:

We will be known as a global capital of innovation that pioneers approaches for better living.

The Devolution Deal has set out a clear ambition to double our output in 25 years. Independent analysis has shown that this can only be achieved by strong increases in productivity – like so much of the UK our recent growth has been more driven by increasing the numbers of people in work than by increasing their ability to generate greater value.

This means we need to change the growth dynamic. At the moment, the diverse innovation hub that is Greater Cambridge is global in its intellectual and market reach but localised in its economic and societal impact. Businesses in the Fens lead the world in bringing cutting edge research to market but tend to do so in relative isolation. Peterborough is one of the fastest growing cities in the UK but has not translated industrial heritage and recent growth into universal prosperity.

¹ Industrial Strategy: Building a Britain Fit for the Future.

Our economic successes are highly place-specific. Within a few miles of Cambridge there are many businesses which are not sharing in its success, let alone those much further away. Too many of the people working in Cambridge have commutes that are difficult, long and growing: not out of choice but necessity due to high housing costs. In isolated hamlets and in the biggest cities, the challenge of ageing means isolation and ill health. The practical role of our Local Industrial Strategy must be to apply the technologies in which we are globally leading to solving these problems. Doing so will both deliver the growth we are seeking and ensure that we are growing in the right way: changing lives by improving them, and so doing good business.

That will require a change in how our three sub-economies work. Greater Cambridge is a hotspot. There are other patches of real brilliance in Peterborough, in Huntingdonshire, and in the Fens – but these hotspots are generally very isolated. This means we must help replicate some of the conditions that have made Cambridge so globally successful – dense business networks, the right balance of competition and collaboration, access to finance, and the provision of high-quality business growth, productivity, innovation and global market access support, as well as partnerships with key anchor institutions. If we do that and ensure that the grand challenge technologies are being applied too, we will also make Cambridgeshire and Peterborough a better place in which to live as well as work and do business.

At the same time, we recognise that the success of Greater Cambridge, which has contributed so much already to tackling the nation's grand challenges, cannot be taken for granted. There are serious risks that without investment in the housing, transport and infrastructure the area needs, the global businesses there may take flight to more attractive global centres of innovation-based growth. It will also make it harder to achieve the 2.4% R&D target. Avoiding long term risks to the productivity and growth of our local and national economy requires us to focus on these issues in Greater Cambridge and its business base.

Therefore, our industrial strategy pays serious heed to the fifth foundation of productivity: place. The approach we take varies on the needs of our different places, across one of the largest Combined Authority areas in the UK. Greater Cambridge, Greater



Peterborough, and the Fens each present different opportunities and challenges. Our Industrial Strategy responds to these, tailoring the application and mix of our interventions to the very specific needs of each sub-economy. This means higher levels of transport and innovation spend in Greater Cambridge, with more focus on business growth eco-system development, skills and education in the Fens and Greater Peterborough; including a flagship programme to deliver a new University and Innovation Launchpads in the north and east of the area, to stimulate the level of growth from innovation, leading to higher productivity and prosperity there. These could be piloted in Cambridge, or otherwise closely modelled upon what is working well there.

Our broad ambition for our area since the inception of the Combined Authority has been to be “the leading place in the world to live, learn and work.” To this we now add a fourth aspect, implicit in the other three – to be **the leading place in the world to do business**. This Industrial Strategy shows how we will get there.

The Place of the LIS in our strategic programme

This Local Industrial Strategy represents the area of Cambridgeshire and Peterborough. It has been developed by the Business Board in partnership with the Combined Authority. Therefore, it sets out broad priorities for the area, and it introduces new interventions which will be delivered by the Combined Authority and Business Board working in partnership with our constituent local authorities and our business base. A wide range of partners will play an ongoing role in the delivery of the Strategy, with a wide range of activity that is not captured in this document.

Foundation Documents

- The Cambridgeshire and Peterborough Devolution Deal 2017
- The East of England Science and Innovation Audit 2017
- The Cambridgeshire and Peterborough Independent Economic Review 2018
- The Cambridgeshire and Peterborough Skills Evidence Base Report 2018
- UK Industrial Strategy 2018

Overarching Local Vision and Mandate

- Cambridgeshire and Peterborough Growth Ambition Statement 2017
- Combined Authority Business Plan 2019-20

Strategic Delivery of local Vision and Ambitions

- Local Industrial Strategy
- Skills Strategy
- Non-Statutory Strategic Spatial Framework and Local Plans
- Local Transport Plan
- Greater South East Local Energy Strategy
- Housing Strategy
- Connecting Cambridgeshire Digital Connectivity Programme

The LIS is one of the key delivery strategies agreed by Cambridgeshire and Peterborough partners. The relationship between this and other key documents and strategies can be seen above.

The first foundational document is the Devolution Deal with Government, which established the Combined Authority and conferred a number of its key responsibilities. A target was set to double GVA over 25 years, in return for the new powers and funding.

The other foundational document is the CPIER, which gives a broad and thorough analysis of all facets of our economy. This provides us a solid understanding, new evidence, and makes many recommendations for top economic priorities.

The Combined Authority Growth Ambition Statement draws these two together. It sets out a local political mandate for how the powers conferred in the devolution deal will be used to enact the recommendations of the CPIER. It is clear that this will require close working with partners from the public and private sectors to deliver on the ambition. Local partners have established a multi-agency Growth Programme Board to collectively oversee the evolution and delivery of the Ambition Statement.

The Local Industrial Strategy is a primary document in addressing the following CPIER recommendations:

- Key Recommendation #1 – The GVA target should be tracked and measured
- Subsidiary Recommendation ii – In developing a Local Industrial Strategy, the Combined Authority should hold technical-level interviews with representative companies from KI sectors
- Subsidiary Recommendation iv – A Regional Fellows network should be established by the Combined Authority to strengthen networks across the area
- Key Recommendation #7 – 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.
- Subsidiary Recommendation xi – The Mayor and Combined Authority should jointly support pilot initiatives with one or more key sectors of the economy, to encourage employers to bring forward new and innovative proposals for increasing the skills supply with public funding to pump prime new employer-led provision
- Subsidiary Recommendation xii – High levels of investment are needed to ensure Peterborough University is a success, alongside a clearly defined offer centred around subjects which both integrate with the local economy and embrace new technologies
- Key Recommendation #12 – Regular meetings should be set up between those developing the Local Industrial Strategy, and those developing Market Town Masterplans, to ensure consistency
- Key Recommendation #13 – New collaborative ways of working need to be developed, which provide for tailored solutions to the needs of each of the three distinct economies Whilst overall strategic direction for the area rests with the elected Mayor, there needs to be effective representation for each economy

- Subsidiary Recommendation x): The Combined Authority should support and expand existing initiatives to work with employers and stakeholders of all sizes to gather more intelligence on the issue of workplace health and to frame recommendations for action. These are likely to include the nature of workplaces, monitoring of health, and work flexibility.

3. The Cambridgeshire and Peterborough Economy

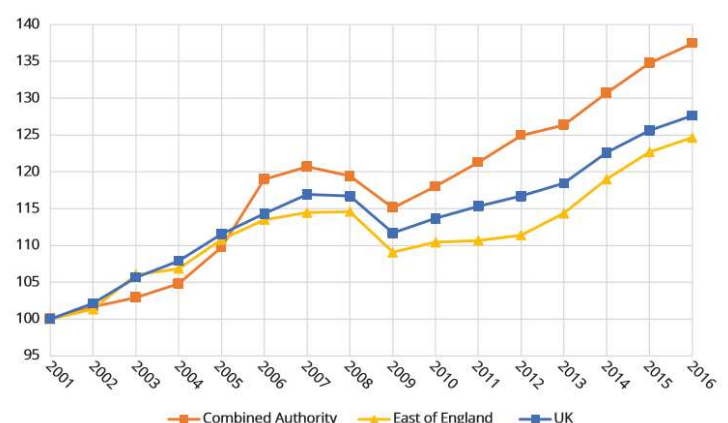
A detailed understanding of the economy of Cambridgeshire and Peterborough is the keystone of our LIS. We are not looking to invent new industries, put forward unsubstantiated aims, or adopt a ‘build it and they will come’ approach. Instead, we have developed a rich evidence base, which shows us where action needs to be taken.

This is found in the Cambridgeshire and Peterborough Independent Economic Review (CPIER)². This was developed to inform the Combined Authority of the nature of the economy, developing trends, and issues to be addressed. To ensure this was free from political influence, an independent commission was set up to chair it, led by economist Dame Kate Barker. Others on the Commission included business people and academics with specialist expertise relevant to the work. Much of the detail that sits behind the key economic features identified here can be found in the review (which is also informing the delivery of other key plans like the Local Transport Plan and the Non-Statutory Strategic Spatial Framework).

Our base engine - strong business performance

Businesses in our area are performing strongly. Employment growth has been strong, and, as revealed by independent analysis of all registered businesses in the area, significantly outpacing official sample-based figures, by as much as 1% per annum. This is not just true in the urban hotspots of Greater Cambridge and Peterborough, but right across the Combined Authority.

This has translated into strong growth in output, as measured by Gross Value Added (GVA). Strikingly, the region has bucked the wider regional trend of the East of England, to *outperform* the UK.



Real Gross Value Added (GVA) – index – 2001=100

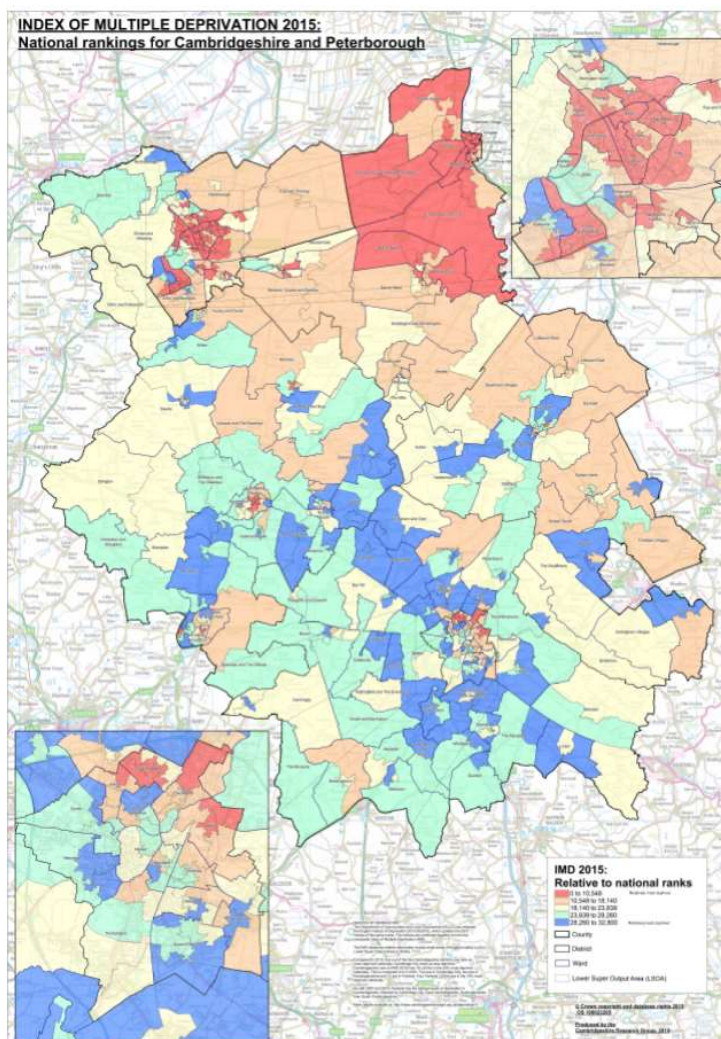
² The CPIER final report can be found at <http://www.cpier.org.uk/final-report/>

An Inclusive Growth Challenge

Despite business growth having been strong everywhere recently, the economy of Greater Cambridge has been performing the most strongly. The positive effects of this have been felt in some of the Greater Cambridge ecosystem, with market towns such as Ely and St Ives benefiting. However, further north the effects are not being felt. Wages are notably lower in the northern districts of Peterborough and Fenland than the southern districts of Cambridge and South Cambridgeshire. There are related challenges of poorer health and education outcomes, with healthy life expectancy falling below the retirement age in some parts of the north of the Combined Authority.

This can be seen clearly through the Indexes of Multiple Deprivation with strong contrasts within and across the county between areas ranked amongst the best (blue) and the worst (red) in the country.³

Furthermore, the pace of recent growth facilitated by a proactive coalition of local authorities has brought pressures on public service delivery across the whole county – which has also contributed towards a disparity between those who directly benefit from the local economy and those that don't. Historical underfunding through national formulas, the lag between actual growth and updated national estimates, and the flaws in producing those estimates (as highlighted by the CPIER research), all combine in Cambridgeshire and Peterborough with national austerity to amplify the pressures on public services that tackle inequality of opportunity at a root cause level. There is a need for increased resource for public services to ensure that forecast growth doesn't reduce access to the vital services which are so essential to the productivity of our people.



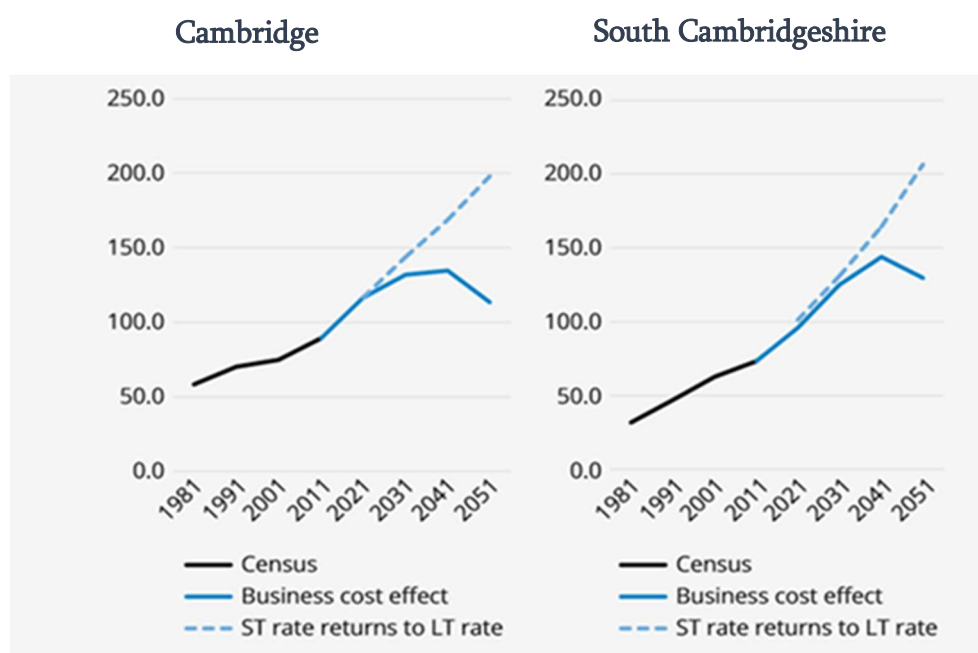
³ <http://cambridgeshire.wpengine.com/wp-content/uploads/2017/08/Cambridgeshire-and-Peterborough-2015-IMD-Map.pdf>

In many ways, our area is a microcosm of the UK as a whole. It has a prosperous south, based around one principle city, which receives the majority of foreign investment and attracts high value companies and talent from across the world. International evidence increasingly shows that this concentration of growth leads to both high living standards *and* significant inequality. Further north, there is much industry and innovation – but while there are many success stories, business investment, skill levels and wages are lower. We want to use our Local Industrial Strategy to trial place-based business growth initiatives in this representative part of the UK which can potentially be rolled out, both across the OxCam Arc and the wider UK – both of which exhibit the same economic inequalities and disparities.

Significant risks to UK industrial success

The CPIER also identified a significant risk to the national economy if transport infrastructure and housing issues were not tackled in the Greater Cambridge area. Advanced land use and transport modelling from the University of Cambridge (similar to that carried out for some of London’s bigger transport projects) has shown that, on current rates of transport infrastructure development and housing delivery, the growth of the economy will slow, before eventually going into reverse within 10-15 years. This leads the CPIER to make its seventh key recommendation, 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.” Energy infrastructure is also at capacity around Cambridge, severely hampering our ability to build new science facilities.

University of Cambridge modelling: employment growth set to stall in the medium-term, and go into reverse in the long-term



Sectoral Strengths and Specialisms

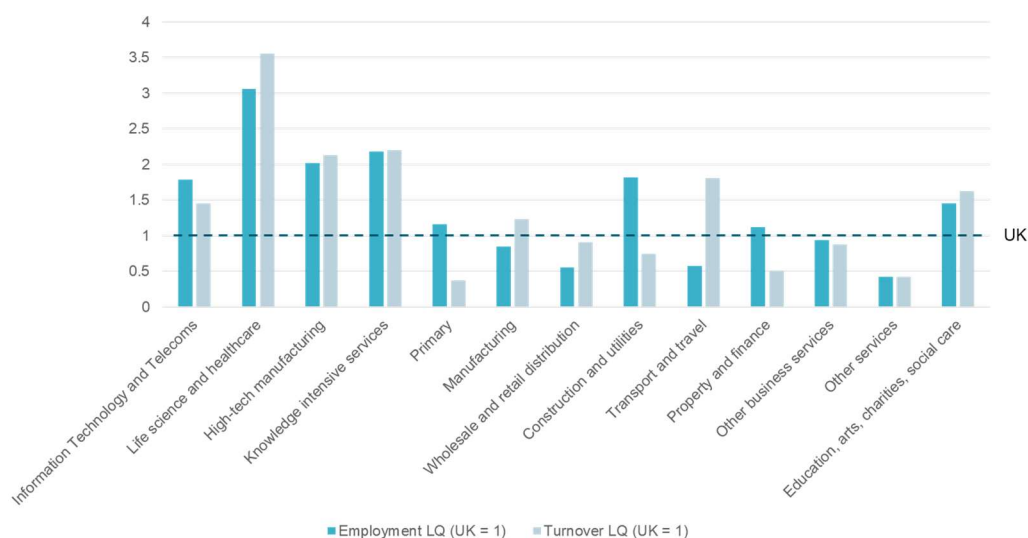
The detailed evidence base created for the CPIER shows that Cambridgeshire and Peterborough has specialisms in high-productivity, high value added, sectors.

We are particularly strong in life sciences and healthcare, high-tech manufacturing, knowledge-intensive services, and IT and Telecoms. These also directly contribute towards the UK's grand challenges and are important global growth markets. Based on this combination of existing strength and future growth opportunities we have identified four strategic growth sectors:

- Life sciences,
- Digital and IT
- Advanced Manufacturing and Materials
- Agri-Tech

These have been used as a basis for recruitment of industry leaders to the new Business Board, and for each a sector growth strategy will be co-produced between businesses and the Combined Authority. These will sit as part of the LIS framework, and will make recommendations for the consideration of the public sector and businesses alike.

Location Quotients for employment and turnover in businesses in Cambridgeshire and Peterborough



Source: University of Cambridge Centre for Business Research

Strategic growth sectors:

Life Sciences

A global centre for biomedical research and industry, at the forefront of international medicine discovery. An eco-system linking research and application in pioneering ways

which support people across the world to age better. Life sciences is one of the UK's greatest business strengths, and the reach of the biomedical industry in Greater Cambridge, and increasingly Huntingdon, is international. This cluster is worth around £3bn annually to the UK economy, encompassing over 430 companies and employing over 15,000 people. Therefore the growth of Greater Cambridge is intrinsically linked to the future success of this cluster. We welcome the announcement of a £45m investment for cloud computing software at the European Bioinformatics Institute in Cambridge, announced in the Spring Statement⁴, in support of this.

Case Study: Cambridge Centre for Ageing and Neuroscience (Cam-CAN)

The Cambridge Centre for Ageing and Neuroscience (Cam-CAN) is a large-scale collaborative research project, launched in October 2010, with substantial funding from the Biotechnology and Biological Sciences Research Council (BBSRC). The Cam-CAN project is using epidemiological, behavioural, and neuroimaging data to understand how individuals can best retain cognitive abilities into old age.

The Greater Cambridge cluster is the global HQ of AstraZeneca, with a market cap of c. \$100bn, and the presence of other global industry leaders GlaxoSmithKline and Envigo. World-leading genomics firm Illumina has recently completed a £150m new facility at Granta Park.

The sector covers a wide variety of interrelated fields, including pharmaceuticals, genomics, and biodata. Local industry generates numerous spin-outs with innovative products, including Abcam (which offers research tools into proteins and other chemicals), Crescendo Biologics (therapeutics in oncology) and Kymab (developing antibody technologies).

The Science Industry Partnership, which brings employers together with government to provide vocational skills needed for the science industry, is launching its first local programme in Cambridgeshire. Apprenticeship standards for the bioinformatics sector and other key sectors are being developed.

The opportunity we seek to create

Greater Cambridge is a global centre of life sciences that will increasingly grow across Huntingdonshire and be connected to a wider cluster operating across the OxCam Arc. Locally in Cambridgeshire and Peterborough we will continue to deepen the connectivity between research and industry, with a specific focus on addressing the Ageing Society Grand Challenge. This will include the creation of an Innovation Launchpad, based on pioneering business scale-up approaches already proven in

Case Study: Positive Ageing Research Institute (Anglia Ruskin University)

The Positive Ageing Research Institute (PARI), is a cross-faculty multidisciplinary institute involving over 130 academics from across Anglia Ruskin University.

The institute brings together a multi-disciplinary team representing diverse disciplines. Our common interests in ageing unite us and together with practitioners, local authorities, industry, and voluntary organisations.

Through innovations we aim to bring greater sustainability to technology-enabled health services, in order to create business opportunities and economic growth.

⁴

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785618/WMS_final_Commons.pdf

California, partnering with a global player to help start-ups and scale-ups get access to customers and markets world-wide. We want to support the sector with a Life Sciences Accelerator Scheme, and some infrastructure improvements – such as the A505 and Cambridge South Station – are particularly crucial for this sector.

Agri-tech

High tech solutions to agricultural productivity and sustainability challenges. Agri-Tech is any technology or science-based-innovation used to improve the productivity and sustainability of agriculture and horticulture. This includes related industries such as process engineering; packaging; mechanical, electrical and software engineering, and data management and processing.

Our region is poised to become the UK capital of this industry. We are leading the way domestically and internationally in a sector that innovates to solve society's biggest health and sustainability challenges and will be worth \$300bn globally by 2021.

As the CPIER notes, the Agri-tech sector is of particular significance to the future growth of the Fens economy. The CPCA area (and the wider East of England) is one of the most fertile soils regions in the UK and is home to many progressive and international farmers, ground-breaking technologists and innovative companies across the food and drink value chain as well as centres of world-leading research. The management of key (and growing) data and the associated analysing/interpreting necessary for aiding key decision making will become ever more important. There is huge, untapped potential opportunities in the Fens and across the CPCA area for growing and strengthening this sector specialism, and by creating better connections with local clusters in clean growth, advanced manufacturing, AI and machine learning – collectively tackling other key policy agendas in the UK and on a global stage such as healthy ageing, nutrition and well-being. A big opportunity within this is to develop new career opportunities as part of the devolved local skills system. Agri food and drink must be included as part of the overall STEM initiative.

Agri-tech in our region is increasingly operating as a successful innovation eco-system. We have the benefit of successful and growing networks, particularly Agri-Tech East, which is bringing closer collaboration between the scientific and

Case Study: NIAB Innovation Hub @ Soham

The Innovation Hub is a purpose-built facility in the heart of the Fens, facilitated by funding from the Eastern Agri-tech Growth Initiative (Local Growth Fund). This unique centre managed by NIAB has a particular focus on fresh produce. Welcoming farmers and growers, food businesses, and other users wishing to engage in applied research work to reduce or re-use all forms of waste in the food supply chain and improve resource use efficiency in its production. Research and trial activity includes:

Waste reduction — healthy soils, crop production, field and post harvest storage

Waste management — packing, processing and alternative uses and markets

Increase value or application potential for new products from waste streams

Identifying opportunities to recycle waste or generate energy and co-products

Target total and marketable field losses, due to weather, pests and diseases or other damage

Reduce loss of quality or specification in store due to crop physiology, disease or storage conditions

research community and the businesses (including farmers and growers), operating across the supply chain. There is a recently established venture capital fund Cambridge Agri-tech, and we have many excellent examples of successful, pioneering research and development. There is the need to build on existing partnerships with other geographical areas.

38,000 people are currently employed in the Agri-Tech sector in our economy, generating approximately £4bn of economic value per annum. Agri-tech opportunities were highlighted by the CPIER and the sector is forecast to grow by over 10% over the next ten years. Our Agri-tech cluster has internationally significant research and development in both agriculture and food. This research base is also a significant provider of post graduate training with a global reputation and creates a significant market for those with higher level skills and qualifications. The strength and breadth of the research base is built on a highly skilled, international workforce, attracted to Cambridgeshire by the global reputation of centres such as NIAB and the University of Cambridge. Firms in our economy have expertise in sensors, robotics, genomics and communications and are at the forefront of ideas and commercial applications that are shaping the food production in the UK and globally. Automation provides opportunities for economies of scale to increase the efficiency with which food and drink is produced, and new career opportunities are developing in engineering; robotics; software development and producing algorithms.

The opportunity we seek to create

Our ambition is to establish our position as the UK capital of Agri-tech, particularly for pioneering R&D in plant science and precision agriculture, including crop bioscience, engineering/robotics and ICT-based systems. We will do this as part of a regional offer which connected with New Anglia (through an expansion of our joint Eastern Agri-tech Growth Initiative), the OxCam Arc, Greater Lincolnshire LEP, and other partners.

We will grow the innovation ecosystem strengths that the CPIER analysis shows will support the development of the sector, including by working with networks like Agri-tech East, developing new skills provision through the University of Peterborough, and building upon the emergence local presence of venture capital and investment funds.

Significantly we will be pursuing the development of an Innovation Launchpad facility, or facilities, which offer new locations for businesses, research institutes, incubators and other key players to co-locate to support the development of innovation ecosystems. Agri-tech is one of the CPCA strategic growth sectors which does not yet have central agglomerations which will be a key ingredient in its future success.

Digital and IT

An internationally recognised centre for AI and digital technology innovation. Establishing the CPCA area as the preferred base for firms across the world to create and adopt the technologies of tomorrow, offering businesses exceptional talent at all levels and a highly networked ecosystem that has global impact.

The vibrancy and technological expertise of the Cambridgeshire & Peterborough area digital sector is a significant reason for the area's international attractiveness. The sector delivers almost 9% of the area's revenue and 8% of employment. Furthermore, it is the fastest growing knowledge intensive sector, increasing 10.4% over the last three years (compared to 6.6% for KI as a whole). Foreign direct Investment into the area and sector is strong and it is worth noting that when these projects occur, they generate twice the proportion of jobs than ICT FDI more generally across the UK.

A well-known example, ARM, was started in Cambridge with less than twenty employees and has grown into a global player valued at £24bn in 2016. Microsoft, Amazon, Google, Samsung, and Apple have all established bases in Greater Cambridge. Artificial Intelligence is also very prominent here – with companies such as the NASA spinout Beyond Limits choosing Cambridge for their international headquarters. More widely, firms are supported in the innovative growth by numerous technological assets, key amongst which is the new AI Supercomputer which is being used to support AI companies in developing next generation solutions.

The inter-relationship between digital and the other LIS strategic growth sectors can be neatly demonstrated by the 2018 decision of Europe's biggest AI firm – BenevolentAI – to acquire a drug discovery and development facility at the Babraham Research Campus in Greater Cambridge, to dramatically speed up drug discovery.

The opportunity we seek to create

Our ambition is to establish Greater Cambridge as the preferred global base for firms from across the world to create and adopt the technologies of tomorrow, offering businesses exceptional talent at all levels and a highly networked ecosystem that has global impact. As part of the work across the OxCam Arc with Government to support the delivery of the Grand Challenges – we will pursue the opportunity to host a global AI conference in Greater Cambridge. This represents a significant opportunity to increase the sector's growth both within our economy and across the Arc and the UK. It will not be just the digital sector that benefits from this growth, but all vertical markets who can increase efficiency and deliver advanced benefits to customers through the adoption of cutting-edge technology products and services such as big data, artificial intelligence, robotics and next generation connectivity solutions.

Advanced Manufacturing and Materials

Specialisms and strengths in this sector exist across all of the three economies of Cambridgeshire and Peterborough, with an overall strength of this region being the practical application of innovation in cutting edge commercial products. Peterborough has a strong manufacturing history, large firms such as Caterpillar have engineering bases there as well as a number of cutting-edge smaller firms, such as Radical Sports Cars. 20% of business turnover generated in Peterborough comes from high-tech manufacturing (with a further 6% stemming from other manufacturing).

Prototype fabrications for the first MRI machines were built at Chatteris in the Fens, and Stainless Metalcraft continues to produce high-end scientific products, such as cryostats, chambers that can maintain very low temperatures. Composites are a particular strength in the west of the area, with Forward Composites, Paxford Composites and Codem Composites based in and around Huntingdon, producing alternatives to steel and aluminium for aerospace, motorsport and other industries.

Greater Cambridge is home to leading firms such as Marshalls Aerospace and Hexcel Composites, as well major industry research institutions such as TWI (The Welding Institute), the Cambridge Graphene Centre, and the Institute for Manufacturing (IfM) operating across the whole country as well as with firms locally.

Hubs of manufacturing also exist within Cambridgeshire's Market Towns, such as St Neots. The St Neots Masterplan for Growth identifies the manufacturing base – which includes firms such as Sealed Air – can act as a contributor to the growth of the sector within the OxCam Arc, making use of new connectivity brought about by East-West Rail, the A428 Upgrade, and the CAM Metro.

The opportunity we seek to create

Advanced Manufacturing and Materials is a broad sector that contains many subsets and will play a myriad of roles across the future growth of the CPCA economy. The East of England Science and Innovation Audit of 2017 found this sector to be “of foundational importance to the other themes” (namely Life Sciences, Agri-tech and ICT). But alongside its “foundational” importance, for the CPCA it has institutions and features which bond it together as a sector in its own right, and which this LIS will support specifically to grow.

This opportunity covers the whole region, where the existing base engine of world-leading firms can be supported to grow into bigger clusters and eco-systems with interventions such as a new Innovation Launchpad, the Growth Service, the University of Peterborough, and the development of a Fens Business Network. Drawing on skills and capabilities that already exist in some hotspots we can provide impetus to development of advanced manufacturing across the region. A specific opportunity, lies in scale-up, developing facilities closely coupled to our leading Universities where technologies can be developed and taken through the early stages of commercialisation. As part of the Growth Service we will seek to create Scale-Up Engines to support early stage commercialisation.

Key Supporting sectors

We have also identified five supporting sectors, where we can build upon our strong market position to create business growth and increase the sustainability of our wider economy further.

The subsequent sections of this strategy set out the actions we are taking against each of the foundations of productivity to support further business growth and productivity

gains, building on our existing strengths and emerging trends. These actions will support all sectors.

Logistics

The connectedness of parts of the region to the UK transport network means it plays a significant part in the UK logistics sector. In particular, Peterborough has a base on the A1, which has attracted many firms to establish distribution centres there, including Amazon. Due to the UK's strong preference for online shopping, this industry is likely to both grow and change in future as new methods of transport and distribution become available. However, to ensure the city continues to be attractive and to capture the growth in this sector suitable sites need to be allocated and developed offering both good motorway connections and access to the local labour force. This will put the city at a distinct advantage over some more established distribution locations in the Midlands and East where logistics firms are finding it more difficult to recruit staff, as supply of labour local to the expandable logistics locations has failed to meet potential demand. Providing more and better logistics commercial space on the A1 West (Haddon) at Peterborough, where additional, contiguous housing is being developed around the Ortons', will provide a significant opportunity for improving the city's GVA performance.

Health and Social Care

With almost 30,000 staff working in health and social care in Cambridgeshire and Peterborough, the sector is a significant part of the economy, with long term potential for growth and productivity gains through the adoption of new technologies and techniques. Through closer local links between our globally leading R&D and early stage product and therapy development in life sciences and our own health and care system we have important opportunities to drive commercial and health benefits locally as well as globally. The impact of our health and social care sector on our wider inclusion and growth goals is also crucial. It benefits all of us if we work together to keep our staff well, and there is good evidence that there are opportunities for better using employee assistant schemes and occupational health schemes to keep people in work and reduce pressure on the care system, for example through early interventions to improve mental health or reducing musculoskeletal illness through good use of in work advice and support. Existing organisations, like Cambridge University Health Partners, which brings together Cambridge and Peterborough NHS Foundation Trust, Cambridge University Hospitals NHS Foundation Trust and Royal Papworth Hospital NHS Foundation Trust can play a crucial role here.

Education

Education is a key UK export – recent Department for Education statistics found the value of UK education-related exports (including transnational education (TNE)) to be £18.8bn in 2014. This figure had grown by 18% since 2010⁵. Cambridge University's outstanding reputation attracts many students from abroad – when these spend money in the UK, it registers as an export contribution to the national economy. The region is home to other key higher and further education institutions including Anglia Ruskin University, and the College

⁵ Department for Education: UK revenue from education related exports and transnational education activity 2010-2014 (released July 2017)

of West Anglia. Due to the prestige of Cambridge, there are numerous language schools, and colleges offering preparatory courses, which attract students from around the world.

Visitor Economy and Business Tourism

We are home to key visitor attractions – such as Ely Cathedral, the Holme Fen nature reserve, and of course, the city of Cambridge. However, Cambridge struggles with the weight of tourist attraction at times, and like many world cities, “over-tourism” is a risk. Many of the market towns and villages surrounding Cambridge have rich visitor opportunities, which if developed into a more coordinated offer can bring in revenue and create real economic opportunities.

Business tourism is very important as well and has an important impact on the growth and productivity of other sectors in the economy, especially in knowledge intensive industries. In Greater Cambridge a lack of large conference facilities hampers potential growth here, as international enquires are turned away due to the lack of sufficient capacity.

Construction

Much of the development in Cambridgeshire and Peterborough is fuelling strong growth in the construction sector. This gives us an important opportunity to drive productivity and growth across the sector, adopting new techniques and technologies. We are also demonstrating the very best of building quality, such as the University of Cambridge’s development at Eddington, which reuses surface level water, reducing wastage and minimising flood risk. We are engaging in the national industrial strategy through the Centre for Digital Built Britain at Cambridge University, a core partner in the Construction Innovation Hub designed to support the transformation of the construction sector.

4. Our priorities

Our priorities arise from the key features of our economy. We have three principal ambitions, which will be delivered by the actions set out against each of the foundations of productivity in the subsequent sections.

Improve the long-term capacity for growth in Greater Cambridge. Greater Cambridge is a magnet to companies from across the globe and the home of world-leading Digital and Life Science clusters. It's labour supply and research and innovation reputation are of the highest order. But there are worrying signs that some constraints are starting to bite. Modelling shows that housing, energy capacity and transport issues will significantly reduce the success of Greater Cambridge if not dealt with. Local partners will act, with Government's support, to reduce the risk of any stalling in the long-term high growth rates that we have enjoyed in the city for several decades. We will do this by investing heavily in housing, transport and infrastructure, whilst supporting efforts to increase inward investment. Keeping Cambridge strong is crucial as we can then leverage the strengths of this globally important and hugely successful cluster for the greater benefit of the other two economies.

Increase the sustainability and broaden the base of our economic growth. Growth has not been balanced across the Combined Authority, and growth in high value companies has been very unevenly spread. The three-economy nature of Cambridgeshire and Peterborough is a strength. Each economy has individual specialisms, which mean the area as a whole can and does lead the UK on multiple fronts. However, the current disconnects between the different economies represents a missed opportunity. By enabling them to work together more closely, our Local Industrial Strategy will look to widen the benefits of high growth in some areas, most notably in Cambridge, to others. We will connect up the business support networks and skills provision across the area to ensure that all areas benefit from the wealth of expertise that exists.

Expand and build on the clusters and networks that have enabled Cambridge to become a global leader. The global success of Greater Cambridge has, for the most part, remained very localised. Whilst there are signs some non-knowledge intensive businesses are moving out of Cambridge to the wider area – we will act to ensure these other areas can also thrive. This means building on their industrial strengths and helping them hone a distinctive offer to help the firms with greatest potential in these places to achieve their full growth potential. Specifically, we will target improved productivity and access to international markets by identifying opportunities for high growth companies to accelerate business growth where there is greater capacity. And we will support innovative growth by encouraging individual business leaders, sectors, and places to join together to build an economy-wide business support eco-system to promote business growth, greater productivity, better commercialised innovation, greater global market

access and more effective skills development to deliver a more inclusive and resilient economy.

5. Driving productivity growth: the role of the Local Industrial Strategy

Productivity is both vital and elusive. Vital, because without productivity improvements, standards of living and long-term economic output will not increase. But also elusive – national productivity has remained largely static since the financial crisis. And productivity can be affected by multiple factors, both at the micro and macro level.

The need for productivity growth

There are two ways to grow an economy. The first is to increase *employment*. This could look like taking on more workers, and/or increasing the hours of the workers you have. The second is to increase *productivity*. This means that, even if the amount of hours worked stays constant, more is being achieved in those hours. (It is of course possible to have elements of both of these approaches.)

However, the outcomes of which model is adopted vary hugely. While an employment-driven model has the positive benefit of reducing unemployment, it is often associated with poor quality work, low wages, and workers experiencing stress and associated health problems from overwork. Furthermore, it cannot lead to a long-term increase in the overall productive potential of the economy – a short-term boost can be achieved by more work being done, but if, in the long-term, the quality of that work doesn't improve then growth will grind to a halt as resources are exhausted.

The productivity-driven model has much more positive outcomes. If people are generating more income, they will be better rewarded, leading to higher wages, better quality work, and an overall higher standard of living.



In the UK we have seen high employment but low productivity growth. The CPIER comments: “Future growth [in Cambridgeshire and Peterborough] will have to involve elements of both employment growth and productivity growth, with the dial pushed firmly in the direction of productivity improvement.”⁶

Taken as a whole, our area has become less productive relative to the UK over the last five years. In 2012, GVA per hour worked (the best measure of productivity) was 98.9% of the UK average. By 2017, that had fallen to 94.9%, the biggest five-year fall for any Combined Authority area⁷.

We are determined to reverse this fall. Therefore, we are setting ourselves a five-year target to reverse this trend:

Industrial Strategy Target:

To catch up with, and overtake, the national average for GVA per hour worked by 2024.

The Combined Authority is currently engaging with the Office for National Statistics to release local authority level GVA/Hour Worked data to establish a local dashboard for this target and understand sub-economic characteristics of this overall target.

Moving towards a productivity-driven model of growth to achieve this target will not be easy. But it is an important strategic position to drive socially inclusive and well as geographically inclusive growth – in support of the Combined Authority Public Service Reform programme.

The UK Industrial Strategy identifies five key foundations of productivity which we agree with and reflect in the structure of our Local Industrial Strategy.



⁶ CPIER ref

⁷ ONS: Subregional productivity: labour productivity indices by city region, Table A1 (February 2019 release)

6. Foundation #1 – Place

No economic activity takes place in a vacuum. While the importance of place has often been left out of nationwide economic strategies, its inclusion as a foundation of productivity recognises a fundamental truth: how places work affects how their people and businesses work. One of the central findings of CPIER is that the Combined Authority is not one, but three separate economies – Greater Cambridge, Greater Peterborough, and the Fens. This can be seen from observing travel to work patterns and examining concentrations of sectors. This insight is central to any economic strategy for the area, as it recognises that different economies have different opportunities and challenges and therefore must be treated differently. The boundaries are “fuzzy” – it is not absolute where one economy stops and another starts.

The Greater Cambridge Economy

Greater Cambridge is a jewel in the crown of the UK economy. It extends out beyond the city to the rural towns and villages which surround it, and over time have become more and more connected to the city. This economy is generally prosperous, with high skills and wage levels. With its prestigious university at its core, it generates many new indigenous businesses and attracts many international firms to operate in the area, eager to capitalise on the wealth of talent and innovative potential. Similarly, it is home to Anglia Ruskin University which has a strong reputation attracting many students to the city.

Through various waves of innovation-based growth, Greater Cambridge has cemented its position as one of the top Innovation Growth Clusters in the world, with multiple sector based sub-clusters and networks some also with a global profile. It is the centre of this area’s Life Sciences, Digital and Technology, Education and Visitor economies.

The Greater Cambridge economy extends out in a number of directions across strategic corridors, such as the Life Sciences sector which extends south through the M11/A1 innovation corridor to London and westwards to Huntingdon – which also plays a significant role in the sector – and out across the OxCam Arc.

Science parks and incubators have largely been subject to excess demand, and the city hugely outstrips all UK competitors in measures of innovation, such as patents per head. The city has also developed a globally pre-eminent and rich business networking culture, which brings together entrepreneurs from different disciplines and backgrounds, leading to types of knowledge spill-overs and cross-sector collaboration that drive business growth. Many of the big tech giants (such as Amazon, Apple, Google, and Microsoft) have located in the city centre, in a clear sign of its appeal to world-leading companies.

However, success has come at a cost. Infrastructure which was designed for a small town is struggling to cope with the weight of commuters looking to work in the city. Strong employment growth has been achieved by large numbers of people moving to the area. And this rapid influx of high salary workers has had some negative consequences: average house

prices have risen from three to thirteen times average income in the last twenty years, and Cambridge has been identified as the most unequal city in the UK. But with the removal of these constraints Greater Cambridge has the clear ability to increase its already significant contribution to the UK economy.

Top priorities from analysis of the evidence base: work collectively to overcome the acute growth constraints facing Greater Cambridge and support the innovation-led economy to grow further both locally and into the wider region.

Greater Cambridge has established a City Deal with Government worth £500m, which is working alongside the Combined Authority to ensure that the recommendations of the CPIER and the needs of this sub-economy are effectively responded to locally.

The **Cambridge Autonomous Metro (CAM)** is the top infrastructure priority for this economy – rapid transit connectivity will cut costs for businesses and make living and working in the city more attractive for aspirational younger generations. This is the most strategic intervention within a package of measures including the **A10 and A505 Corridors** which collectively transform connectivity into Greater Cambridge, as well as **Cambridge South Station** which will make the Biomedical Campus more accessible. The Combined Authority is working closely with the Greater Cambridge Partnership and other partners to collectively progress this package of measures.

The **Greater Cambridge Life Sciences Accelerator Scheme** – approved in principle by the Business Board – will build on our excellent track record in this sector by supporting budding new companies and helping deliver necessary lab space. Recent and further bids to the Local Growth Fund will support this sector and complement investments planned to transfer world-leading approaches to start-up business growth accelerators transferred in from California to guild a cluster of genomics related life science firms.

Academics and business will be brought together to establish Greater Cambridge as the preferred global base for firms from across the world to create and adopt the digital and life science technologies of tomorrow. This will be supported through collaboration across the OxCam Arc and the establishment of a Global AI Conference and a National Innovate to Grow (I2G) Conference in the city.

The new Global Growth Champions programme will work actively with the Greater Cambridge Partnership to target businesses in both the life science and digital sectors to accelerate their growth, especially into global markets. Over 400 Global Growth Champions will be created, to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and the city. This will be supported by the coordination of the estimated 5,000 consultants, coaches and advisors across Greater Cambridge, into a pool of innovation, productivity and growth coaches and global market access experts, to support not just the high growth firms in Cambridge, but those across the other two sub-economies too. This will be a key feature within the Mayoral Endowment for Global Growth (The EGG).

Building on work already undertaken by the University we will collaborate with the Greater Cambridge Partnership and the Dept for International Trade to boost Outward Promotional Activity will enable us to sell the Cambridge brand in more global markets and put us in a strong position in the post-Brexit world, to consolidate Cambridge's global reputation and land more firms from across the world, into both Cambridge and surrounding research parks and towns.

Working between the Combined Authority and Greater Cambridge Partnership to **increase apprenticeships through services that better broker** talent into jobs through improved and more effective relationships between employers, providers and learners. GCP has recently commissioned Form the Future and Cambridge Regional College to launch an apprenticeship service that will increase apprentices across the city region. The service will do this by directly linking people looking for an apprenticeship position with businesses and educational establishments.

Continued investment in the Cambridge Compass Enterprise Zone to further enrich the business ecosystem, and the invitation to bring forward bids to the shared prosperity fund that increase the provision of business space that reflects Greater Cambridge's needs.

Continued support for **Cambridge Experiments** – one of the strengths of Cambridge is the constant experimentation in the innovation ecosystem. We should continue to encourage and support this to ensure that the innovation ecosystem constantly reinvents and improves itself. To support this we will create a **Cambridge Experiments Fund (CEF)** to support innovation in the ecosystem.

The Greater Peterborough Economy

Peterborough is one of the youngest and fastest growing cities (by population) in the UK. It has grown rapidly since the arrival of the East Coast main line, firstly as a centre of the brickmaking industry, and more latterly, a centre for high-end engineering. It has also developed specialisms in professional services, Agri-tech, logistics and distribution (complemented by its strong road and rail connectivity) and environmental sectors such as water management.

Peterborough is a centre of Clean Growth and as an Environmental Capital is an exemplar for the future sustainable growth of our whole economy. It was named **World Smart City in 2015** (beating Moscow and Dubai), and has since further invested in pioneering approaches to a circular economy which this strategy will look to support and spread across the whole region.

Peterborough has suffered, however, from poorer skills outcomes than the south of the Combined Authority, with relatively low levels of degree-level qualifications, and is in the bottom 10 cities in the UK for people with no formal qualifications⁸. This is partly due to the lack of a university in the city. Peterborough is also beginning to attract investment from some London-based companies looking to move professional and financial

⁸ Centre for Cities, *Cities Outlook 2019*

functions out of the capital. But for a city of its potential, it still attracts relatively low investment.

Top priorities from analysis of evidence base: Improving skills, growing the high-productivity business base, and attracting investment

The new University of Peterborough will attract highly skilled, productive individuals to the city, and develop the skills of the local population. Critically, these skills will be provided in line with the needs of local industries. The proposed associated **Enterprise Zone** will ensure the University also builds a reputation for applied innovation and technology, with Agri-tech, Advanced Manufacturing and AI Applied Logistics specialisms to fuel the growth of these key sectors in the city.

The new Global Growth Champions programme will work actively with Opportunity Peterborough to target businesses in our key sectors in and around the area that will grow, become more productive, and trade more globally, as a result of direct support through the service. Peterborough's fastest growing firms in advanced engineering, financial and professional services as well clean technology will be provided with enhanced access to growth coaching and growth support networks to help them maximize their growth opportunities and overcome the leadership, organisational or market access challenges that hold them back. Over 350 Global Growth Champions will be created, to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and the city. This will include access to expert, global growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment; all from a Mayoral Endowment for Global Growth (The EGG).

An Innovation Launchpad in areas such as Agri-tech or AI enabled logistics can be connected into the University Enterprise Zone to provide both R&D and growth finance to convert Intellectual Property into product and service sales across global markets.

A **Greater Peterborough Inward Investment Pilot** will look to actively market Peterborough as an opportunity to international investors, working with the Department for International Trade to develop compelling propositions. This will include global promotion of the city's strengths as a logistics hub and high value opportunities to invest in logistics commercial space on the A1 West (Haddon) at Peterborough. It will also include promotion of Peterborough within the UK and in particular to London businesses. There is significant opportunity to increase high value GVA and productivity growth in Peterborough, as a result of signaling improvements on the east coast rail line that will reduce journey times from London to just 38 minutes and raise passenger volumes to 5 million per annum. The CPCA and Peterborough City Council will work together on a master-planning exercise and feasibility study for a London Commuter Commercial Quarter. Opportunities include relocations out of London for back office functions from Government Departments and Agencies, as well as professional and financial firms. Median office rents in central London are £73psf and in outlying Boroughs £45psf. In a new potential London Commuter Commercial Quarter they would be just £17psf.

The **Skills Brokerage Service** will boost uptake of apprenticeships, especially in the advanced engineering, business and logistics sectors. The **Work Readiness and Aspiration Pilot** will work by leading on intensive engagement with local schools to drive up aspiration and attainment and prepare young people for work by facilitating engagement with local employers.

The Fens

The Fens is an area with a history rich in innovation, developed over generations through necessity of creating success in demanding natural conditions. The very land itself is a testimony to the ingenuity of engineers and the calculated risk taking of funders, who recognised the potential that use of pumping technology and water management techniques could have to create an area of fertile farmland. The Fens contain much of the UK's best farmland, and an associated industry of agriculture, Agri-tech, and food manufacturing has grown up as a result – carrying the legacy of ingenuity into modern-day industry. The Fens are also home to a network of market towns, such as Ramsey, Wisbech, and Littleport, which each have their own unique character and industrial specialisms, and plentiful natural capital.

Nonetheless, the Fens have some unique economic challenges. The distance of some of the market towns from local cities, combined with poor transport infrastructure, has meant that populations are ageing as young people move away, and there can be a sense of economic isolation. There is a high rate of “high employment, low productivity” business, which manifests itself in low skill rates and reduced wages. There are few interactions between businesses, and a lack of open engagement between firms, which reduces the scope for innovation.

Top priorities from analysis of the evidence base: Deepening business networks and developing supported clusters to improve productive, business growth

The **Fens Business Growth Network** will provide opportunities for collaboration between businesses to drive productivity growth and will evolve new clusters and networks of businesses linked together through the 250 Global Growth Champions we will create in the Fens, targeting the specific size, age, sector and market focus of firms prevalent there. These *Fen Tigers* will also enjoy enhanced access to expert productivity and growth coaching as well as growth loans, equity investment for investments into growth capital and new more productive equipment and technologies, through the Mayoral Endowment for Global Growth (The EGG).

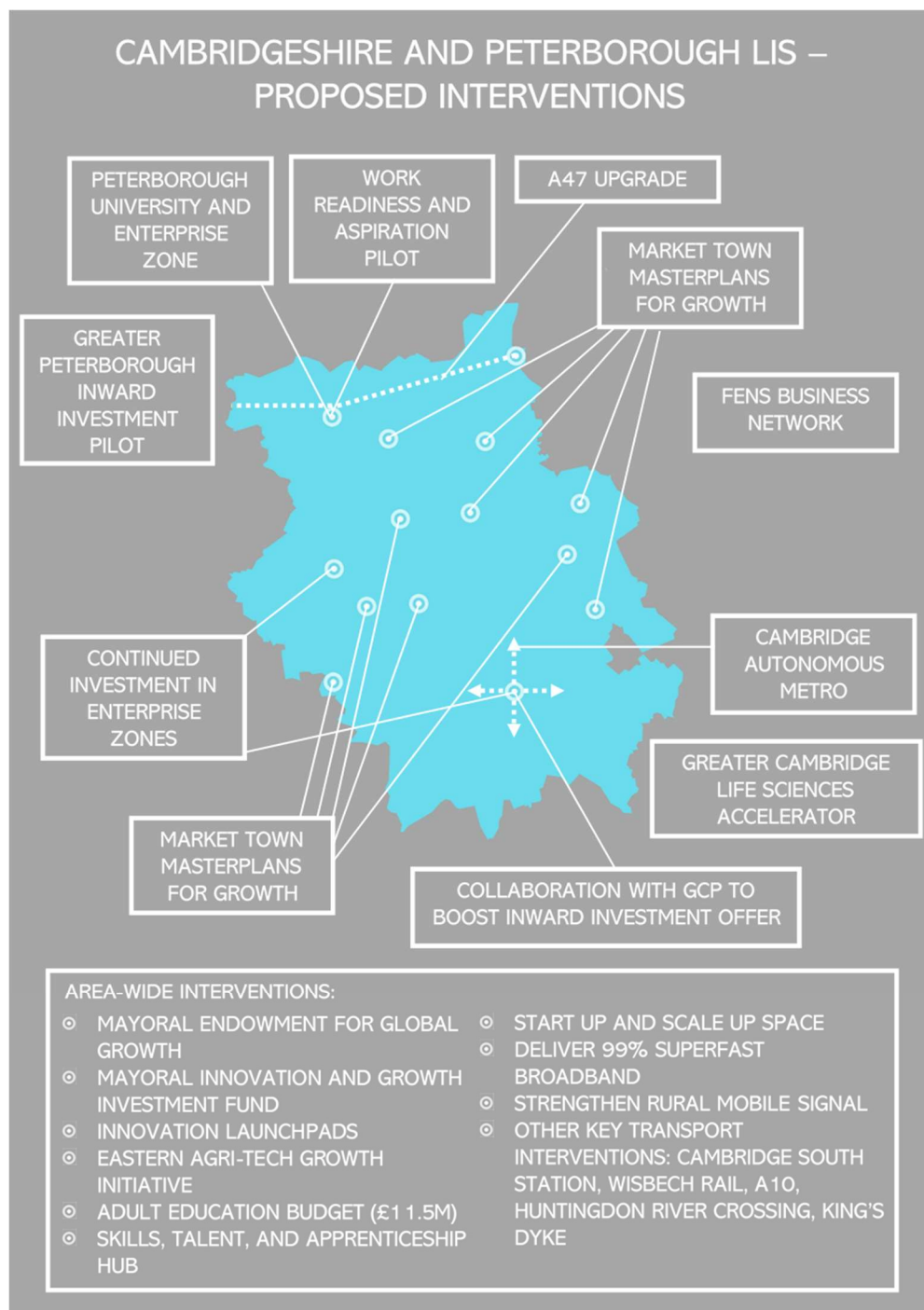
The **Market Towns Masterplans for Growth** will tailor economic policy for each market town, and increase the attractiveness of the towns for the new generation of lifestyle entrepreneurs

An **Advanced Manufacturing Innovation Launchpad** will bring together local supply chain businesses, international R&D institutes, national training providers and partners with global market access. This will include a new partnership between Make UK, TWI, iMET, the Institute for Manufacturing and a leading Advanced Manufacturing business in the Fens.

The **A47 upgrade** is a particularly vital transport intervention for the North of the Combined Authority (especially for the market towns of Wisbech and March). This will improve access for Fenland firms and communities to wider economic opportunities and markets.

The **Eastern Agri-Tech Growth Fund** expansion of £5m, will enable direct funding support to more firms in the Fens, and extending into Norfolk and Suffolk, building upon the track record of businesses in this region which have been able to grow as a result of R&D funding support. This will also support plans for the expansion of **business space for Agri-tech Innovation** such as that previously invested in the NIAB Innovation Hub in Soham.

A map, showing where some of the innovations will be located is set out below:



7. Foundation #2 – People

Our Approach

We have developed a Skills Strategy Framework that sets out the actions we are going to take to drive this foundation of productivity. It has three key themes:

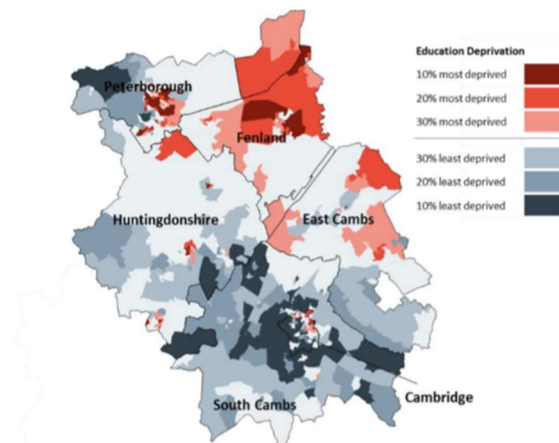
1. Achieve a high-quality offer tailored to the needs of the three sub-economies.
2. Empower local people to access education and skills to participate fully in society, to raise aspirations and enhance progress into further learning or work.
3. Develop a dynamic skills market that responds to the changing needs of local business.

The evidence and actions are summarised here.

Evidence and Barriers

The Cambridgeshire and Peterborough economy is largely successful – GVA growth has outpaced that in the region or nationally consistently over recent years.

But the three different economies have different needs, and that is particularly true for this first foundation of productivity. The interface between demand for labour and places plays out in consequentially different ways. The evidence base for the CPCA Skills Strategy builds upon the CPIER to describe this issue in detail. Together with the Combined Authority's Public Service Reform programme, our approach to skills will involve local partners working with Government to Government to explore ways to overcome both deep-rooted social challenges and the implications of rapid growth on local public services in the context of significantly reduced public funding.



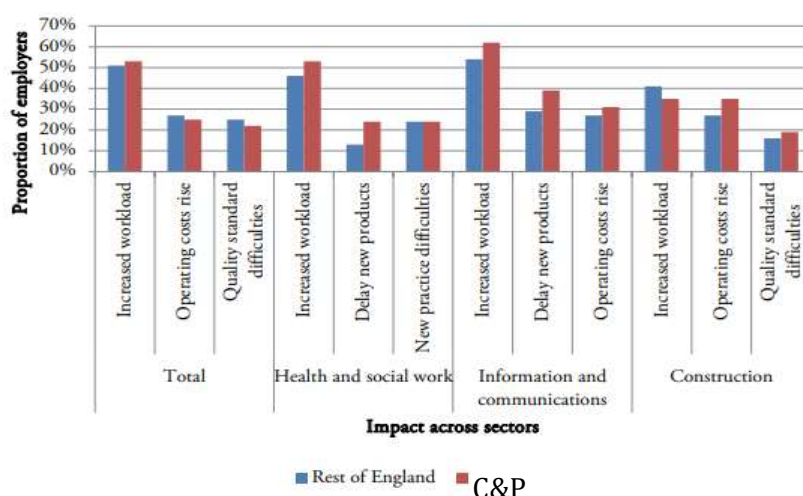
The actions in the LIS and the skills strategy show how we are working across the different parts of Cambridgeshire and Peterborough, with those communities at each end of this spectrum and those in between, ensuring that the education and skills offer of the area is adapting to enable employers in each economy to get the skills and abilities they need from the resident workforce, who in turn have access to high quality and well-paid work.

Nothing is more foundational for people than their education which is why it is important to if not central to the LIS. Within Cambridgeshire and Peterborough, educational

outcomes are highly uneven. South Cambridgeshire has some outstanding educational outcomes for example, whilst East Cambridgeshire and Fenland score 308th and 241st respectively out of 324 Local Authorities in England – hence why the Government has declared them a Social Mobility Opportunity Area. The map, right, shows how educational deprivation is unevenly spread.

If some of the schools of Cambridgeshire and Peterborough aren't equipping young people with these outcomes, they can't play their part in the economy of the area. If so, aspiration and achievement will remain low, the Apprenticeship Levy will fail to work in the way intended, and too much of Cambridge and Peterborough will remain locked in a low skills, low pay equilibrium, structurally unable to provide the absorptive capacity the high growth areas of Greater Cambridge and Peterborough very much need. Raising educational outcomes across the whole areas is essential to rebalancing the economy of Cambridge and Peterborough and the delivery of the goals in the LIS

A lack of necessary skills is also having a greater impact on a wide range of businesses than in other regions and England as a whole. This includes on metrics such as metrics, such as increasing workload, creating higher operating costs in the IT and Construction sectors, and meaning delays in new products coming forward – therefore acting to slow down innovation and business growth potential.



Source: UKCES Employer Skills Survey.

Priorities

Based on the evidence our Skills Strategy Framework set out 6 core priorities:

Staff shortages in priority sectors – improving the availability of trained staff in technical and management roles

Perception vs Reality – improving the perception of some sectors and industries and improving career and vocational pathway promotion in schools and colleges.

Plugging the Skills Gaps – improving connections between education & qualifications and skills & jobs by ensuring all young people have access to quality careers advice and guidance to make informed choices at transition points and linking careers to curriculum to provide the support young people need to make choices at GCSE and A level.

Engagement in STEM subjects in schools/colleges - Embed the importance of STEM subjects in schools/colleges to raise awareness of jobs/qualifications that are available within growth sectors including manufacturing, engineering, life sciences, agri-tech, digital IT, construction and health and social care.

Connecting the disconnected - improve connections with the labour market for those that currently risk missing out, through support, transition programs, wellbeing support and community groups.

Improving the evidence and evaluation base - It is imperative that we are highly successful through the devolved projects we currently run. Measuring impact and evaluating outcomes effectively, ensuring that the investment yields, or wherever possibly exceeds, the return expected will be essential.

Interventions

Education

Further work is needed to ensure that the young people of Cambridgeshire and Peterborough can operate in the modern world of work. This is an issue in all three local economies, including where educational outcomes are high. Too many young people still lack the experiences of team working, creative problem solving and the personal skills that are a key part of effective working. The Skills Strategy Evidence Base and the CPIER both suggest that one reason for this is that the skills offer funded through the public purse is not yet focussed enough on the opportunities for employers and the potential of both young people and adults that are seeking to re-enter employment or change careers.

We are committed to an in-depth evaluation of actions being taken as part of the Opportunity Area in Fenland and East Cambridgeshire, to inform future interventions which may be developed through our focussed work on market towns in the area.

The devolution of the Adult Education budget is in progress and radical changes to how it is invested and the related outcomes for individual opportunity and business needs satisfaction are underway. However, in addition, the CPIER recommended the devolution of skills funding for young people also.

One practical early action we propose to take to make progress on this issue, is the development of a Work Readiness and Aspiration Pilot: intensive interaction in schools in areas of deprivation, to reduce NEETs. Subject to independent evaluation of the pilot, the plan will be for expansion beyond the small number of schools currently engaged, to an economy-wide scheme that is able to focus its resources on the urban areas and rural towns suffering from the worst educational deprivation, lowest levels of youth aspiration and weakest links into employers, work and skills progression.

Skills

The current skills system within Cambridgeshire and Peterborough demonstrates that there is some degree of disconnection between schools, colleges and businesses. It is imperative that we map the current provision and ensure that outcomes of education and wider learning lead to employment, Further Education, Higher Education or further training.

There is a clear opportunity to make **More Effective Use of the Devolved Adult Education Budget**: better connecting adult skills provision with employment and the needs of our businesses, creating better opportunity for re-training and up-skilling in a dynamic modern marketplace.

Taking control of the Adult Education Budget (AEB) provides us with the tool to support learners to secure foundation skills, progression and diversification and is pivotal in supporting the needs of local people into employment. Improving workforce development is crucial to achieving the economic development of Cambridgeshire and Peterborough, particularly in those areas where levels of educational attainment are currently low.

But better provision alone will not provide the skills for our economy and ensure that business and able to access them. The labour market is very prone to information failure in which people, especially younger people, are unable to understand what is on offer or the benefits of investing their time and resources in identifying employment, skills and educational opportunities or differentiating between them to understand which creates the best life-chances for them individually. Similarly, employers can find it hard to access the people, skills and talent they need in a timely manner, especially small firms with limited time, networks and visibility. We will ensure that unsuccessful applicants to big employers can access other opportunities. Similarly, small firms need to be given access not just to their own apprentices but to share apprentices and pull down levy funding from the big employers

Young people need to be able to differentiate them to best match them to their needs, whilst older people looking for new careers and a return to employment, need to be able to construct skills development pathways into new sector and new jobs. So we will, through our Local Industrial Strategy, take a number of actions to build a systems approach to overcoming the current and enduring market failure in the skills marketplace including:

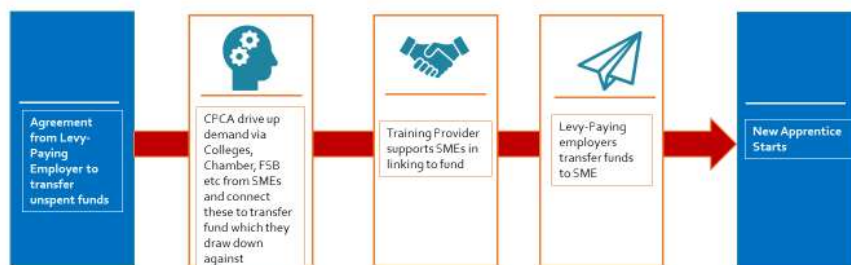
- We will create a **Skills, Talent and Apprenticeship Hub**: connecting employers, providers, and learners. Following initial public investment once operational there is the potential in the future for revenue generation.
- Learning from experience in the past, there should be the opportunity for specific brokerage to bring together demand and supply through dedicated skills brokerage. Building on existing schemes such as the Greater Cambridge apprenticeship brokerage scheme we therefore propose to create as part of this Hub a **Skills Brokerage Service**:

specialist activity building relationships between businesses, providers and learners creating a system which brings together all of these different interventions as part of a coherent system.

- One of the most challenging areas of matching need and opportunity is in relation to apprenticeships. The issue of demand for apprentices is most prevalent amongst SMEs who struggle to balance the value and effectiveness of a trainee, their need to be absent for 20% of the week and the costs involved. Hence, to overcome this continuing market failure, we propose to better unlock the apprentice levy funding within large firms and help it flow down more effectively to SMEs in supply chains and sector clusters. To achieve this **we propose alongside our partners in other Mayoral Combined Authorities in Greater Manchester and the West Midlands to agree with and pilot on behalf of the Department for Education (DfE), greater local freedom over the utilisation and management of underspend in the Apprenticeship Levy** to create a highly functional local levy marketplace that significantly increases the quantity and quality of apprenticeships in the MCA economy We will develop local mechanisms to ensure that this critical resource in overcoming the current market failure in apprenticeships, can be deployed effectively, including creating pooling arrangements between employers.

CPCA Apprenticeship Levy Fund

CPCA will build a Levy Fund to support STEM Advanced and Higher Apprenticeships in non-Levy paying SMEs



- However, more is needed to help employers to make apprenticeships available. So, in addition, we have created an **Apprenticeship Ambassador Network**: a voluntary network of business champions, encouraging businesses to overcome reticence to create apprenticeships, and encouraging uptake. This same approach has been highly successful for the Dept for international trade where they have used Export Champions as networked ambassadors and case studies in advertising to promote the benefits of international trade. We intend to apply this proven tool to promote the benefits of taking on apprentices amongst, particularly small firms.
- Further help is needed to get more people into apprenticeships, particularly targeting communities where accessibility and affordability are significant barriers. So we will create a **Mayor's Apprenticeship Challenge Fund**: offering financial incentives to help overcome barriers to uptake, including travel costs and expenses.

We will work across our growth sectors to co-design specific interventions that respond to specific needs. Since the inception of the Combined Authority and the Business Board we have so far launched:

- A **CITB Construction Hub**: on-site training hub at Alconbury, working across the county. Supporting the hard-to-reach, workers from declining sectors, and military veterans into careers in construction
- The **Health and Social Care Progression Academy**: DWP funding pilot to support progression within and across priority sector

The three priorities identified thus far: education, skills and young people and adults, will all require careful steering, balancing the needs of young and older workers and employers, ensuring that purposeful change in provision occurs in ways that help the provider community to adapt quickly, minimising disruption. Innovation is also needed in the way public money supports businesses in their training, promoting innovation, cooperation and joint procurement of skills across supply chains and sectors. For all these reasons, stronger leadership and governance is needed of this **systems approach** that we are adopting, via a **New Skills Advisory Panel** charged with overseeing the integrated system of interventions and reforms described. The Panel needs to be expert in skills but also in business with a heavy emphasis on innovation, experimentation and evaluation to promote new ways of supporting skill development. This Panel should also inform the future of Higher Education in the area.

Higher Education

There is a strong case and long held ambitions for Peterborough to have its own university, strengthening the City's economic assets, retaining talent, and driving growth. The University of Peterborough will be a high-quality employment-focused university for the city and region. It will acquire an international reputation for innovative technological approaches and face-to-face learning in applied technology and science. It will be characterised by outstanding student satisfaction and response to local needs. The curriculum will be led by student and employer demand as well as developing opportunities in the technological, scientific and business areas. Its buildings will be architecturally leading, flexible and environmentally friendly.

Within a year we intend to implement this vision through:

1. A procurement compliant competition, for the selection of the most appropriate curriculum offer to satisfy that requirement from a partner that can demonstrate the financial, academic and commercial capacity to deliver it
2. A specification for the buildings and equipment, with related capital and revenue costs, to deliver that offer in partnership with the selected partner.
3. The procurement of contractors to build and manage the university premises on the embankment site

By 2025 we intend that the new university on the banks of the Nene in Peterborough will be producing 2,000 graduates a year, rising to 10,000 by 2030, when it will become fully independent, as the University of Peterborough.

The Work and Health Programme is a collaborative initiative between Government (through the Department of Health and the Department of Work and Pensions) and local partners to increase the employment prospects of those with a long-term health condition or disability. The Cambridgeshire and Peterborough service was launched in January 2018, the Public Health team has played a leading role in this service and it will be a priority for the Combined Authority to integrate this activity into the wider industrial strategy programme. The programme has the following key objectives:

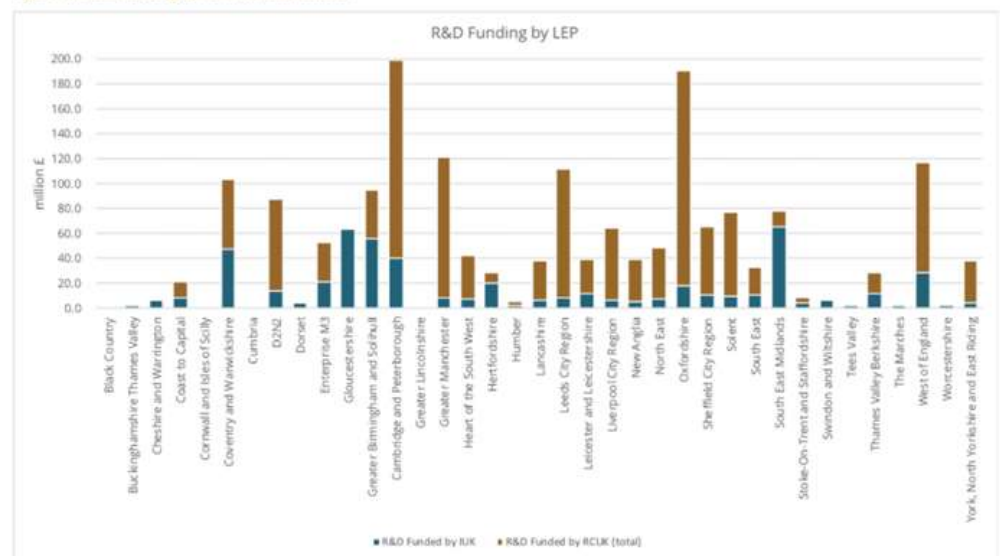
- Establish referral pathways between education/skills provider, health and social care organisations to the Shaw Trust Support Service. Receive performance monitoring information from DWP for the Shaw/Papworth Service and review progress and address local barriers to achievement.
- Develop with DWP referral pathways for ESA recipients to and from education/skill providers, health and social care services to other Job Centre Plus support packages
- Provision of training to Job Centre Plus staff to enable them to understand health conditions, their impact on motivation to work and to take appropriate action.
- Support employers to adopt workplace policies and interventions to support improvements in employee health and retain those with a health condition or disability
- Provide Workshops and training for education, health and social care staff across the system to increase their understanding and skills for supporting people with disabilities and long term health conditions back into work.

8. Foundation #3 – Ideas

Cambridgeshire and Peterborough is a global centre of highly diverse innovation, representing one of the UK's greatest assets for idea generation and commercialisation. Research and Development funding by Innovate UK and the Research Councils in the UK is the highest outside of London within the CPCA area as shown in the graph below.⁹ Its future success is key to the UK achieving its target of 2.4% of GDP on R&D.

The priorities and interventions of this Strategy are collectively intended to enable the future success of our centres of innovation – most notably Greater Cambridge – whilst also actively working to spread innovation across more of our economy, moving our firms and sectors up the value chain.

Figure 4: R&D Funding by LEP without London



To achieve this, we have responded to the CPIER's analysis of the innovation ecosystem and the 2017 East of England Science and Innovation Audit to tailor our interventions in ways that will support clusters of innovation to grow and that are bespoke to places and sectors.

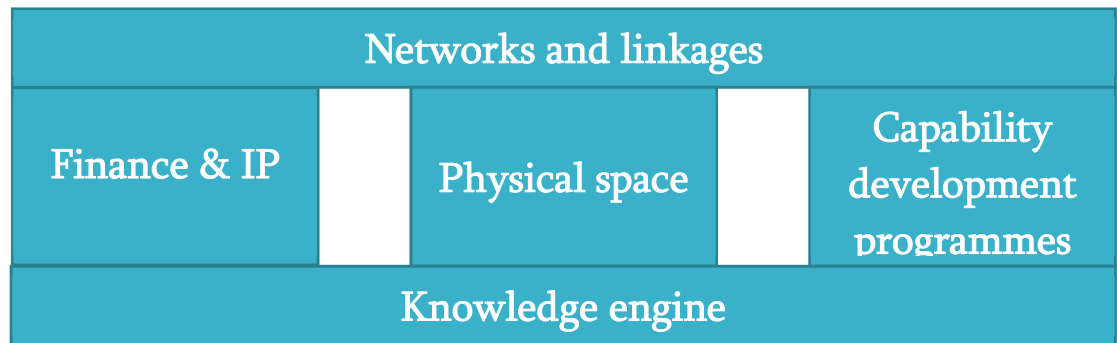
Evidence and Barriers

Productivity growth is heavily dependent on the introduction of innovative new products and services and the ideas and the circumstances which give rise to them. Whilst much process innovation happens in situ in offices and laboratories in companies wherever they are, the nature of innovation is changing more generally in a way that is becoming more context sensitive. If the major innovations of the motor age happened in a handful

⁹ http://smartspecialisationhub.org/wp-content/uploads/2019/01/2.4-PLACE.pdf?utm_source=Newsletter+subscribers&utm_campaign=5bb89dc02c-EMAIL_CAMPAIGN_2019_01_14_11_13_COPY_01&utm_medium=email&utm_term=0_5ba091826c-5bb89dc02c-206124285

of places and a small number of large companies, the model of today is more complex, diverse and more broadly based. So, place matters intrinsically for innovation.

The Innovation Ecosystem model as developed through the CPIER:



In Greater Cambridgeshire we have one of the world’s most highly effective and diverse innovation systems. Innovation ecosystems need **knowledge engines** that drive development. These include research institutions like universities at the high end, and education providers at an earlier point in the system. It also includes the businesses, professional service advisors, and supply chains which generate clusters of specialisms that draw in interest and expertise.

Across Cambridgeshire and Peterborough this knowledge engine operates to the highest of levels within Greater Cambridge – and clusters in various stages of maturity, such as the recent Agri-tech Innovation Hub sponsored by the National Institute of Agricultural Botany (NIAB) which was brought forward with Business Board investment (pictured right). The Combined Authority proposals for a new University of Peterborough will, over time, become the knowledge engine in the north of the region, especially through the proposed university enterprise zone, which will be used to attract innovative small businesses and a range of business, innovation and productivity specialists to support cluster development.



This model of innovation sees the Knowledge Engine as the foundation for three pillars of policy, namely Finance and Intellectual Property, Physical Space and Capability Development Programmes.

The picture on **Finance and Intellectual Property** is mixed but nowhere is it as clearly excellent as might be desirable. Cambridge has the best endowment with a deep pool of early stage finance through the likes of Cambridge Angels and Cambridge Capital Group, but even here firms report low levels of access to scale up capital and growth strategy support. The University is seeking to address this market failure by supporting

Cambridge Innovation Capital and private sector investors – such as Amadeus and Ahren – are important players, but elsewhere there is a lack both of seed finance and an absence of the collaborative approach to innovation which seems to be so important a part of Cambridge’s success.

Physical space like finance has stages. What a business needs in its start-up phase is different as it matures and grows. It is vital, if an innovation ecosystem is to be effective for there to be the right offer at every stage and of the appropriate kind.

There is evidence that Greater Cambridge needs more start up and particularly scale up space, which are less likely to attract private sector funding given the risk profile and need for more commercially focussed wet labs for product development and testing. The Greater Cambridge Partnership is working to support this. Peterborough has a significant shortage of business space and especially incubator space, important to encourage entrepreneurs to set up and locate. The Fens lack business space but perhaps also the innovative space that links to specific sectors and can support wider start up and innovation activity in market towns.

In terms of **Capability Development**, both the finance and property offers in Greater Cambridge are more developed than those elsewhere. In Peterborough there is need which could be met linked to the proposed new university and growth support proposed through the Mayor’s Endowment for Global Growth (EGG). The Fens are similarly in need – focused on sectors including Agri-Tech and Advanced Manufacturing. One key reason for the differential development of the areas which reflects the strength of the innovation and growth eco-systems in each area is the **Strength of Networks and Linkages** in each area. Cambridge has highly effective networks, whereas in Peterborough there is greater a need to establish the sort of functional mentoring, advisory, coaching and supply chain networks that have made Cambridge so successful. The Fens needs to encourage firms who compete to collaborate and build knowledge.

Interventions

Putting all of these factors together in to a programme leads us to place-based innovation, integrated with our new business growth support programmes and funding sources, in the following broad areas of activity to deliver an **economy wide place-based innovation and growth eco-system**.

Networks and Linkages:

- **Harnessing the Global Growth Service** to bring together leading established players, entrepreneurs, innovators, mentors and coaches with growing firms that are receiving support from the Service to establish a “**Innovate 2 Grow Network**” to strengthen linkages across the whole area
- **Stimulating and enabling business groups** to come forward with proposals against future rounds of Local Growth Funding and the proposed UK Shared Prosperity Fund to

establish new networks and strengthen existing in specific towns and cities, whilst integrating all across the whole area through the proposed Innovate 2 Grow Network.

- **Supporting Businesses, universities and other partners to collaborate** to maximise public and private investment, including R&D funding, in the four major growth opportunities we have identified and to support the supply chain innovation required to make the most of the market potential.
- **Establishing a Fens Business Network** – with the Mayor and leading business figures from the region stimulating discussion with businesses from the Fens about how such a network could operate and link penitential start-ups and scale-ups into the Base Engine of growth and innovation support from within Greater Cambridge.

Funding and IP:

- **Expanding the Eastern Agri-Tech Research, Development and Prototyping Growth Initiative** which already operates across Cambridgeshire & Peterborough as well as New Anglia, by a further £5m (already committed to by the Business Board and NALEP in partnership), and **working with DEFRA** to explore opportunities to match local funding to stimulate a step change in rural innovation more broadly across the range of sectors established but failing to grow and innovate.
- **Working with local investors** to match contributions from the Local Growth Funding to create a new **Mayoral Innovation & Growth Investment Fund** to work alongside the Growth Service by providing equity and loan investment to firms already accessing growth coaching and support to break into global markets and transform their productivity through innovation.
- **Establishing an SME Innovate 2 Grow Fund** to promote R&D, innovation and commercialisation of ideas – offering match funding to SMEs to write bids to access R&D and innovation grants domestically and from the European Union, to create and commercialise new technologies capable of driving transformative growth within their business and their markets.

Physical Space:

- **Stimulating the creation of new Innovation Launchpads** as nucleation points for innovation cluster development. Focussing on product development to support key growth sectors – bringing together established firms with training, R&D, and incubation facilities. Designing with input and learning from the on-patch success of such centres in Greater Cambridge – inviting bids to future rounds of the Local Growth Fund that establish such launchpads.
 - We will support and facilitate the creation of at least four new Innovation Launchpads that will establish clusters of innovation and commercialisation, rooted in market need.

-
- The evidence of the CPIER and regular feedback from local businesses and institutions in the development of this LIS is that our respective strengths in innovation and production are too often disconnected – especially outside of Greater Cambridge. Cutting edge research is too far from real life market need, and this is where our opportunity to facilitate a stronger ecosystem can have real impact.
 - The Combined Authority will work directly with partners who are interested in bringing forward launchpad propositions, and will work to design funding packages for our strategic sectors liaising between local players and Gov Depts to secure funding and support related to the National Industrial Strategy’s Grand Challenges of:
 - Advanced Manufacturing
 - Agri-tech
 - Life Sciences
 - Digital and Tech
 - Future of Mobility
 - Clean Growth
 - AI and Data
 - Ageing Well

The Combined Authority will work actively as propositions emerge to ensure that they contain the core components of such systems, drawn from the evidence of the CPIER and learning from those in the area who play a leading role in successful examples. Once in place, the Combined Authority will then play an active role on Launchpads, for example through the deployment of the Global Growth Service, funded through the Mayors Endowment for Global Growth and its related growth coaching and support.

- **Supporting new start up, incubation, and scale-up space** where market failures are identified – and where investable propositions are brought to the Combined Authority or overseas investors can be attracted in, to support the key new business parks being developed in Greater Cambridge and Greater Peterborough, including the new proposed University Enterprise Zone as part of the University project in Peterborough.

Programmes:

- **Developing an economy-wide innovation and growth support eco-system**, harnessing the growth, innovation and productivity expertise within the Knowledge Engine of Cambridge to create 1,000 Global Growth Champions (see business environment).
- **Establishing Micro Innovation Systems** in market towns, in specific locations to be identified by the Market Town Strategies, that integrate the improved business networking infrastructure we propose to create, with the global Growth Champion support services, the proposed growth investment funding into specific new market town business growth space.

9. Foundation #4 – Business Environment

The evidence, challenges and opportunity

Overall, we are a dynamic business environment. Between 2012 and 2017, there were over 25,000 businesses born here, compared to just under 20,000 businesses dying. Our start-up culture and a business creation capacity is strong, but so too are the factors that make early-life business survival challenging; not least cashflow. We have seen growth in turnover of companies in the area over the last six years at least 2% per annum, with over 10% in South Cambridgeshire.

We have a strong track record of supporting indigenous high growth firms, supported by dense networks in the Greater Cambridge economy between entrepreneurs across sectors, educational establishments, and the groups which have developed and play a key role on the life of the city and business environment. This is reflected in the type of business growth clustered in Greater Cambridge with agglomeration benefits around high value industries including life sciences and digital.

However, as set out in previous sections, delivering our overall growth ambitions means that we must increase productivity, changing the spatial distribution of growth and supporting an increase in business growth and skills levels across the whole of our economy.

We recognise the need to change the historical growth dynamic. Our innovation growth hotspot of Cambridge is global in its intellectual and market reach but more localised in its economic and societal impact. Greater Cambridge has some of the highest levels of entrepreneurship, where firms are created and scaled to take advantage of new business models, new forms of business and customer value and some of the fastest growing global markets. It is home to a high concentration of high-growth technology firms enabled by a world-class innovation and growth support eco-system.

So how do we leverage this world-class asset to the greater benefit of more of our citizens and a greater proportion of our place?

The answer is not to attempt to encourage or induce these firms to spread and relocate more broadly across our economy, because we know this does not work and they are unwilling to give up the clear benefits of the innovation and growth eco-system there.

Instead, we will focus on the spreading and replicating the conditions that helped bring about this global growth success story – primarily the peer-to-peer and commercial marketplace for innovation, growth, productivity and market access support, complemented by relatively easy access to growth finance.

Goals and Approach

Working across the whole economy, we will develop networks to connect the growth support resources of Cambridge, and elsewhere, to firms across the economy, creating a marketplace for growth support and growth finance, available to all our high potential firms, wherever they might be located. In doing so, we will create a world-leading business growth support environment for high-growth potential firms, where business ideas and business leaders can establish, grow to scale and find innovative routes into global markets.

This inclusive growth strategy is designed to shift more of our future growth into the wider economy, and diversify our economic base to mitigate any risks to our economy.

All our towns and cities will form a network of well-connected economic and business clusters centred on key sectors, collaborating across geographic boundaries and accessing world-class growth support. In addition, and irrespective of the growth support we provide, we expect that increasing connectivity between firms will lead to additional improvements in productivity through economies of agglomeration.

When connected and enabled through the marketplace of growth support we will create, including coaching, mentoring and finance, businesses in our towns and cities will interact within and between them in new ways that enhance their productivity, creativity and competitiveness. The business growth support eco-system we will build will create at least 1,000 Global Growth Champions; Entrepreneurs willing to mentor other business leaders and sufficiently credible and inspiring to act as Global Growth Ambassadors across clusters, sectors and place.

Critical to this will be the improved access to growth experts, global growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment, that these Global Growth Champions will receive. It is this, that will enable them to “graduate” as Global Growth Champions and help them to recognise the mutual benefit of forming into a community of high-growth business leaders, offering other firms’ advice, mentoring and partnerships into ventures and markets; as part of a Global Growth Alumni.

All the components and elements of this growth support eco-system and the potential it creates to build an alumni-community of Global Growth Champions for peer to peer support, will be financed through an innovative **Mayoral Endowment for Global Growth**.

The Global Growth Service it will create, together with the loan and investment funds that complement it, will become a sustainable asset for the Cambridgeshire & Peterborough economy, managed by an arms-length and commercially sustainable, not-for-profit business; **The Cambridgeshire & Peterborough Growth Company**. This will be established on the same legal, organisational and governance principles as Opportunity

Peterborough locally and the Greater Manchester and West Midlands Growth Companies, nationally.

The Global Growth Service will bring together a range of interventions into a new, targeted approach to business growth support. This will be an evolution of the Growth Hub and Signpost2Grow, which will continue to operate within the new service. We will do this through integrating the world-leading expertise we have across the economy to support businesses on a number of issues that are core to achieving growth, working with firms targeted by segment, sector, their growth potential and their leaders' personal experience and characteristics, to increase capacity for growth. This support will also be spatially targeted in those places with greater capacity to absorb economic growth in the next 3 to 5 years.

Primarily, we will provide enhanced business growth support to at least 250 firms per annum and over 1,000 by 2024, with an emphasis on sectors and clusters in Greater Peterborough and the Fens.

Secondly, to support productivity growth in the two sub-economies where it is currently lower, namely Greater Peterborough and The Fens we will structure this enhanced support so that it delivers growth in the firms' supported, that is more productive than the firms' previous baseline business.

Thirdly, we will build on the major opportunities that exist to increase trade, supporting exports growth from 30% to 35% of GDP across the area, by delivering growth in the firms engaged, that is more export intensive than their baseline business.

Interventions

We will deliver the goals above through two strategic interventions, alongside and complementary to the innovation launchpads described in the ideas section above:

- **The Global Growth Service** targeted at the places and firms that will have the most impact on our goals – operational from beginning 2020 and working with 250 firms per year.
- **A Trade & Investment Service** featuring an integrated and customer focussed approach to co-ordinating our Global Growth Grants and Loans with the Export Grants (financing exporting advice) and the Export Buyer Credit (financing overseas customers to buy British goods) offered by the Department for International Trade. In addition, a **Global Investor Service** focused on landing new firms into Peterborough and Cambridge.
- **Acting as a trailblazer with the Small Business Commissioner** to launch a new programme to improve business survival rates for start-up and early stage firms, including a plan for a new economy-wide payments policy for SMEs. This will be promoted by the Combined Authority as a Pioneer Adopter to encourage local supply chain primes and local authorities to adopt a new clause within their standard terms

and conditions for doing business with SMEs, that provides the right for all SME suppliers of goods and services to be able to access a free of charge arbitration service from the Small Business Commissioner on late payments.

Place Based Business Growth Support

A new **Global Growth Service** will **profile** key firms that can help deliver a shift in business growth, productivity and exports in places.

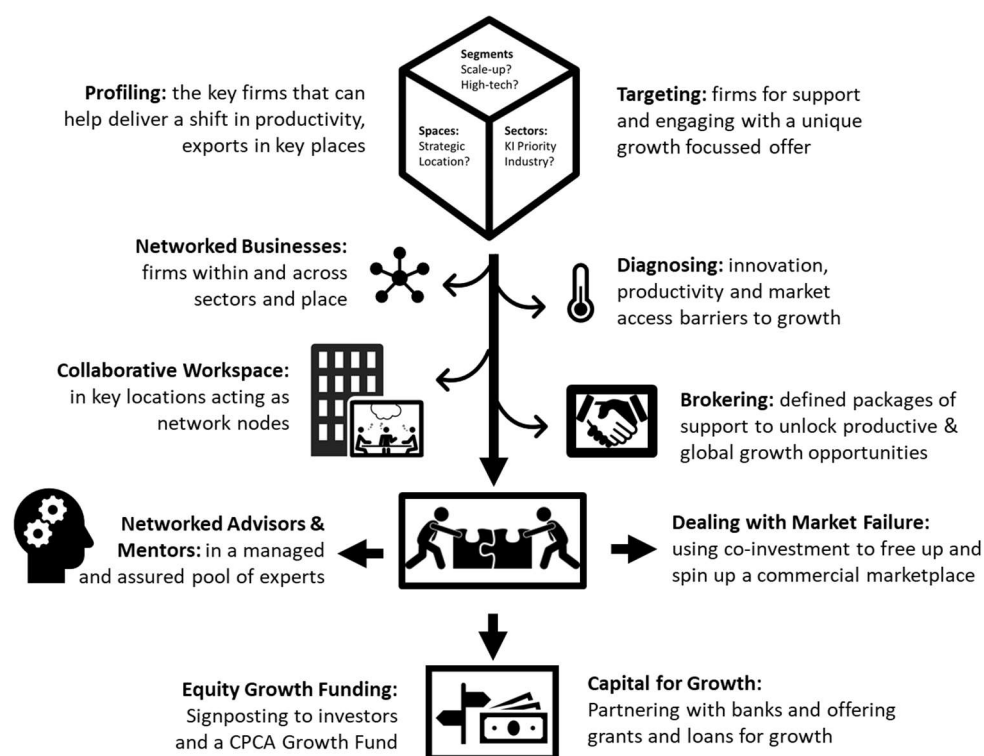
- **We will target firms for support** and engage them with a unique growth focused offer. We will **diagnose** barriers to growth in the firm's capacity to innovate, increase productivity and gain rapid and effective market access.
- **We will broker solutions to meet individual firm needs** through defined packages of support to unlock productive and global growth opportunities. And we will invest in **Collaborative workspace** in key locations to encourage sharing and learning and network businesses across sectors and places
- **We will address the market failure in the commercial marketplace** for professional services, coaching and advisory to small firms through the alternatives of;
 - a co-investment grant, to share with the supported firm, 50% of the costs of the coaching accessed, at point of purchase, or
 - a co-investment loan, to defer for the supported firm, 100% of the costs of the coaching accessed, to the point of potential benefit (assumed to be 24 months)
- **We will build a commercial marketplace** and a managed and assured pool of experts that will act as **advisors and coaches** to firms receiving support. As the numbers of Global Growth Champions increases and the track record of the service is established, promoted and recognised by business, the marketplace will slowly become commercially self-sustaining, allowing the grant element to be backed out and the need for "top-up" public sector investment reduced.
- **We will manage an innovation and growth investment fund** designed to offer "graduate" Global Growth champions, access to equity and loan growth finance to break into new markets, build new and more productive capabilities or support innovation and new product development.

Operationalising the approach

The diagram below shows how will integrate the different elements of our new business support offer, targeting place and firms. We are proposing to establish a new Growth Company to provide capacity and drive forward the proposed Growth Service. Its role will be to shift the growth dynamic to create more sustainable growth and de-risk growth. It will guide investment and interventions more strategically through innovative use of funding and business models.

The delivery models and interventions used by the Growth Company will be **piloted over a three-year period** and will include a **random control trial** to validate the interventions' effectiveness and additionality. The pilot will provide essential data for a technical and economic review of the impact of the Combined Authorities business and economic growth strategy.

If successful it will lead to the strategic application of the planned Shared Prosperity Fund, to roll-out the pilot into a full five-year programme to 2028.



The evidence for a co-investment approach

- The use of a co-investment grant, offered to firms to nudge them to take-up professional and commercially provided advice has been extensively studied by the Business and International trade departments, both of which attempt to provide firms with growth and export advice.
- Both the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for International Trade (DIT) have run Random Control Tests on large SME populations to study the effectiveness of using co-investment grants to nudge smaller firms to increase the take-up rates on professional business advice.
- BEIS ran a large-scale programme between 2014-16 involving 26,000 SMEs with some provided with a co-investment grant and some randomly selected to be asked to pay the full costs of the growth and productivity advice they received.
- The Department for International Trade more recently ran a smaller RCT pilot for co-investment grants for commercially available export advice between 2017-18.

10.Foundation #5 – Infrastructure

The UK Industrial Strategy notes that “having modern and accessible infrastructure throughout the country is essential to our future growth and prosperity.” We agree. The capacity of our infrastructure is the limit of what is possible – without continually updating and improving our infrastructure to meet our businesses’ needs, other attempts to boost business productivity and output will have rapidly diminishing returns. But better infrastructure doesn’t just enable. It can effect change, by giving confidence to investors and companies that the success of an area is a project the government is willing to put its money behind. And infrastructure spending should itself be considered an investment – the financial and social returns of strategic infrastructure projects will repay the initial outlay many times over.

Whereas we have previously had to compete with other places for a share of national infrastructure investment, with devolution the government has placed its trust in us to deliver some of our infrastructure needs ourselves. We have responsibility for a devolved transport budget and have also been awarded £74m from the Transforming Cities Fund, to put towards improvements in transport.

The Combined Authority and partners have recognised that infrastructure is broad issue comprising transport, housing, digital connectivity and energy. All of which are experiencing critical issues in Cambridgeshire and Peterborough that is constraining growth potential.

The Evidence – insufficient infrastructure is hampering productivity growth

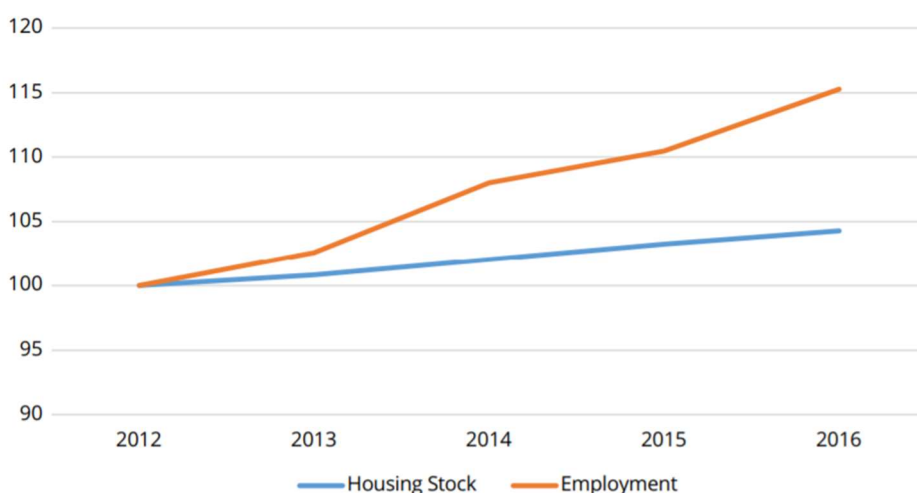
As part of the CPIER, a survey of businesses in the area was carried out by PWC to understand what the most important issues for them were. The findings were striking. Poor infrastructure was repeatedly identified as a brake on growth in the area. The findings were striking and even with the GCP’s ambitious c. £600m programme of infrastructure investment already underway, including Phase 1 CAM schemes that are due to be delivered in the early 2020’s, much more is needed. 30% of businesses surveyed felt that digital infrastructure was constraining their growth. Transport was another often-cited limitation, businesses stressing that “better road networks and finding a solution to reduce traffic congestion in Cambridge” was a top priority. The clear growth in demand for transportation into Cambridge can be seen by looking at the number of entries and exits to Cambridge station, which has almost tripled since 1997/98. The

travel to work area (TTWA) of the city has “expanded since 2001 more than any other TTWA in England.”¹⁰

Transport is not just a problem in Greater Cambridge though. Many of the bus and train services to our market towns are infrequent, or finish early. Many of the main roads connecting up our urban centres are single carriageway, slow and dangerous, such as the A10 and A47. All of this is taking a real toll on businesses, with one commenting that “We constantly have people stuck in traffic either on the way to work or clients”, and others noting that some new recruits were being put off by how bad the situation had become.

Closely tied to issues around transport are housing difficulties – with transport infrastructure often being key to opening up new areas for housing. As shown below, employment growth has been consistently outpacing housing growth, especially in the south of our area. Employment growth is closely linked to demand for housing, with much of

Growth in employment and housing stock, 2012=100



the employment need being met by people moving to the area. The CPIER identifies both the need to increase the rate of housing delivery and the need to develop housing which meets a range of needs, such as “intermediate” housing for those who don’t qualify for social housing, but are unable to get on the housing ladder. These housing issues are not just important for quality of life (though they are), but have been identified as a key problem in business surveys.

To meet this need, our housing strategy has established a £40 million revolving fund, which allows us to go beyond our Devolution Deal target of 2,500 affordable homes. We will also use the Spatial Framework and direct investment in new settlements to encourage extra affordable housing provision, including by developing homes for first time buyers with price target based on earnings.

Having the right energy infrastructure is essential for growth, able to meet the needs of our businesses and support the development of well-functioning, attractive places to live and work. Already around Cambridge, further development and growth locations are significantly constrained due to lack of electricity capacity. The expected shift towards electric vehicles (EVs) will add further pressure to the network as well as creating new opportunities. We also want to ensure that improvements in energy infrastructure

¹⁰ <https://www.cchpr.landecon.cam.ac.uk/Projects/Start-Year/2015/Refining-the-recent-release-of-the-ONS-Travel-To-Work-Areas/Experimental-review-of-the-Cambridge-Travel-to-Work-Area/Report>

benefit our residents, increasing the affordability of supply and contributing to addressing fuel poverty.

Interventions – unlocking productivity growth through infrastructure

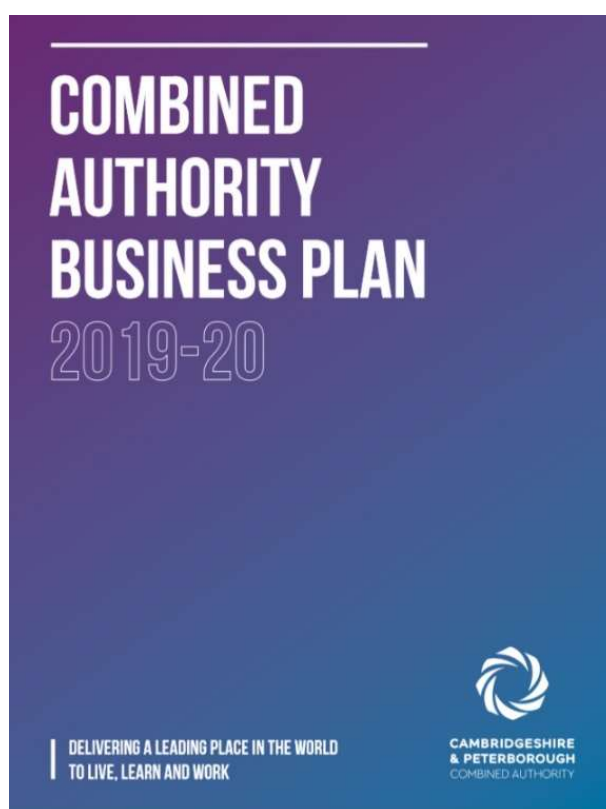
The CPIER's 8th key recommendation is to implement a process for scheme prioritisation and development to ensure that the overall approach reflects the goal of doubling the size of the Combined Authority Economy, and over time better connecting the three economies of the area.

The CPCA and partners are delivering this recommendation, prioritising the infrastructure investments which will make a real difference. These are provided in more detail in our business plan¹¹.

The key projects which will really shift the local economy in a more productive direction are:

- The Cambridge Autonomous Metro (CAM)
- New stations at Cambridge South, Soham, and Alconbury serving business clusters
- The upgrading of the A10
- The full dualling of the A47
- The Third River Crossing in Huntingdon (to unlock significant amounts of new housing land)
- Re-established rail connectivity between Wisbech and March
- King's Dyke Crossing

The Greater Cambridge Partnership is making significant investment through the City Deal toward the infrastructure packages that will support the long-term growth of Greater Cambridge.



The Combined Authority has also commissioned a Strategic Bus Review, the basis of which a Bus Task Force is being established to examine opportunities for an improved future service

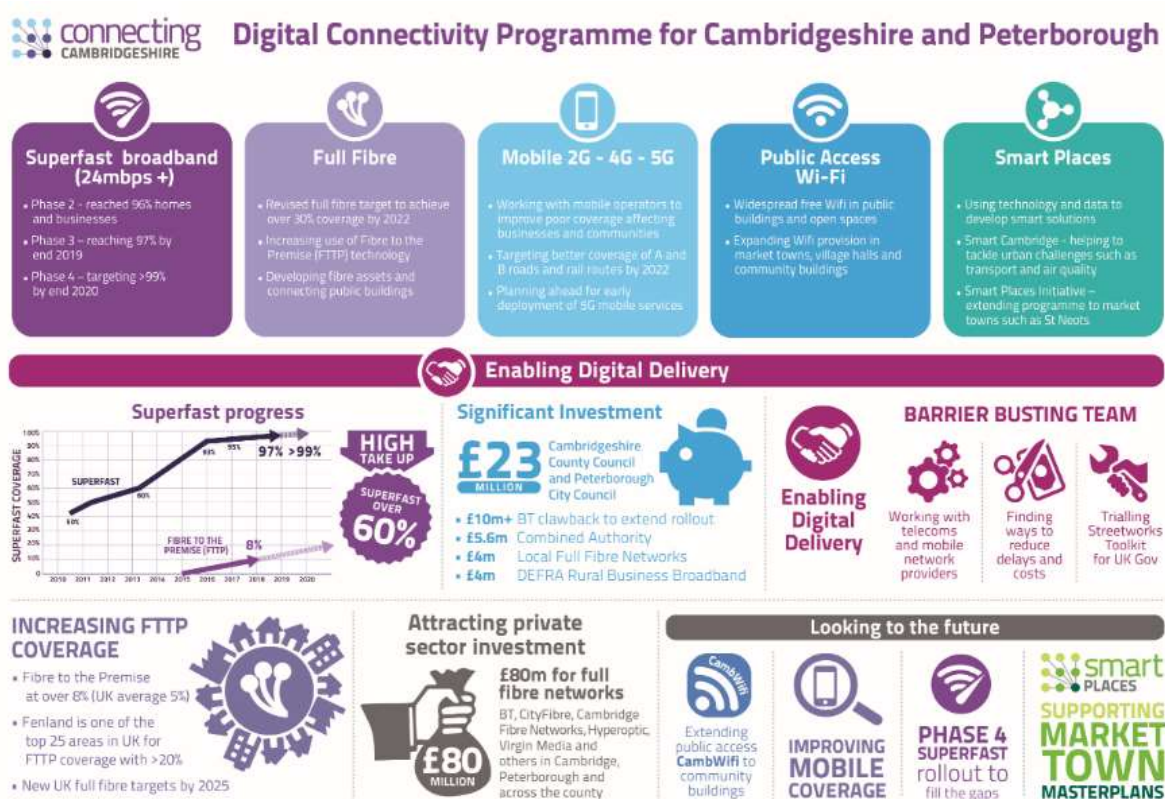
¹¹ <http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/CPCA-Business-Plan-2019-20-dps.pdf>

which complements the above interventions. This bus service is of particular importance to the future success and prosperity of many of Cambridgeshire's Market Towns.

The recently adopted Combined Authority Business Plan (pictured above) sets out the schemes and interventions that are being brought forward as a matter of priority.

Continued improvements to digital connectivity are of significant importance and the Connecting Cambridgeshire programme, see below, has been jointly invested into by local authorities, the Combined Authority, and has utilised Government funding.

This programme has also seen – through the Combined Authority – the rollout of the Smart Cities initiative to Market Towns for the first time. (The targets below are currently under review).



*Figures correct at March 2019

www.connectingcambridgeshire.co.uk

11. Collaborating to drive change: A joint strategy across the Oxford – Cambridge Arc

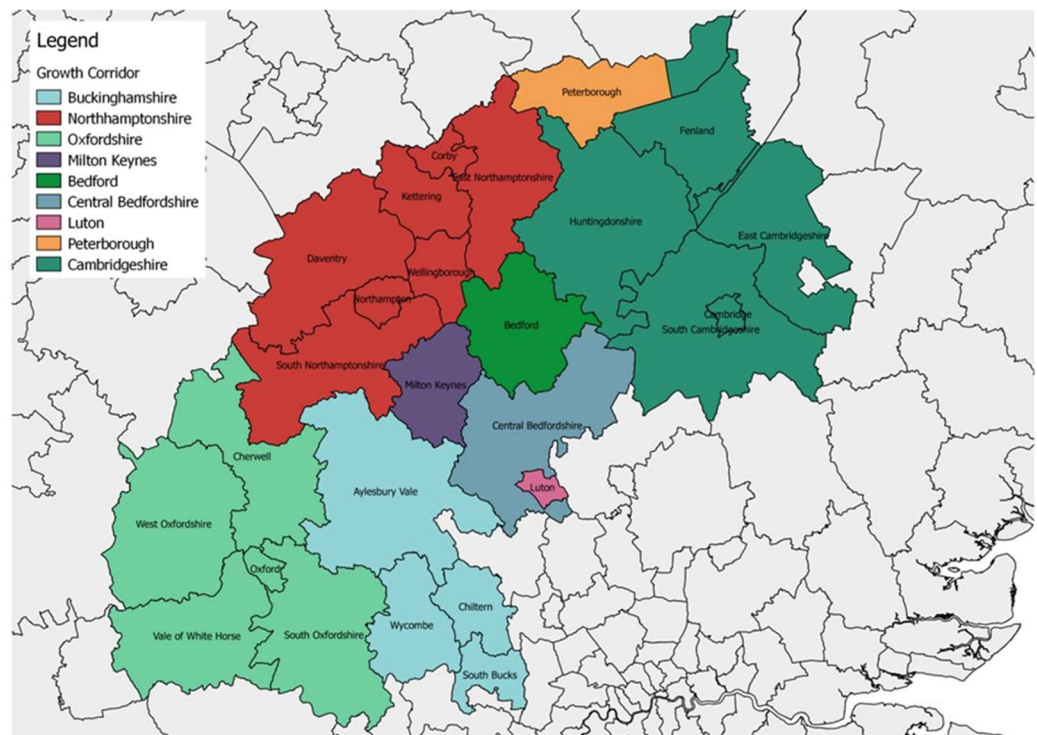
[The text in this section is in the process of being agreed across the OxCam Arc for inclusion in all LIS's]

The Arc will be a breakthrough region for the new innovation economy. It will build on the distinctive assets and strengths from across the Arc to create an innovation economy that is more than the sum of its parts. Through its unique manufacturing specialisms and knowledge-intensive economy, the Arc will drive growth across the UK by harnessing technological change. This will drive improvements in productivity in our businesses and prosperity in our communities. It will provide the critical mass necessary to transform the Arc into the innovation powerhouse that will push the UK to the forefront of global competition in key markets and industries of the future.

It is an opportunity to trial place-based growth programmes in this part of the Arc and the UK, for wider rollout. CPCA is working with Government to explore the potential for match funding

into the CPCA growth pilot, promoting the long-term sustainability of this approach across a footprint that brings true added value.

"Our vision is for the Arc to be the world leading place for high-value growth, innovation and productivity. A global hub where ideas and companies are generated and thrive, home to exemplary models of 21st century development, with a high-quality environment and outstanding quality of life, and with a strong economic focus that drives inclusive clean growth."





The Arc will be:

1) A place where specialist commercial knowledge and skills collide with world-leading research and development assets to shape existing and new industries.

The Arc is home to a wealth of unique assets, from world-class universities to globally-renowned industry clusters operating in knowledge-intensive sectors at the cutting edge of global research. When combined, our innovation assets are second to none and will push the UK to the forefront of global innovation in industries of the future.

2) A testbed for innovation that will shape the twenty-first century.

The Arc houses some of the most innovative places in the UK, and will become globally-renowned as a living laboratory for testing innovation and shaping places that harness and embrace new technologies. Together, we will build sustainable, technology-enabled communities based on an Arc with improved infrastructure connectivity and access. This will deliver breakthroughs in new and emerging industries that are shaping our futures.

3) A business growth-enabled environment where our academic ideas and inventions are rapidly commercialised and spun-out, whilst our most exciting entrepreneurs are supported to scale-up new services, products and markets.

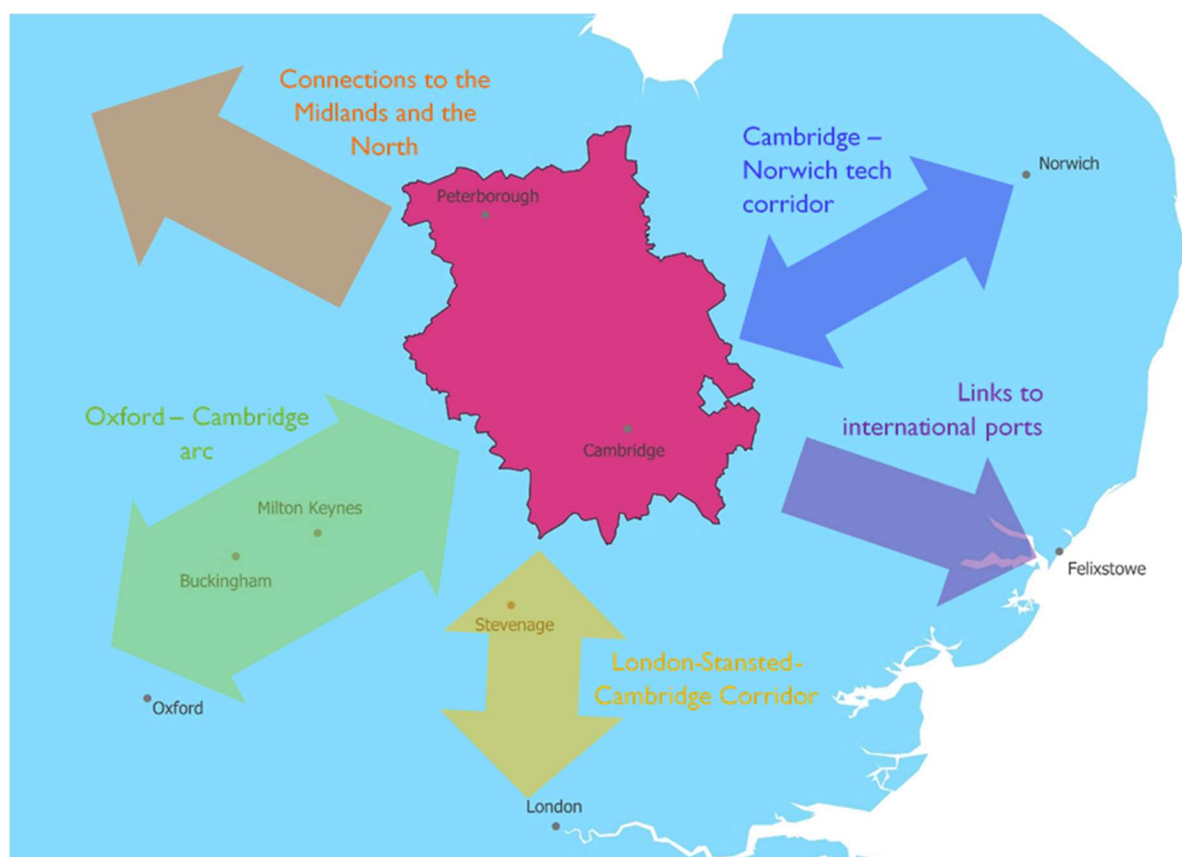
The Arc is already home to a high concentration of high-growth firms, a highly skilled and entrepreneurial workforce and a dynamic business base. Crucially, there is potential to scale up the operations of such firms given the right investment. Working across the Arc, we will become a world-leading hub for high-growth start-ups, but also a business environment that enables businesses to commercialise technologies and business ideas, grow to scale, and export internationally.

In doing so, the Arc has the potential to become a truly global player in some of the fastest growing sectors and markets across the world, linking our economy more effectively into the fastest growing global markets through the sharing of world-class innovation assets and the networking of our most exciting firms and entrepreneurs into an Arc-wide high-growth eco-system.

Central to this vision is building a network of sector-focused clusters across the Arc that, when connected through innovation and growth support, become more than the sum of their parts. Together, this network of clusters will foster a breakthrough region for growth through the new innovation economy that will become a driver for growth across the UK economy. The Arc will become a network of well-connected economic and business clusters centred on key industries and connecting across boundaries and accessing world-class growth support. Through their local Industrial Strategy, Cambridgeshire and Peterborough propose to pilot these ideas in the north of the Arc, financed through innovative combinations of local funding and resources to create an Endowment for Global Growth (EGG). The opportunity to proportionally match this funding centrally could create an Arc wide innovation and growth support eco-system.

Other key strategic corridors

The Arc is just one of the many key connections between our area and elsewhere. Cambridgeshire and Peterborough is the central nexus for many important corridors and national connections, which will play an active role in our future growth.



London Stansted Cambridge Corridor

This corridor, also known as the UK's Innovation Corridor, connects us to the capital, via the research centres of Hertfordshire and Essex, and the international airport at Stansted. Key assets include GSK, Harlow Enterprise Zone, and the London universities. This area has the potential to generate 400,000 new jobs, half of which would be in technological jobs, by 2036¹². This Corridor – as referenced earlier – plays a significant role in the growth of the Life Sciences sector across our wider region.

The Business Board continues to invest in connectivity across this crucial corridor, including recent investment into the upgrade of the M11.

¹² LSCC report

Links to international ports

The East Coast ports, most notably Felixstowe, connect to the world, and are a key outlet for our exports. As we look to grow our export contribution to GDP, and thrive in the post-Brexit world, these links to the global marketplace put us in a strong position to trade.

Cambridge – Norwich Eastern Agri & Tech corridor

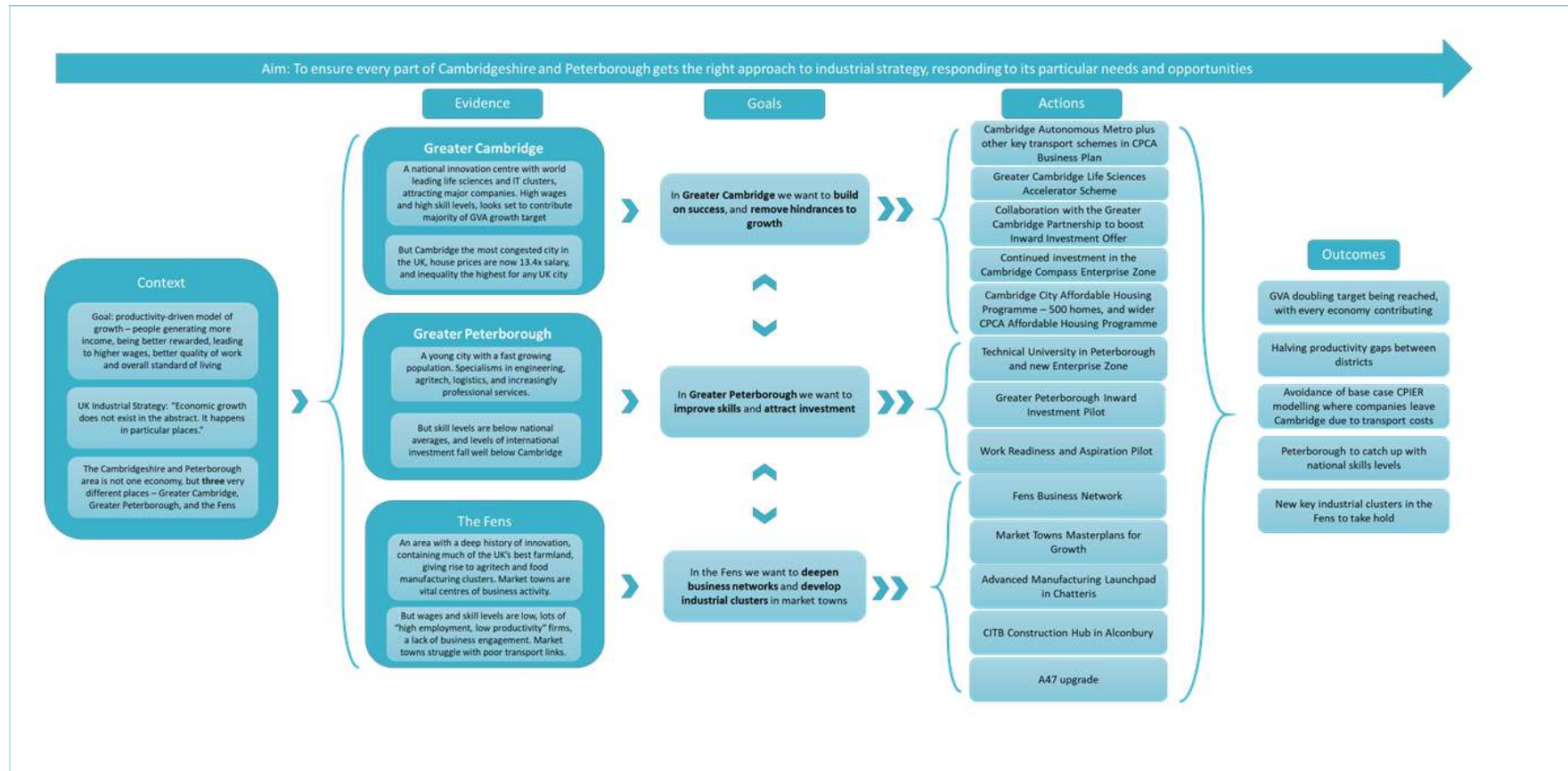
Our area shares many common business interests and sectors with Norfolk, most notably around AgriTech and food sciences, where the University of East Anglia is a world-leading research centre. This Corridor presents opportunities to work together, cementing the East of England as a global centre of excellence.

Connections to the Midlands and the North

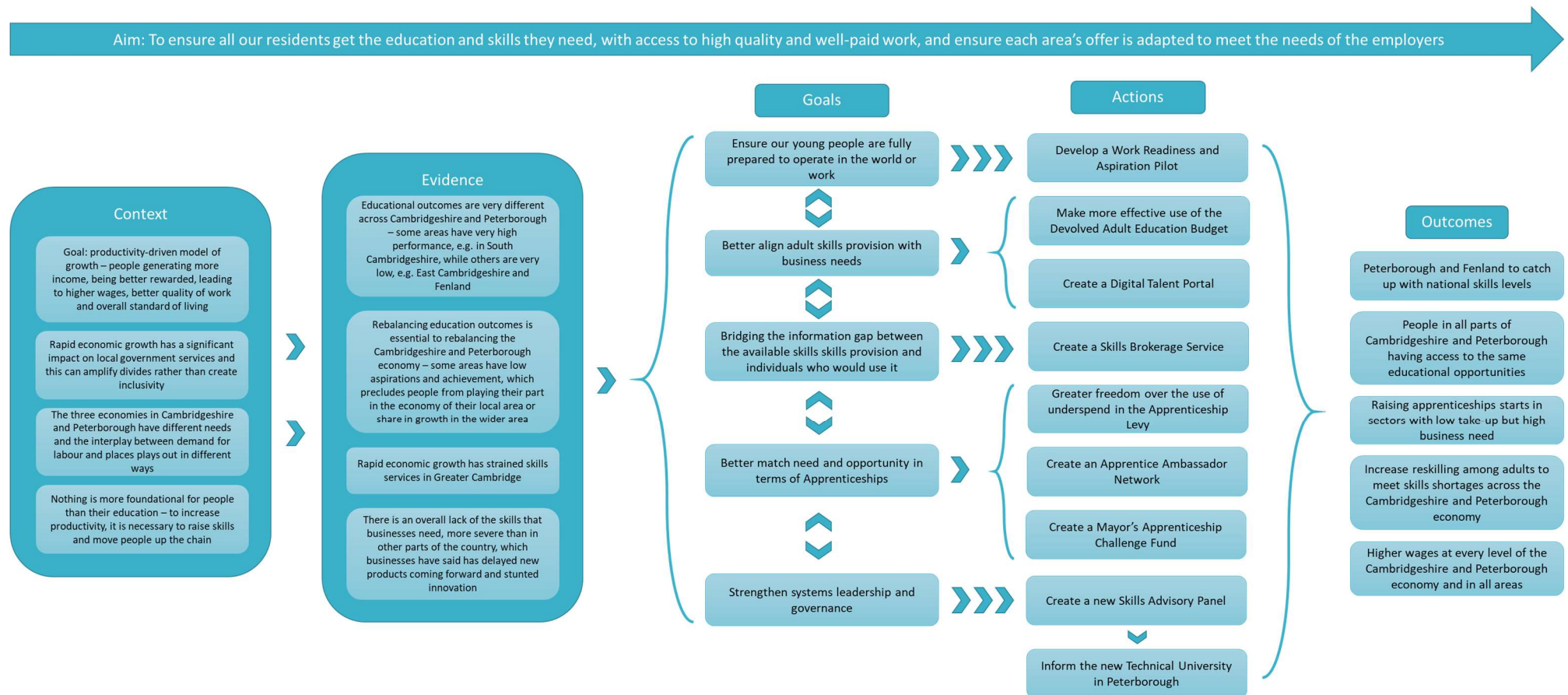
Just as important as our links south to London and east to Norwich, are our links to the Midlands and the North. These regional powerhouses are leading the UK in many areas of innovation and progress – by connecting into them through key transport links like the East Coast Mainline and A1 we stand to benefit from, and contribute to, their productivity growth.

Annex 1 – Evidence Base and Priorities

FOUNDATION #1 PLACE

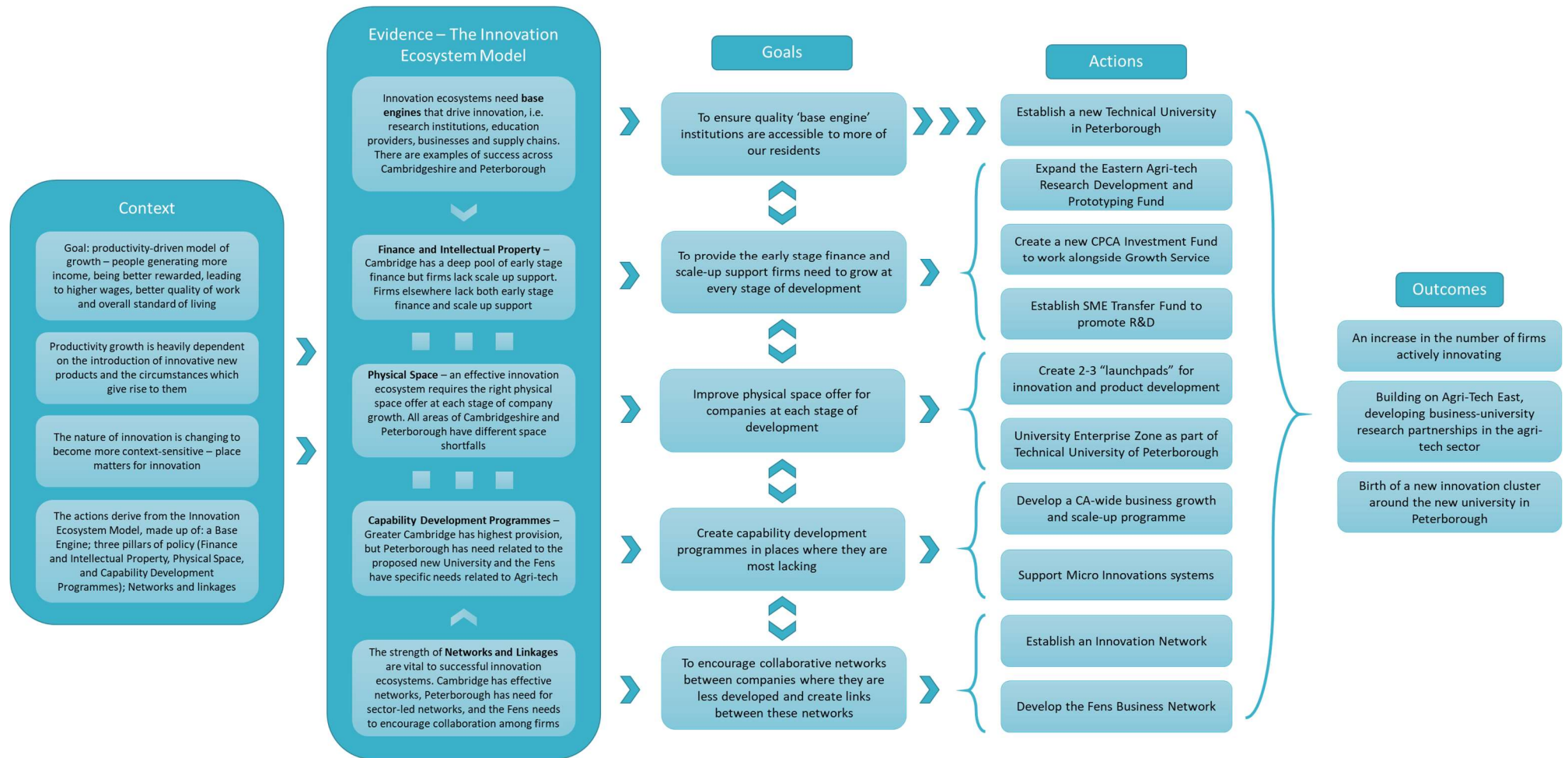


FOUNDATION #2 PEOPLE

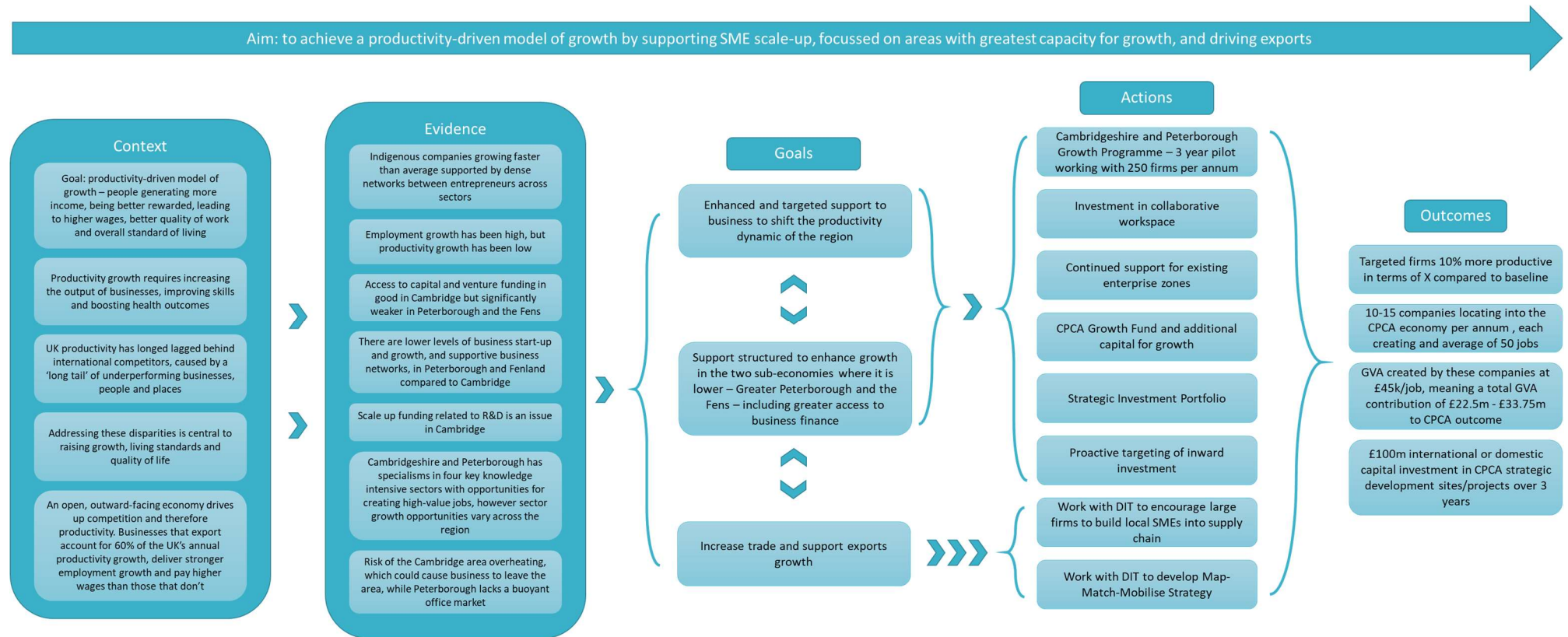


FOUNDATION #3 IDEAS

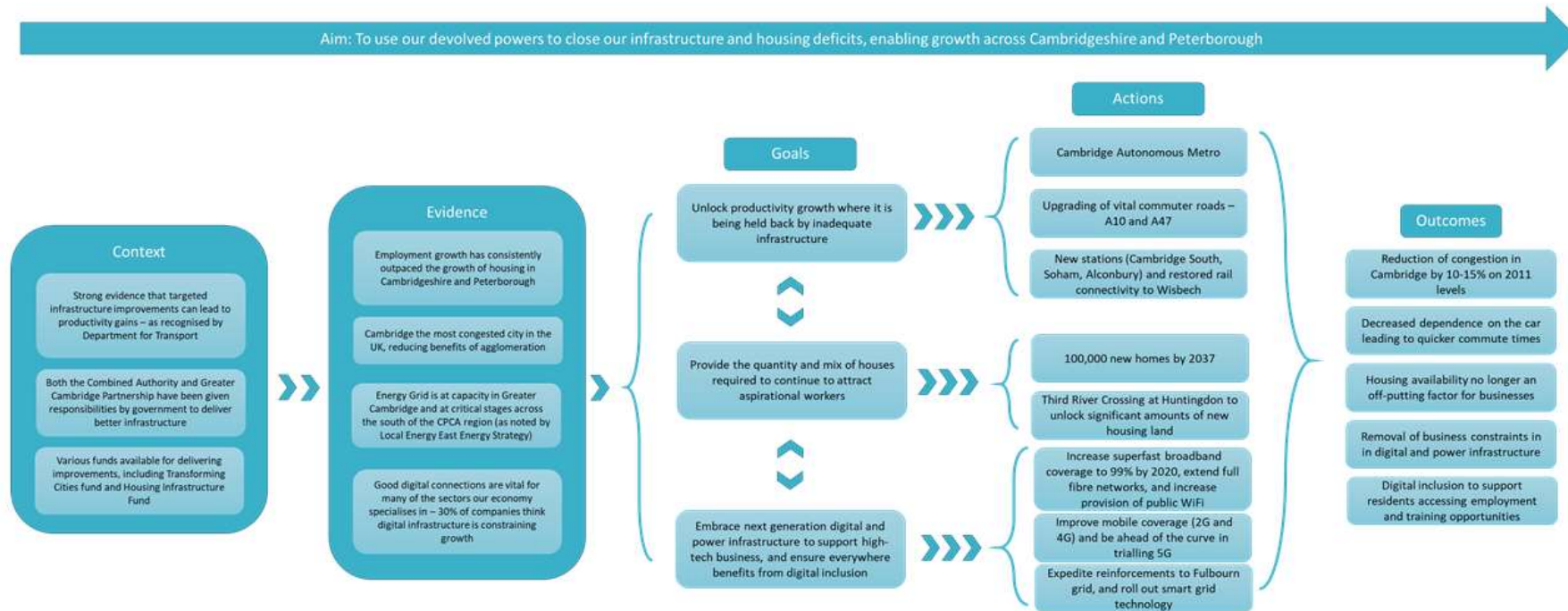
Aim: to enable the future success of our centres of innovation while actively working to spread innovation across more of our economy, moving firms and sectors up the value chain



FOUNDATION #4 BUSINESS ENVIRONMENT



FOUNDATION #5 INFRASTRUCTURE



Annex 2 – Programme Delivery Plan

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
People	Adult Education Budget		£11.5m	From September 2019	<ul style="list-style-type: none"> 75% of courses have a business or economy focus by 2025 Increased % of AEB investment going into geographic areas of need by 20% in 2023 2,000 people a year who progress into further training or employment by 2022 5,000 leavers satisfied with their course by 2025 	<ul style="list-style-type: none"> Increase number of residents over 16 with a level 3 qualification from 30% in 2011 to 40% by 2031 Increase the number of Peterborough residents with a Level 2 qualification from 82% in 2016 to the national average of 85% by 2024 Increase the number of learning aims in Science, Maths, Engineering, Manufacturing, Construction, Health & Social Care from 4,328 in 2016 to 5,000 by 2024 Increase the number of learners gaining employment outcomes 	CPCA	All	Committed (devolved fund)

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
						from 29 in 2016 to over 200 by 2024			
	Peterborough University		£13.5m (Phase 1) TBC (Phase 2)	In Delivery	<ul style="list-style-type: none"> Increase of higher education provision in Greater Peterborough and the Fens 	<ul style="list-style-type: none"> 2,000 students by 2022 6,000 students by 2025 12,500 students by 2030 	CPCA / UCP	GP Fens	Committed (Phase 1)
	Skills Talent and Apprenticeship Hub		C. £3.2m CPCA £1.6m ESF Match £1.6m	October 2019	<ul style="list-style-type: none"> 5,000 Employers engaged through the Skills Talent & Apprenticeship Hub by 2020 & 7,000 Employers engaged by 2024 All 61 Schools and Colleges engaged and fully supported through Brokerage & STA Hub Sector Pilots in all Priority Sectors to support skills demand 100% Schools/Colleges offering IAG to ALL students 	<ul style="list-style-type: none"> Increased overall number of Apprentices from 3,940 in 2017/18 to 5,000+ by 2021 Increased number of 16-18 & 19-24 year olds starting on an Apprenticeship (target TBC) Increased number starting on Higher/ Degree Apprenticeships L 4 – L 7 (target TBC) Jobs filled (non-Apprenticeship) through STA Hub/ Partners: <ul style="list-style-type: none"> 50 Employers by 2020 100 Employers by 2021 	CPCA – alongside local/sector partners	All – tailored within areas	Designed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
					<ul style="list-style-type: none"> Increased number of SMEs recruiting Apprentices Number of individuals how have successful outcome as a result of using the Hub – 10,000 by 2024 	<ul style="list-style-type: none"> 150 Employers by 2022 200 Employers by 2024 			
Business Environment	Mayoral Endowment for Global Growth		£18m LGF <i>£3m Op Fund</i> <i>£5m Loan Fund</i> <i>£10m Investment Fund</i>	1 April 2020	<ul style="list-style-type: none"> 3,000 businesses engaged by 2024 1,000 businesses supported with growth coaching becoming global growth champions 1,500 businesses supported with growth mentoring through global growth champion alumni 	<ul style="list-style-type: none"> 2,600 jobs £50,000 GVA/Head £1.3bn GVA growth 	CPCA	All	Designed intervention
	Inward Investment Programme		£1.3m £600k EZ £600k ERDF match £100k core	1 April 2020	<ul style="list-style-type: none"> 10-15 businesses locating in the CPCA area per annum 	<ul style="list-style-type: none"> Average 50 new jobs created by businesses, at c. £45,000 GVA/Head 1500 – 2250 new jobs by 2024 £22.5m - £34m GVA 	CPCA, co-delivered in GC and GP	GP GC	Designed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
						<ul style="list-style-type: none"> £100m external capital investment 			
	Enterprise Zone and Peterborough University		TBC	1 April 2020	<ul style="list-style-type: none"> Increased business space related to growth sectors Increased research space related to growth sectors 	<ul style="list-style-type: none"> New jobs in high-value growth sectors (target TBC) New products brought to market (target TBC) GVA increase (target TBC) 	CPCA and PCC	GP	Government discussion
Ideas	Innovation Launchpads (at least 4 new centres)		£2-3m LGF investment per launchpad	Bids invited from May 2019	<ul style="list-style-type: none"> 70,000 – 100,000 sqm of new commercial business space 15,000 sqm of new commercial research space 	<ul style="list-style-type: none"> 300-450 new jobs in high-value growth sectors (£45,000 GVA/Head) £13.5m - £20.25m GVA growth 	Various TBC	Fens GP	Invited
	Greater Cambridge Life Sciences Accelerator		£3m	First cohort applications Oct 2019	<ul style="list-style-type: none"> 30 start-ups taken through accelerator 	<ul style="list-style-type: none"> 2,550 direct and indirect jobs within 5 years 73,750 direct and indirect jobs within 10 years Galvanise Greater Cambridge as world-leading Genomics hub 	Illumina	GC	Committed
	Eastern Agri-tech Growth Initiative		£5m (£4m Business Board,	In delivery	<ul style="list-style-type: none"> Increased numbers of enquiries and successful applications Jobs created and protected: types of 	<ul style="list-style-type: none"> 100 jobs created and upskilled Increased productivity & efficiency (GVA/Hour Worked) 	CPCA	All	Committed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
			£1m NALEP)		<p>jobs & how they equate to NVQ scale and what are salary levels</p> <ul style="list-style-type: none"> For R& D activity; how may patents have been filed/granted For R&D businesses; how many projects have resulted in products/ideas etc brought to market/implemented by the sector or acquired by other organisations; can we put a value to this Support led to collaboration opportunities 	<ul style="list-style-type: none"> Private sector financial leverage of £8m Intervention led to increased UK sales/market share/profitability, and if so what is the value of the increased sales Increased export (target TBC) Increased FDI (target TBC) Intervention led to import substitution opportunities 			
	Mayoral Innovation and Growth		See Mayoral Endowment for Global Growth						

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
	Investment Fund								
					•	•			
Infrastructure		Delivery detail contained within; CPCA Business Plan 2019-20, Greater South East Local Energy Strategy, Connecting Cambridgeshire delivery plan, and relevant business cases for specific schemes							
Place		Delivery captured above							
	<p>The Combined Authority and Business Board will monitor and evaluate the impact of existing and new interventions as they launch as part of established accountability monitoring to the Combined Authority Board, in line with the governance established through devolution, the respective Assurance Framework, and practices that are underway.</p> <p>Progress against the Local Industrial Strategy will be included as a core aspect of the Combined Authority and Business Board’s respective annual conversation and performance review with Government.</p> <p>Existing and new interventions established through the Local Growth Fund will also be subject to regular monitoring to Government, through BEIS.</p>								

To
Business Board and CPCA Officials

Date: 15-03-2019

Dear Business Board

RE: ICT/Digital Sector Strategy

Please find accompanying this letter a final version of a Digital Strategy for Cambridgeshire and Peterborough which has been developed over the last four months, at the request of the CPCA.

The strategy has been written by CW (Cambridge Wireless) and Anglia Ruskin University along with the help and support of a large number of people who have freely given up their time. We are especially grateful to the members of the steering Commission, chaired by David Cleevely, who guided our work throughout; to the Centre for Business Research who provided essential underpinning data, and, of course, to the hard-working strategy team.

We hope that the strategy will speak for itself - it is a combination of primary evidence, collected through an extensive survey (much of the details of which are captured in the annex sections), a careful analysis of secondary sources and the input of a number of experts.

The strategy includes a number of recommendations for this crucial sector of the regional economy, and a sector that impacts every other vertical industry.

I would like to point out the following:

Artificial Intelligence the region has a huge opportunity to cement its position as a global centre of expertise in the development and commercial exploitation of Artificial Intelligence technology. This strategy urges the coordination of public and private sector energies to ensure this opportunity is grasped on behalf of the UK.

Networking has been identified as an essential underpinning for every one of the key domain areas covered in the strategy. The highly developed Cambridge culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support, is one to be learned from and the methodology deployed across the region, but always according to the unique demands and business culture of individual districts.

We would suggest that practical steps can be made to quickly stimulate networking activity for the Digital Sector generating results in the following areas:

- connecting suppliers - such as contract manufacturers or engineering firms - to technology companies;
- stimulating the use of technology in vertical industries such as logistics and manufacturing;
- connecting networks of digital companies in the region with companies in specific technology hubs overseas;
- nurturing the habit of networking in areas where it is not so prevalent.

We would envisage a series of practical events, bringing participants together who might not otherwise have met. Each event would need to be well researched beforehand (for example carefully mapping supply chains in a specific interest area). Ultimately, we know that it is through the development of face to face interactions that effective partnerships and business will result.

We would also recommend that these events culminate in a larger Cambridge Technology Exchange conference and exhibition which drives interactions and showcases the technological prowess of the region.

Talent and Skills were identified as the priority area through our survey. A very clear recommendation made to the steering board by Philip Colligan of Raspberry Pi was not to develop regional initiatives that were of necessity sub-scale but to align with nation-wide initiatives wherever possible. Digital skills development is a major focus area for national Government. The Local Digital Skills Partnerships (DSP) programme provides access to resources from national Government to improve digital capabilities across the entire skills spectrum, from online literacy to the advanced knowledge needed to work in the digital sector. We recommend that the Combined Authority works with relevant local parties to apply to form a local Digital Skills Partnership for Cambridgeshire & Peterborough.

International investment and trade with Brexit uncertainties, international issues should be given particular focus. The region is an astonishing success story but the strategy identifies the pressing need, in a competitive world, to build a compelling Cambridge cluster brand and marketing programme which promotes the entire regional value proposition for technology investment, and targets major investments that will genuinely complement the regional ecosystem. This requires an effective regional inward investment sales function providing a concierge and retention/expansion service for corporate investors, working through existing business networks.

The strategy also calls for the region to develop relationships with technology hubs overseas, and encourage the larger technology companies to participate in outbound missions to demonstrate the motivation and expertise of the region, and support cohorts of new technology exporters.

CW (Cambridge Wireless) and Anglia Ruskin University would be interested in working up proposals in these areas, and we would be happy to discuss this strategy with Business Board members and officials at your convenience.


We understand that we will not promote or release this strategy until the Business Board has had a chance to review the findings. We will of course be sharing with the members of the Commission.

Finally, it would be useful to have a discussion on how the CPCA wishes the strategy to be released, and the positioning of the Digital Sector Strategy alongside the Local Industrial Strategy.

Yours sincerely



Robert Driver
For and on behalf of CW.



MARCH 15, 2019

A DIGITAL SECTOR STRATEGY FOR CAMBRIDGESHIRE & PETERBOROUGH

CW (CAMBRIDGE WIRELESS) & ANGLIA RUSKIN UNIVERSITY

This report is intended solely for information purposes. While we have made every attempt to ensure that the information contained in this report has been obtained from reliable sources, CW and Anglia Ruskin University are not responsible for any errors or omissions, or for the results obtained from the use of this information. All information in this report is provided "as is", with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this information, and without warranty of any kind, express or implied.

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DRIVING REGIONAL PRODUCTIVITY THROUGH TECHNOLOGICAL INNOVATION, ADOPTION & INCLUSION

INTRODUCTION FROM THE CHAIRMAN

The Digital Sector Strategy represents a unique evidence base founded in primary research and secondary data, and extensive consultation with experts. It builds on strong foundations that already exist in Cambridgeshire & Peterborough, and our recommendations aim to further enhance this region as the global centre of cutting-edge and inclusive technology innovation. We will create and adopt the technologies of tomorrow, offer businesses exceptional talent at all levels and provide a highly networked ecosystem that has global impact, helping to establish the region covered by the Cambridge and Peterborough Combined Authority (CPCA) as the preferred base for firms from across the world.

CPCA [has set a target](#) of doubling its economic output as measured by GVA over 25 years, which means an annual growth rate of 2.81%. This is an ambitious target, and is above the average growth rate for the last 3 years (2013-14 to 2016-17) across all sectors of 2.25% (CBR). The creation and widespread adoption of digital technology are essential to achieving this ambitious goal. The recommendations set out in this Digital Sector Strategy will stimulate an already strong ICT sector in Cambridgeshire & Peterborough and will, we believe, provide a major contribution to meeting this growth target.

The digital sector is a significant part of the region's economy and has more than twice the employment in digitally intensive sectors compared to the rest of the country¹. Cambridgeshire and Peterborough's digital sector represents 8.84% of the region's total business turnover and 8.22% of employment², compared to a national share of 3.5%. But, more than this, digital is an enabling sector whose products and services offer increased productivity to all other industries – including two of the region's most important: agriculture (centred on the rich land of the Fens) and manufacturing (the largest sector in the region totalling 23% of business turnover)³. We aspire for Cambridgeshire & Peterborough to be an area where digital technologies that are created here support every city, town, village and business to become prosperous in their own rights.

The Digital Sector Strategy's aims are to:

1. Significantly increase the contribution of the technology sector to the region's GVA;

¹ *The Digital Sectors After Brexit*, Frontier Economics for techUK. Note that 2014 employment figures show 3.5% of the total UK workforce on 'Digital Producing' industries, this compares to 8.22% of employment in the Information Technology and Telecoms industries within the Combined Authority in 2014/5 according to CBR figures], 2.35 times more.

² CBR 2016-17

³ The same Frontier Economics report states that 'Digital Using' parts of the national economy represent 6.7% of all employment, adding this to the 'Digital Producing' figure of 3.5% means that over 10% of all employment in the UK is due to the digital industries.

2. Stimulate faster growth in other sectors through early and easy adoption of cutting-edge technology;
3. Ensure that the benefits of technology-based business growth is spread beyond the Greater Cambridge cluster and across the entire region;
4. Support the overarching aim of the Combined Authority in making Cambridgeshire & Peterborough a leading place in the world to live, learn and work.

The report has been developed according to a number of principles, agreed by the Commission, that should be borne in mind when reading these pages:

1. Each area within CPCA is different. Each will want activities tailored to its micro-economy and business culture, and each requires its own benchmark for what needs to be attained. This report offers actionable recommendations, but it is down to the deliverer to make these recommendations specific, measurable, actionable, realistic and timely - and localised.
2. We wish to build a flourishing marketplace. In a perfect economic environment market forces should theoretically suffice to promote higher productivity. However, where the market is functioning imperfectly, due to lack of information, network effects, spillovers, or other causes, this strategy recommends actions that local Government might take to help to create the conditions where enterprise can thrive.
3. Digital technology can increase productivity but it needs to be conducted in a manner that is sustainable, equitable and that enhances quality of life among citizens of Cambridgeshire and Peterborough.

Networking has been identified as an essential underpinning for every one of the key domain areas covered in the strategy. The astonishing growth of the Cambridge sub-region has been enabled in part by a culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support. The Commission believes that it is important to foster a similar approach, albeit adapted to the unique demands and business culture of individual districts, and we suggest that practical steps can be made to quickly grow and support networking activity for the Digital Sector.

Having reviewed the evidence, the Commission believes that this region is well-placed for digital success. With Greater Cambridge at the area's heart as an unparalleled centre of technological innovation, the region's manufacturing and logistics hubs offering a clear pathway for IoT and robotics testbeds, and Fenland offering great potential for trialling advanced agri-tech services, the potential for digital GVA growth is unmissable. But we must not be complacent. The Public and Private sectors need to act now to install the digital infrastructure, ensure talent pipelines, and create networking and knowledge transfer systems so that we can compete effectively. The rest of these pages provide recommendations to that end.



David Cleevely,
Chair of the Commission for the Digital Sector Strategy

EXECUTIVE SUMMARY

Cambridgeshire & Peterborough's digital sector is a valuable contributor to the region's economy, delivering almost 9% of the region's revenue and over 8% of its employment. Furthermore, it is the fastest growing knowledge intensive sector, increasing 10.4% in the three years to 2017 (compared to 6.6% for the knowledge intensive sector as a whole). The vibrancy and technological expertise of the region's digital sector is a significant reason for the region's international attractiveness, and it can boast double the % of ICT jobs from foreign direct investment projects to the national average (47% compared to 21, DIT statistics).

This success needs to be recognised and celebrated alongside the considerable contributions of other regional priority sectors, such as Life Sciences.

The digital sector is not without its challenges. At the time of writing Brexit is a threat, particularly to the already critical supply of skilled talent. The region's digital and built infrastructure is struggling to match the ambitious growth plans of local Government and businesses. Furthermore, the sector's stellar growth has focused on Greater Cambridge and risks being choked unless steps are taken to deliver affordable housing and fluid transport systems. And despite historic success with foreign direct investment, the region faces missing out to more organised regional competitors for international attention.

Opportunities should not be missed to encourage digital businesses to take advantage of establishment elsewhere in the region, and to nurture closer links with other important regional sectors, such as agriculture, manufacturing and logistics. This represents a significant opportunity to influence regional GVA: since it is not just the digital sector that benefits from the growth, but all vertical markets who can increase efficiency and deliver advanced benefits to customers through the adoption of cutting-edge technology products and services such as big data, artificial intelligence, robotics and next generation connectivity solutions.

To this end, a Digital Sector Strategy has been pulled together to help the public and private sector capitalise on the existing strengths of Cambridgeshire & Peterborough's digital sector. Throughout, we have been aware that the continued growth will only happen if the collective efforts of the business community can be harnessed. We also recognise that the CPCA and National Government can have a substantial convening power, and provide essential, targeted, pump priming funding that can enable these efforts to succeed.

There are detailed recommendations against each of the nine domains covered in this report. However, these can be condensed into six key areas:

1. **Networking** is a solution for businesses to meet potential suppliers, partners and customers. It enables knowledge transfer and the inspiration of new ideas. It generates demand for a new technology. It is the best way to introduce new businesses and international interests to a local technology scene. For these reasons, networking has emerged throughout the development of this report as an essential underpinning for each of the domain areas. The highly developed Greater Cambridge culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support, is one to be learned from and the methodology deployed across the region but always according to the unique demands and business culture of individual districts. Such a programme will require the expertise and contacts of existing networking firms, the support of local community influencers, and seed funding from the Combined Authority to de-risk delivery
2. The supply of a sufficiently **skilled workforce** across all levels of the digital sector is critical to the success of this region. Businesses already perceive a talent shortage, and this is only going to increase as vertical industries adopt increasing quantities of advanced technologies into their processes. Attention is needed by both the public sector and the business community to the development not only of STEM skills but also their creative use. We need to focus on the region's young people, on the retention of existing talent, and the upskilling of the adult population to enable all citizens to thrive in a digital world.
3. The region needs to act now to make its **digital infrastructure** internationally competitive and to provide the platform needed for local businesses to innovate. To attract cutting-edge businesses and significant international investments, we need to demonstrate world-class digital ambitions, with an aspirational target of at least 1GB/s broadband speeds across the region by 2022. No future infrastructure or housing project in the region should take place without installing the requirements of ultra-fast internet connectivity.
4. Cambridgeshire & Peterborough's GVA growth targets do not exist in isolation. The digital sector operates in an increasingly connected, collaborative and competitive national and **international environment**. We have great strengths, but when seeking foreign direct investment from firms also looking at California, Shenzhen and Singapore we need to do far more to stand out. The region needs to develop a professional and strategic approach to increasing and retaining foreign direct investment, as well as supporting local intermediary organisations to develop relationships with overseas technology hubs and encouraging partnerships and networking between companies.
5. The colocation of businesses and the provision of affordable **space** within which start-ups can seed and grow is essential for the establishment of effective knowledge transfer systems, accelerating the growth of the digital sector and increasing its impact on vertical markets. We support the idea of creating sector-led business hubs outside of the city of Cambridge that enable effective – and affordable – clustering of similar technology businesses alongside potential customers and partners. We also recommend an evaluation of the use of public buildings and empty high street premises with a view to establishing more vibrant co-working spaces and digital skills zones throughout the region.
6. Finally, the region has a huge opportunity to cement its position as global centre of expertise in the development and commercial exploitation of **Artificial Intelligence technology**. This strategy urges the coordination of public and private sector energies to ensure this opportunity is grasped.

TOP LEVEL RECOMMENDATION CHART

Domain area	Recommendation(s) for public sector	Recommendation(s) for private sector
Artificial Intelligence	CPCA to tailor specific actions and priorities to cement the national leadership position of the region for the national AI Grand Challenge.	Private sector and investors to play their part in the development of a regional AI strategy.
Talent & Skills	Ensure high quality digital education and training opportunities, ranging from digital literacy, advanced programming skills up to doctorates, as well as reskilling programmes, are available and accessible for young people, teachers and adults throughout the region.	Develop a region-wide culture of employer engagement in education to support the development of STEM skills in the next generation and showcase potential career routes with a scheme that involves the participation of employers.
Technology Infrastructure	Deliver a step-change in technology infrastructure ambitions by with aspirational targets of 1Gb/s broadband speeds across the region by 2022. Put in place internal processes that will support the private sector in turning Cambridgeshire & Peterborough into a world-class smart region at pace.	Inspire demand for advanced technology infrastructure by bringing citizen and business communities together and raising awareness of next-generation infrastructure capabilities through networking and workshops. Campaign for faster and more ambitious roll-out.
Supply Chain	Sponsor a researched programme of networking activities that helps the region to increase understanding of the value chains of digital businesses and to help remediate potential gaps and bottlenecks in the local supply market.	Provide more opportunities for digital businesses to meet local suppliers, and vice versa, through targeted face to face networking opportunities and intra-regional programmes.
High Impact Networking	Ensure appropriate physical space, connections and channels are available for businesses to network by transforming underutilised public infrastructure into co-working spaces or learning zones and supporting landlords in installing co-working spaces in high street spaces.	Established networking firms to deliver high quality events across the region while collaborating to build a comprehensive ecosystem of business development and knowledge transfer.
Entrepreneurship	Ensure the presence of high-quality, supportive spaces for start-ups to grow across the region, along with financial stimulus that encourages growth in desired areas, for example business establishment in non-Cambridge hubs, or digital businesses focused on products/services for Manufacturing / Agriculture / Logistics.	Established networking firms and universities to deliver knowledge sharing programmes across the region that match different stages of start-ups, from birth to scale-up, along with networking and mentoring opportunities.
Investment & Finance	Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and hubs outside Cambridge city.	Increase the visibility and accessibility of financial information & support throughout the region.
Application in industry	Conduct a study to understand the value chains of digital businesses and potential gaps and bottlenecks in the local supply market. Share this information publicly.	Establish Leadership Councils for Technology in Manufacturing, Logistics and Agriculture that identify opportunities and blockers and generally accelerate the deployment of technology in industry.
International: Foreign Direct Investment and trade	Build a compelling Greater Cambridge cluster brand and marketing programme that promotes the Cambridge value proposition and strategically targets major investments complementary to the regional technology ecosystem, ensuring that an effective inward investment sales and fulfilment function is being delivered across the region.	Support local intermediary organisations to develop relationships with overseas technology hubs and encourage partnerships and networking between companies. Encourage large regional technology companies to participate in outbound missions to

		demonstrate the expertise of the region, alongside cohorts of new exporters.
Knowledge Transfer	Develop Launchpads where the applications of new digital technologies and solutions can be trialled. These Districts should feature the latest technology infrastructure, should be accessible for start-ups and should focus on industries that are important to the Combined Authority economy, such as Manufacturing or Agriculture.	Working with existing communities for technology / industry, deliver more inter-sector networking opportunities across the region that connect industry with the technology community and academia.

METHODOLOGY

The recommendations within this strategy are evidence-based and leverage both primary and secondary, quantitative (facts, reports, databases, survey) and qualitative (survey, meetings, interviews, reports) sources of data.

COMMISSION

The Commission provided scope to the strategy, input and qualified ideas within the separate focus areas and provided comment and sign-off on the overall strategy document. The Commission was selected to be representative of the domains under consideration.

Commission		Supporters	
David Cleevely (Chair)	Raspberry Pi	John Hill	CPCA
Anne Bailey	Form the Future	Steve Clarke	CPCA
Richard Baker	GeoSpock	Daniel Thorpe	CPCA
Jon Bradford	The Bradfield Centre	Secretariat	
David Connell	University of Cambridge	Eleanor Brash	CW (Cambridge Wireless)
Peter Cowley	The Invested Investor	Bob Driver	CW (Cambridge Wireless)
Professor Diane Coyle	University of Cambridge	Dr. Jan Storgårds	Anglia Ruskin University
Dr Matthew Day	Anglia Ruskin University	Amy Wilson	Anglia Ruskin University
Professor Emanuele Giovannetti	Anglia Ruskin University	William Davies	Anglia Ruskin University
Noelle Godfrey	Connecting Cambridgeshire		
Faye Holland	Cofinitive		
Henk Koopmans	Huawei UK R&D		
Stephen Pattison	Arm		
Heather Richards	Transversal		
Shailendra Vyakarnam	Cranfield University		
Ann Wardle	Opportunity Peterborough		

SECONDARY DATA

The report references publications and data that are considered complementary to this strategy's primary data and provide a representation of the existing state of the digital sector in the region.

We are particularly grateful for the support of the Cambridge University Centre for Business Research, whose quantitative data, which informed so much of the CPIER report, also provided much of the underpinning for this report.

BUSINESS SURVEY

A survey was conducted between Monday 3 December 2018 and Friday 11 January 2019 to ascertain regional priorities, needs, obstacles and recommendations. There were 106 respondents from 94 different organisations in the following districts within the CPCA geography:

- **Greater Cambridge** – 39 respondents
- **Peterborough** - 17 respondents
- **Fenland** – 2 respondents
- **Huntingdonshire** – 6 respondents
- **South Cambridgeshire** – 23 respondents
- **East Cambridgeshire** – 6 respondents
- **External (but neighbouring) to CPCA** – 11 respondents

The survey assessed 11 key “domains”, identified by the Commission and detailed later in this report. These domains are:

- Entrepreneurship
- Investment & Finance
- High Impact Networking
- Knowledge Transfer
- Links within the UK
- Talent & Skills
- Foreign Direct Investment
- International Trade
- Application in Industry
- Digital Infrastructure

Two of these domains (Foreign Direct Investment & Links within the UK) were later merged with two other domains (International Trade & Knowledge Transfer respectively). The results of the survey were analysed according to the dimensions of the business that responded. In particular:

1. The geographic location was filtered according to six areas: Greater Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, South Cambridgeshire and Peterborough
2. The business position within the technology supply chain: ie whether a business is a creator, supplier, buyer, or unconnected.

These details are elaborated through this report and provide an essential component in our development of a tailored digital strategy that allocates resources efficiently, according to real

existing needs, where intervention exerts the strongest impact. The insights have been explored and qualified by the Commission.

SCOPE

1. **Definitions.** For the scope of this strategy, we define digital technology as:
 - a) The development and supply of software, hardware and connectivity solutions
 - b) The promotion of digital literacy and the ability for consumers and business to benefit from new digital services
 - c) The demand for, and application of, new digital technology innovations into industry.

We recognise that CPCA is developing separate strategies for life sciences, advanced manufacturing and agriculture. These sectors are users of ICT and digital technologies and major players in the knowledge intensive sector; however we are primarily focused on increasing the effectiveness of businesses within the ICT sector.

2. **Geography.** For the purpose of analysing the secondary datasets, this strategy has defined the Cambridgeshire and Peterborough regions as the postcodes within the six local authority districts that make up the Combined Authority area.
3. **Infrastructure.** We understand that housing and transport is being considered as part of a separate review. This strategy will not make recommendations in that area, other than to stress at the outset that if the digital sector is to thrive, necessary physical infrastructure must be in place to support high quality growth.
4. **Brexit.** Several domains under consideration in this Strategy are significantly impacted by Brexit, for example Talent & Skills, or Foreign Direct Investment. The outcome of Brexit is, at the time of writing, unclear. Recommendations related to Brexit-related challenges will not be made in this strategy other than to ask of local Government that they consider its implications and work with local business to smooth the transition to a post-Brexit Cambridgeshire & Peterborough.

BACKGROUND

Cambridgeshire and Peterborough Combined Authority (Mayoral) was formed in 2017 and consists of five district councils: Cambridge City, East Cambridgeshire, Fenland, Huntingdonshire, and South Cambridgeshire, one unitary authority, Peterborough, and one county council, Cambridgeshire.

The region broadly breaks into three distinct economic zones: the agricultural richness of the Fens that manages 50% of the UK's Grade 1 land; the young and rapidly expanding manufacturing hub of Peterborough and the technology (including digital & life sciences) centre of Greater Cambridge and South Cambridgeshire which produces the highest number of patents per 100,000 people in the UK⁴.

A key feature of the region is that there is no substantially developed large city, and therefore the region lacks the digital, transport and office infrastructure which highly urban environments offer. Around a quarter of the population lives in market towns such as Wisbech (pop. 32,489), St Neots (31,165), Yaxley (9,174) and Sutton (3,816)⁶, the remainder in the main hubs of Peterborough, Huntingdon and Cambridge or in surrounding villages and countryside.

Economic growth has been, to date, higher in Cambridgeshire & Peterborough than in the rest of the East of England or the UK; this has been driven primarily through business expansion in Cambridge and South Cambridgeshire. Technology multinationals are investing in the area, including most recently Amazon, AstraZeneca and Samsung. According to the [2018 Tech Nation Report](#), companies are investing in the Greater Cambridge region due to the prevalence of highly skilled talent, its world leading academic institutions and its prized culture of knowledge transfer. Yet availability of talent is also flagged in the report as a key issue for the area – because the growth rate of supply does not match that of demand and because competition is exacerbated by the world-wide appeal of the existing local talent pools.

Across all sectors, the largest home-grown companies come from outside the digital sector, with Manufacturing (Marshall's), Utilities (Anglian Water) and Agriculture (Hilton Food, G's) featuring highly. The productivity of these

CPCA - Largest companies ⁵	Turnover 2016-17
Marshall Motor Holdings PLC	£1.90Bn
Illumina Cambridge Limited	£1.51Bn
Osprey Acquisitions Limited (Anglian Water)	£1.24Bn
Hilton Food Group PLC	£1.23Bn
Arm Limited	£1.18Bn
Qualcomm Technologies International, Ltd.	£1.16BN
Mundipharma Medical Company Limited	£554M
Hexcel Composites Limited	£498M
G'S Group Holdings Limited	£444M

⁴ Centre for Cities, Cities Outlook 2018

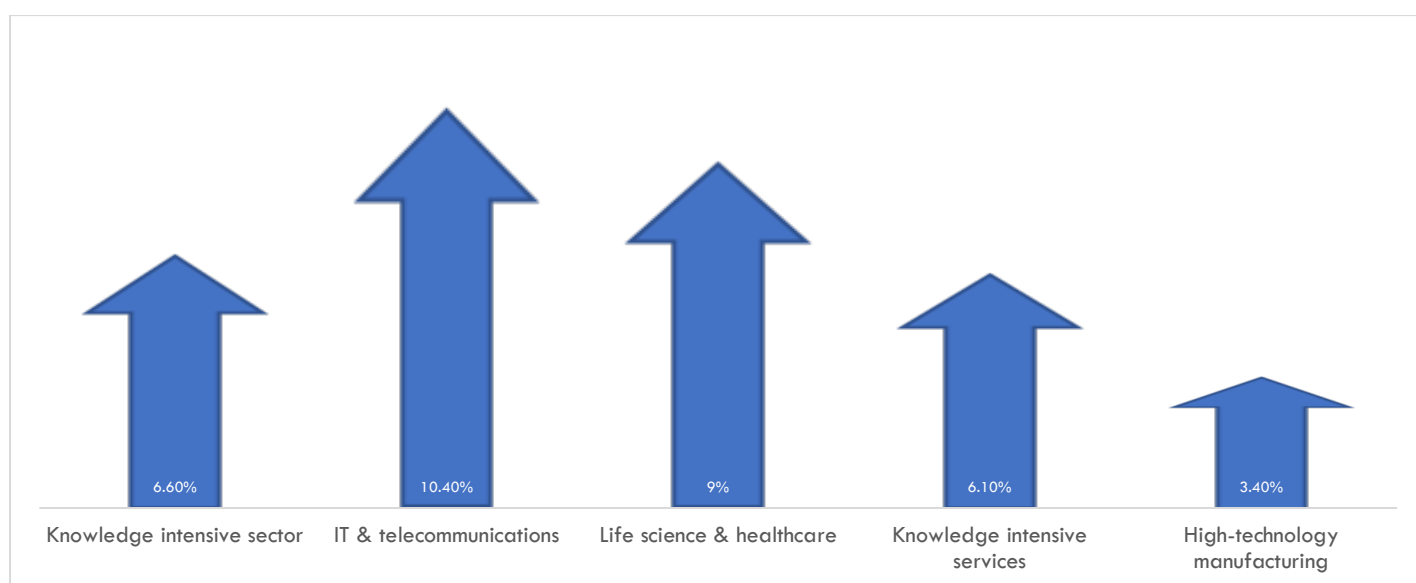
⁵ Data from [Cambridge Cluster Map](#), based on CBR. List includes companies headquartered, or with offices, in Cambridgeshire & Peterborough.

⁶ Data from 2011 census and refers to Build Up Areas

organisations are, however, greatly influenced by new digital technologies created by the ICT sector such as sensors or artificial intelligence.

Nationwide, the digital sector contributed £130.5bn to the UK economy in 2017, accounting for 7.1% of UK GVA and increasing by 7.3% since 2016. This is faster growth than the GVA for the total UK economy, which increased by 4.8% since 2016⁷. Employment in the digital sector in 2017 comprised of 1.5 million jobs, a 16% increase on 2011. This compares to a 9% increase in the total number of jobs in the UK⁸. Regionally, the digital sector is the fifth largest revenue generator, accounting for 8.22% of total employment and 8.84% of turnover (CBR).

From CBR data we can see that the average growth rate of the Knowledge Intensive sectors in the CPCA areas in the past three years was 6.6%. The CPCA's disaggregated revenues growth rates of the different subsectors forming the Knowledge Intensive economy reveal a more nuanced dynamic: IT & telecommunications grew at 10.4%, life science & healthcare at 9%, high-technology manufacturing at 3.4% and Knowledge Intensive Services at 6.1%. So, the largest subsector, high technology manufacturing, is also the one that grew at the lowest rate in the past years, and IT & telecommunications grew the fastest. 44.4% of ICT and Telecommunications employment for the region is centred in Greater Cambridge.



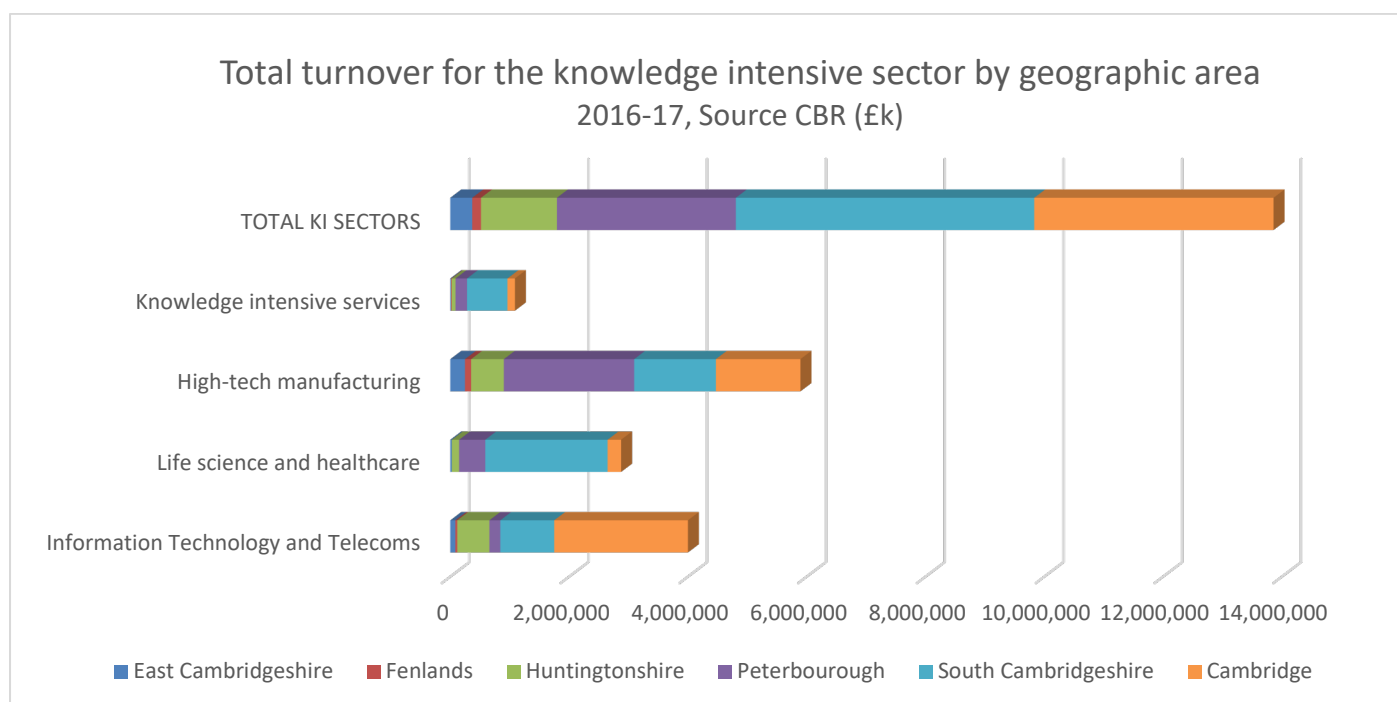
The figure below details the distribution of the turnover of the CPCA knowledge intensive sector, in 2017, subdivided by district. Focussing on the IT & telecommunications subsector, it shows that over 56% of the sector turnover in 2016-17 was based in Greater Cambridge and 23% in South

⁷ [DCMS Sectors Economic Estimates 2017: GVA](#)

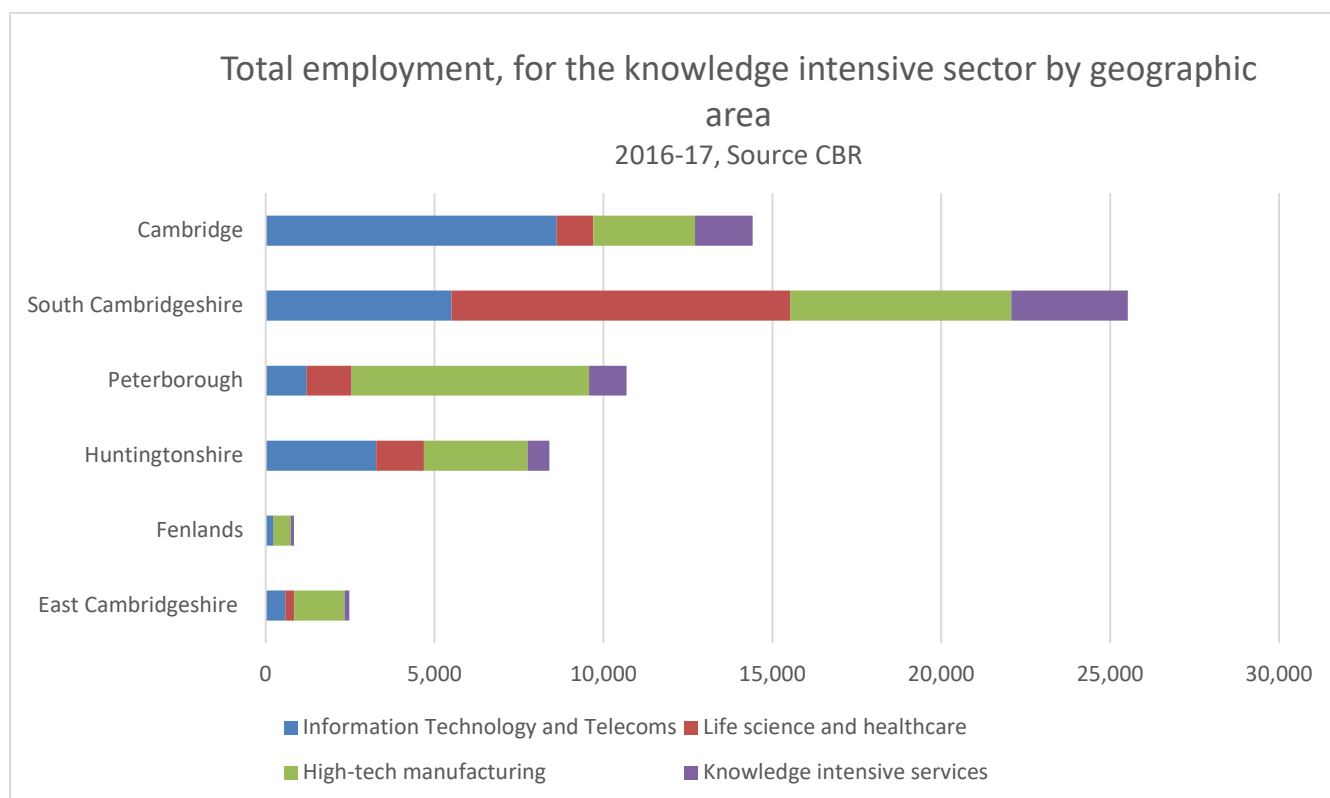
⁸ [DCMS Sectors Economic Estimates 2017: Employment](#)

Cambridgeshire while only 1% was generated in Fenland (as highlighted in the subsequent pie charts).

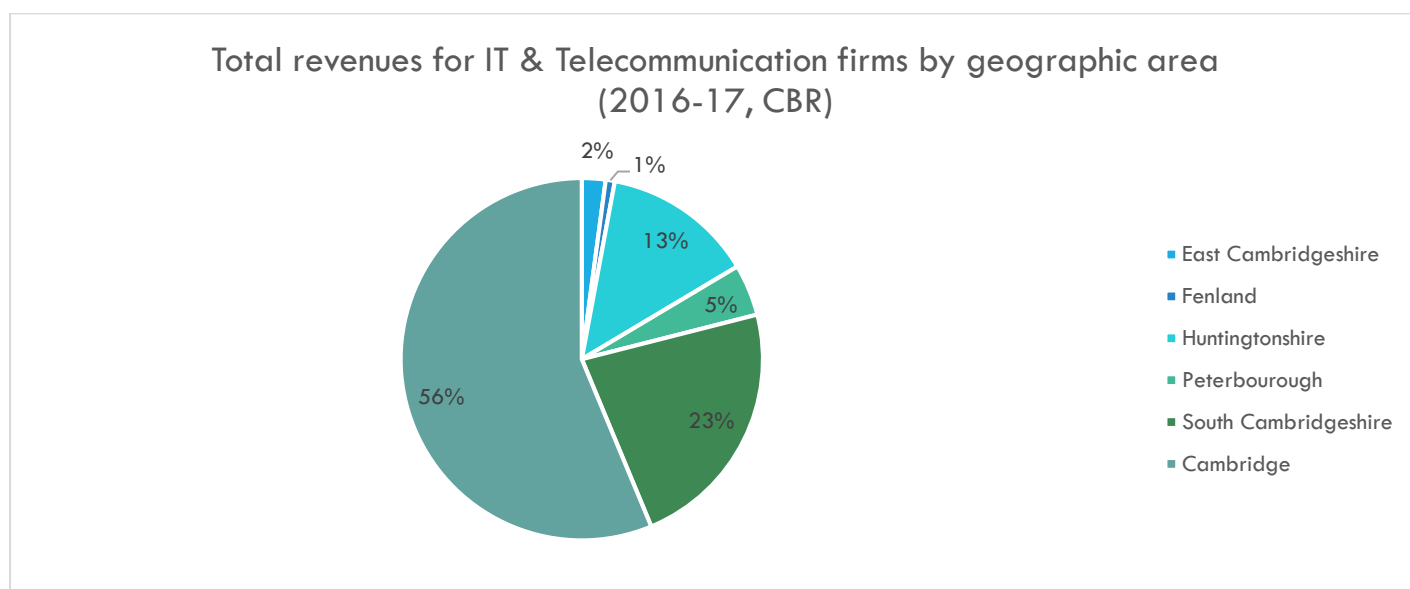
From the same graph, we can see that across all knowledge intensive industries, 29% of revenue during the same time period was generated in Greater Cambridge and 36% South Cambridgeshire, with still only 1% from Fenland. Peterborough claims a significant portion of knowledge intensive revenues (22%) due to the prevalence of high-technology manufacturing in the region.



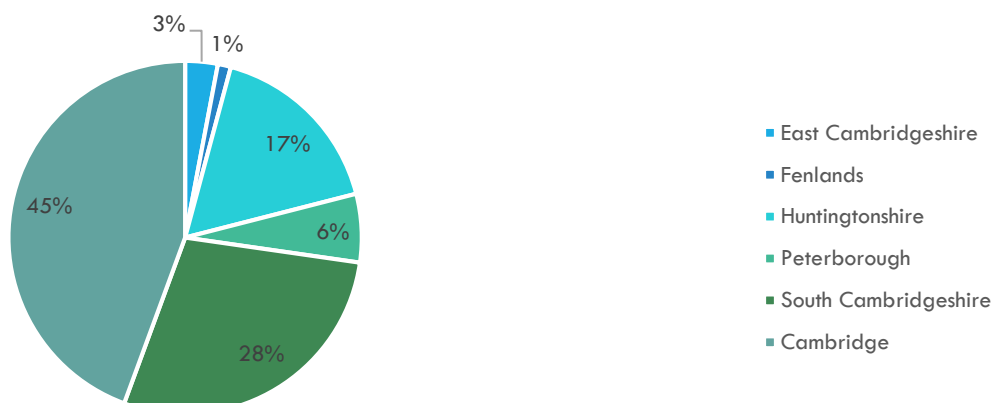
The table below shows employment figures by sector, broken down per region.



Extracting the data for just the IT & Telecommunications sector as the focus of this report, it can be seen that Greater Cambridge and South Cambridgeshire combined drew in 79% of total regional revenues for the ICT & Telecommunication sector, while Fenland produced 1%.



Total employment for the IT & Telecommunications sector by geographic area (CBR, 2016-17)



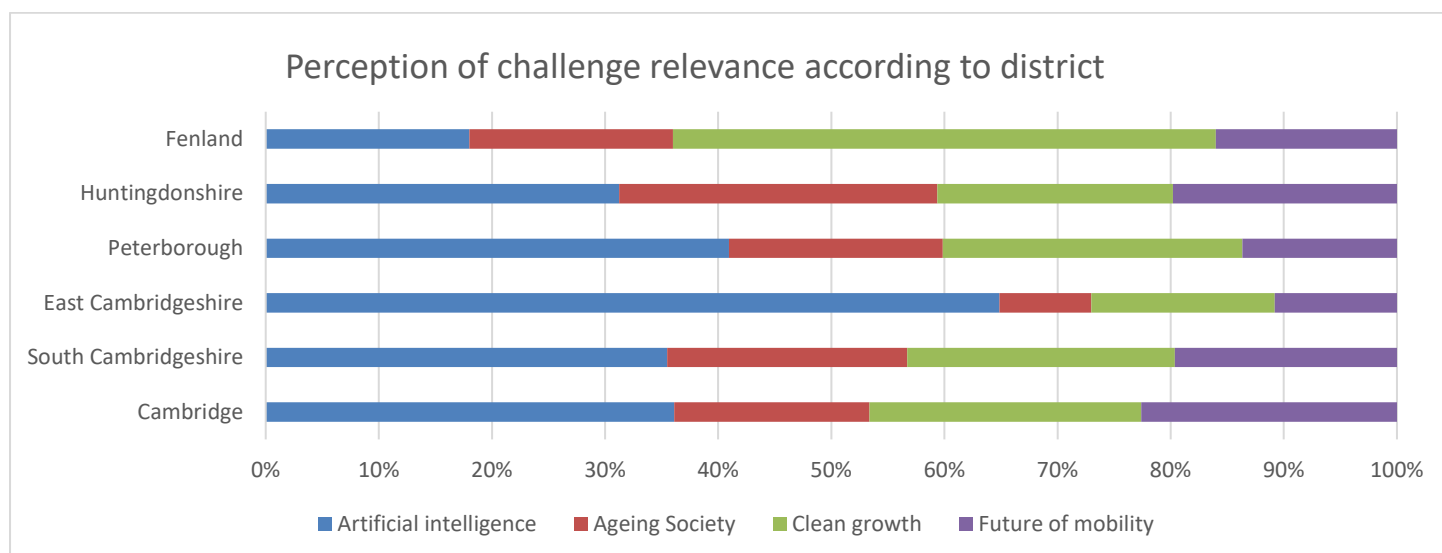
THE GLOBAL TECHNOLOGY SECTOR IN 2040

Cambridgeshire & Peterborough is well-positioned to be a global powerhouse in technology development and adoption. The region's unique portfolio of assets includes world-class academic institutions, a highly qualified pool of talent, a hub of multinational R&D centres and excellent facilities and support for networking. The opportunities for collaborating with Fenland's agricultural firms and Peterborough's manufacturing businesses are substantial.

However, maintaining this position in a rapidly developing global marketplace depends on the community understanding where this industry might be in 25 years' time, so that we can invest now in preparing the conditions for digital success.

In [Autumn 2012](#), The Department for Business, Innovation and Skills announced an investment of £600M in the eight great technologies that support UK science strengths and business capabilities. These technologies were selected because the UK already has world-leading research in these areas, they have a range of applications across a spectrum of industries and they have the potential for the UK to be at the forefront of commercialisation. They include big data, satellites, robots & autonomous systems, synthetic biology, regenerative medicine, agri-science, advanced materials and energy storage.

This was followed in 2018 by the selection of four grand challenges that form the centrepiece of the [Government's Industrial Strategy](#): Artificial Intelligence (AI) and data, ageing society, clean growth and the future of mobility. Within the Digital Sector Strategy Business Survey, respondents believed that Artificial Intelligence was the Grand Challenge against which Cambridgeshire and Peterborough is best able to align itself, although in Fenland there was a preference for Clean Growth. These findings clearly reflect the current specialisation of these two areas; Greater Cambridge with its high presence of businesses in the digital technology sector, and Fenland with its focus on agriculture expressing the potential this sector has for clean growth.



It is estimated that embedding AI and Data Science across the UK, while displacing some existing jobs, skills and professions, will create thousands of good quality jobs and drive growth to the tune of adding £232bn to the national economy by 2030⁹. Artificial intelligence was also the UK's fastest growing sector, with investment hitting a record £736m last year at an increase of 47 per cent compared to 2017¹⁰. Certainly, the prowess of this region in AI is demonstrated by the continued and significant overseas investments by global Tech giants, with Samsung and JD.com being just the latest examples, alongside homegrown players such as Darktrace, Prowler.io, Geospock, Speechmatics and many more.

If CPCA is to select a Grand Challenge against which the region could competitively align itself, the combination of the region's strength in artificial intelligence and the high growth potential of the market makes AI the obvious choice.

Nationally significant steps have been taken to develop an Office for Artificial Intelligence, with an Artificial Intelligence council which brings together respected leaders in the field from across academia and industry.

Regionally there is a great opportunity to coordinate world beating academic Innovation Research Centres along with globally significant corporate giants to encourage the development of new applications of AI, interoperability between AI systems, and to identify barriers to growth, and opportunities for collaboration on common issues - for example on data trust and ethics.

We recommend that the Combined Authority takes further advice on tailoring specific actions and priorities from this and other related strategy reports to boost and cement the national leadership position of the region in the Artificial Intelligence Grand Challenge.

⁹ [Industrial Strategy, November 2017](#)

¹⁰ [Artificial Intelligence Industry in the UK 2018, Deep Knowledge Analytics](#)

CONDITIONS FOR DIGITAL SUCCESS

At the outset of this research project, the Commission agreed to categorise results to eleven domain areas, each of which are deemed to be central to the creation of a highly productive digital sector and have been used as the foundation for our research.

Entrepreneurship ENT	Links within the UK UK	Export Strategy EXP
Investment & Finance INV	Talent & Skills TAL	Adoption within Industry IND
High Impact Networking NET	Foreign Direct Investment FDI	Digital Infrastructure DIG
Knowledge Transfer KNO		Supply Chain SUP

The Government's [Industrial Strategy](#) outlines five foundations of productivity: People, Place, Innovation, Ideas, Business Environment. Each of these relates to one or more of the domains under analysis in this report, as outlined in the table below.

	ENT	INV	NET	KNO	EXP	FDI	TAL	UK	IND	DIG	SUP
People											
Place											
Innovation											
Ideas											
Business Environment											

Of course, none of the domains stand alone, as these five foundations of productivity provide the key linkages amongst them. Innovations, and their impact on productivity, often emerge from the ICT-centric innovation ecosystems composed by people, carrying ideas, interacting in business environments that are rooted in places¹¹. Stimuli to one domain have the potential to generate multipliers and ripple effects in closely related areas. To this end, it is important to consider how the domains inter-relate and to consider where resources might be most effectively applied to have the most significant impact.

The table below models the relationships between domains and suggests that investment in High Impact Networking, Talent & Skills, Digital Infrastructure and Application in Industry have the potential to deliver the most wide-reaching effects:

Recommendations applied to this domain...	...will have a positive impact on this domain										
	ENT	INV	NET	KNO	EXP	FDI	TAL	UK	IND	DIG	SUP
ENT											
INV											

¹¹ Giovannetti, E. (2017) "Digital Divide and Digital Multiplier: A Paradigm Shift through Innovation", in Lehr, W. and Sharafat, A., eds. "ICT-Centric Economic Growth, Innovation and Job creation" International Telecommunication Union, Geneva, ISBN, 978-92-61-24411-8

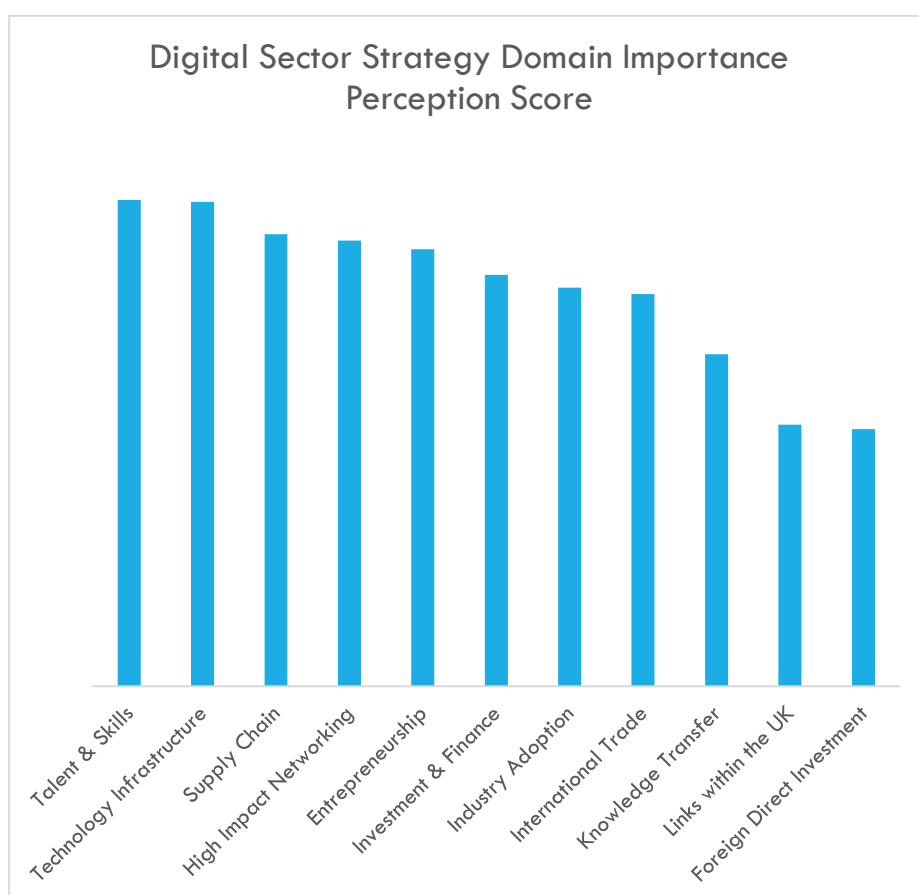
NET											
KNO											
EXP											
FDI											
TAL											
UK											
IND											
DIG											
SUP											

For each domain, an importance perception score has been obtained through the survey of 94 local businesses during which respondents were asked to select the three most relevant items for the future growth of the digital sector in the region. These are arranged by priority in the graph below:

Talent & Skills and Technology Infrastructure were perceived as having more significance than other domains, whereas Links within the UK and Foreign Direct Investment were perceived as less important. The Strategy team merged Foreign Direct Investment with International Trade to create an “International” chapter. Similarly, “Links within the UK” was merged with “Knowledge Transfer” as it was felt that the emerging themes were extremely closely aligned.

For each domain, evidence has been gathered from both primary and secondary resources.

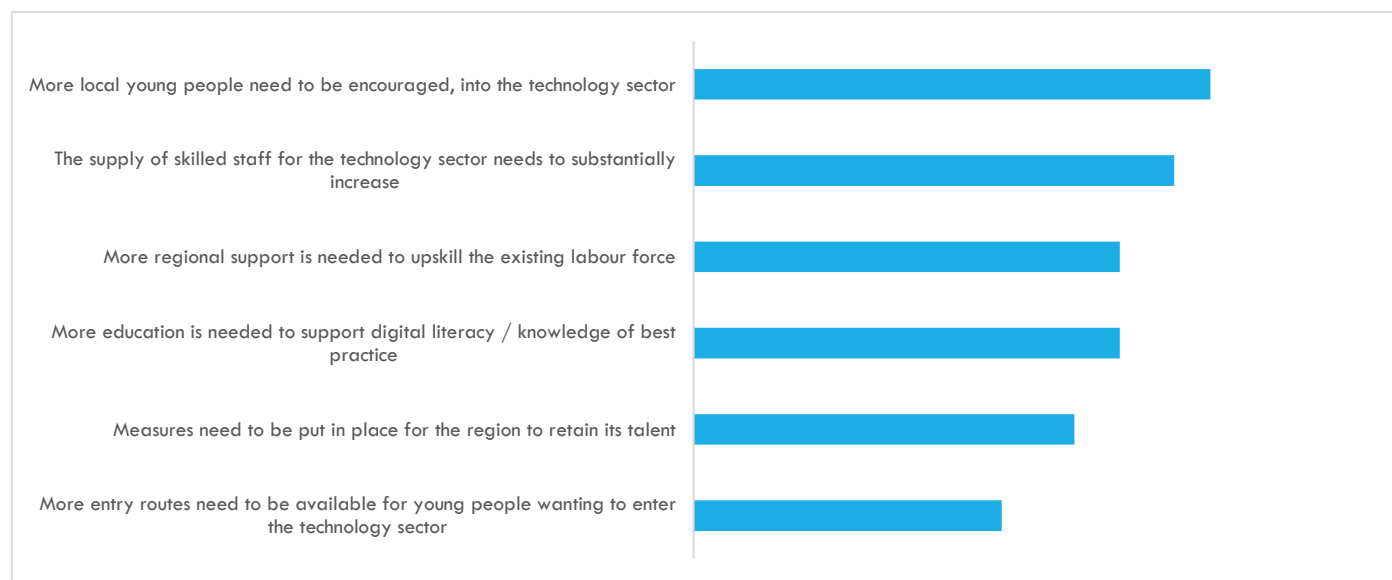
A chapter is dedicated to each with our vision for where we should be, an overview of local perceptions uncovered in the Business Survey, recommendations for how this domain can be developed supported by a brief background on its current state in Cambridgeshire & Peterborough.



TALENT AND SKILLS

VISION

We believe that the region needs to deliver an economy for the modern world founded on significant investment in skills and education, where the digital labour force meets the needs of business at every stage of development. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
More local young people need to be encouraged, into the technology sector	4.57
The supply of skilled staff for the technology sector needs to substantially increase	4.53
More regional support is needed to upskill the existing labour force	4.47
More education is needed to support digital literacy / knowledge of best practice	4.47
Measures need to be put in place for the region to retain its talent	4.42
More entry routes need to be available for young people wanting to enter the technology sector	4.34

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA

See Annex 1

It is important to understand the demand and supply of skills (SUP) in the region and the changing needs of now and future. Growing skills pool 'organically' is a long process, from school, to universities (KNO) and to the job market (IND). The respondents refer to very different types of talent needed in the region (UK), e.g. via apprenticeships, BSc, MSc, or PhDs but one pattern is that a skilled person is a 'specialist' in a certain topic of need, mostly in STEM subjects (DIG). Respondents widely talk about investing (INV) more in the youth but not to forget 'adult' groups and teaching the teacher. When it comes to locations where talent is

INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA

See Annex 2

A closer look at the geographic distribution of the answers, to this question shows that all six domains related to Talent and Skills are perceived as significantly important for the Fenland, four of them were selected in Huntingdonshire, three in Peterborough, two in South Cambridgeshire and one each for Cambridge and South Cambridgeshire. In detail, reporting these hypotheses in a decreasing number of districts for which the issue of high relevance we have that:

- "The supply of skilled staff for the technology sector needs to substantially increase" is of key relevance to every region.

or wants to be, Greater Cambridge (UK) will remain a magnet but the idea of offering a high quality and balanced life style of the work force is becoming a selling argument of a location. Brexit is bringing uncertainty in recruiting talent (FDI).

- “More education is needed to support digital literacy / knowledge of digital best practice” is a relevant issue everywhere apart from East Cambridgeshire
- “More entry routes for young people wanting to enter the technology sector need to be available” is a relevant issue in all districts apart from East Cambridgeshire.
- “More local young people need to be encouraged to enter the technology sector”, was a priority for Fenland, Huntingdonshire, South Cambridgeshire and Peterborough
- “More regional support is needed to up-skill the existing labour force” in Fenland, Huntingdonshire, and Peterborough
- “Measures need to be put in place for the region to retain its talent better” is of key relevance in Fenland, Peterborough and Greater Cambridge

RECOMMENDATIONS

For public sector

Ensure high quality digital education and training opportunities, ranging from digital literacy, advanced programming skills up to doctorates, as well as reskilling programmes, are available and accessible for young people, teachers and adults throughout the region.

- Review the capabilities of schools and colleges to deliver high quality STEM education and, where necessary, establish programmes to upskill and appropriately resource teaching staff and classrooms.
- Use the £12M CPCA devolved budget to deliver accessible, high quality and consistent adult education programmes related to digital skills, or through employer-led initiatives incentivised by public funding. These programmes should cover both basic digital literacy and more advanced digital proficiencies.
- **Combined Authority to encourage digital businesses to co-create a bid to form a local Digital Skills Partnership, aligned with UK Digital Strategy (by April 2019)**
- Establish Peterborough University as a high quality higher education establishment that engages with local business to deliver skills in line with the regional economy and aligned to the latest technology trends.
- Increase the availability and attractiveness of alternative routes into the sector for example through effective use of apprenticeship grants.
- Provide high quality space that promotes digital skills generation, for example by building on the current work underway reforming libraries into skills and co-working zones.
- Conduct an in-depth study to understand the extent and causes of digital exclusion / illiteracy across the area.

For private sector

Develop a region-wide culture of employer engagement in education to support the development of STEM skills in the next generation and showcase potential career routes with a scheme that involves the participation of employers.

- CPCA to identify employer engagement programmes that are already effective, and rally increased industry support to it through brokerage, facilitation and incentivisation (such an incentive programme is especially important for SMEs who struggle to financially validate youth and early career engagement, but can offer value).
- As businesses are encouraged to participate more with schools, ensure schools have the resources and processes in place to channel business engagement.
- Resource region-wide after-school provision for young people with activities that teach relevant STEM skills
- Encourage diversity in STEM school volunteers.
- Establish and promote an effective communication route between digital business and education to ensure that the curriculum supports the needs of business.

BACKGROUND ON TALENT & SKILLS IN CAMBRIDGESHIRE & PETERBOROUGH

The contribution of digital skills to the performance of the economy is substantial. Skills are the foundation of productivity. Cambridgeshire and Peterborough has a slightly higher than national average qualification level but if we break that down to a district level, there is a large amount of variation. The city of Cambridge has a much higher than average rate of citizens with an NVQ4 and above, while Fenland has a far lower than average proportion of citizens with NVQ1 and above, and 25% of the citizenship of Peterborough have no qualifications¹². This, perhaps, is why in the Business Survey the respondents from Fenland stressed the importance of all hypotheses.

	Cambridgeshire And Peterborough (%)	Cambridge (%)	Huntingdon (%)	Peterborough (%)	Fenland (%)	Great Britain (%)
NVQ4 And Above	39.0	46.9	25.3	20.2	14.9	38.6
NVQ3 And Above	55.7	63.0	36.6	31.0	25.3	57.2
NVQ2 And Above	72.9	72.2	52.7	47.2	42.3	74.7
NVQ1 And Above	85.4	79.4	78.3	62.6	57.9	85.4
Other Qualifications	8.0	6.2	7.8	8.9	6.9	6.9
No Qualifications	6.6	12.2	21.2	25.0	31.2	7.7

The Regeneris Skills report¹³ identifies that education deprivation is concentrated in the north-eastern areas of the CPCA. Peterborough and Fenland in particular have acute and extensive challenges, with both featuring in the highest decile for education deprivation in England. There are also small clusters in Huntingdon and Greater Cambridge, although less significant in scale. By contrast, significant areas of Huntingdonshire, South Cambridgeshire and Greater Cambridge are in the lowest decile for education deprivation. This is broadly suggestive of a north - south split, with improved outcomes the further south one observes. It suggests that effort invested in improving Talent & Skills, starting with aspirations, for local young people should start in Peterborough, Fenland and relevant clusters in Huntingdon and Greater Cambridge.

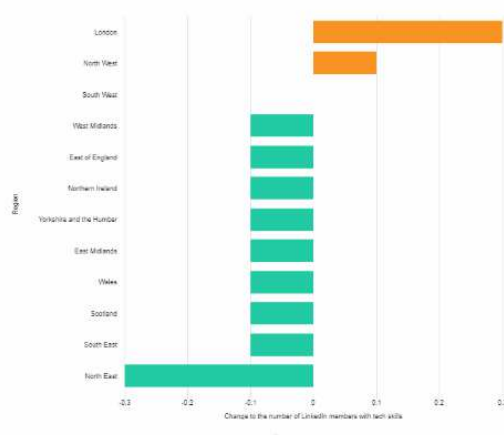
The same report found that there is a smaller proportion of young people that are in full-time education in the CPCA area (24%), compared to England as a whole (33%). Though Cambridgeshire & Peterborough is known for its world-class further and higher education establishments, particularly those centred on Greater Cambridge, this is not necessarily translating into higher education participation amongst the resident population. There are also regional differences in 18-24 year olds in full time education.

¹² [Nomis: Official Labour Market Statistics](#)

¹³ link to be provided when released.

7) London and the North West saw a net gain of members with tech skills in 2016. Other regions in the UK experienced a net loss of members with these skills.

Inter-regional migration of LinkedIn members with tech skills – LinkedIn members moving in for every 1 LinkedIn member moving out.



The only regions in the UK to experience a net increase in digital skills in 2016 were London and the North West – all other areas saw a net decrease¹⁴. With its proximity to London, and the often higher salaries and broader opportunities offered by the capital, Cambridgeshire & Peterborough needs to act fast to compete by ensuring that the region offers the highest quality of life along with attractive opportunities for training and career progression. This includes building the physical infrastructure to deliver affordable housing for young people and minimise commuting time. A critical indicator of the impact and lack of affordable housing and cost of leaving is provided by the very low ranking of Greater Cambridge for graduate retention; the city currently ranks 38th out of 44 cities studied by HESA. Improvements to this figure is challenging but also provides an opportunity for the non-Cambridge districts in CPCA that, if suitably integrated into the networked economy, will be able to provide an appealing basin of attraction for the present outflows of graduates.

The impact of Brexit on the recruitment and retention of digital talent is a threat. Research by TechUK conducted in 2016¹⁵ revealed that 45% of digitally intensive job vacancies were filled by international workers, and a quarter of the employees in the software and computer industry are foreign-born, with the majority coming from the European Union. To ensure that Cambridgeshire and Peterborough's businesses can continue to recruit from the highest quality talent pool and maintain international competitiveness, local Government must prioritise supporting businesses to efficiently handle recruitment and retention challenges that arise from Brexit.

The [2016 Digital Skills Report](#) showed that the shortage of digital skills represents a key bottleneck for industry and is linked to one in five of all vacancies. At that point, 72% of large companies and 49% of SMEs were suffering technology skill gaps. There is a clear mismatch in the types of skill offered by the labour market and those demanded. In different ways and to different extents, this

¹⁴ [Tech Nation: Mobility of Talent](#)

¹⁵ [The Digital Sectors after Brexit, TechUK, January 2017](#)

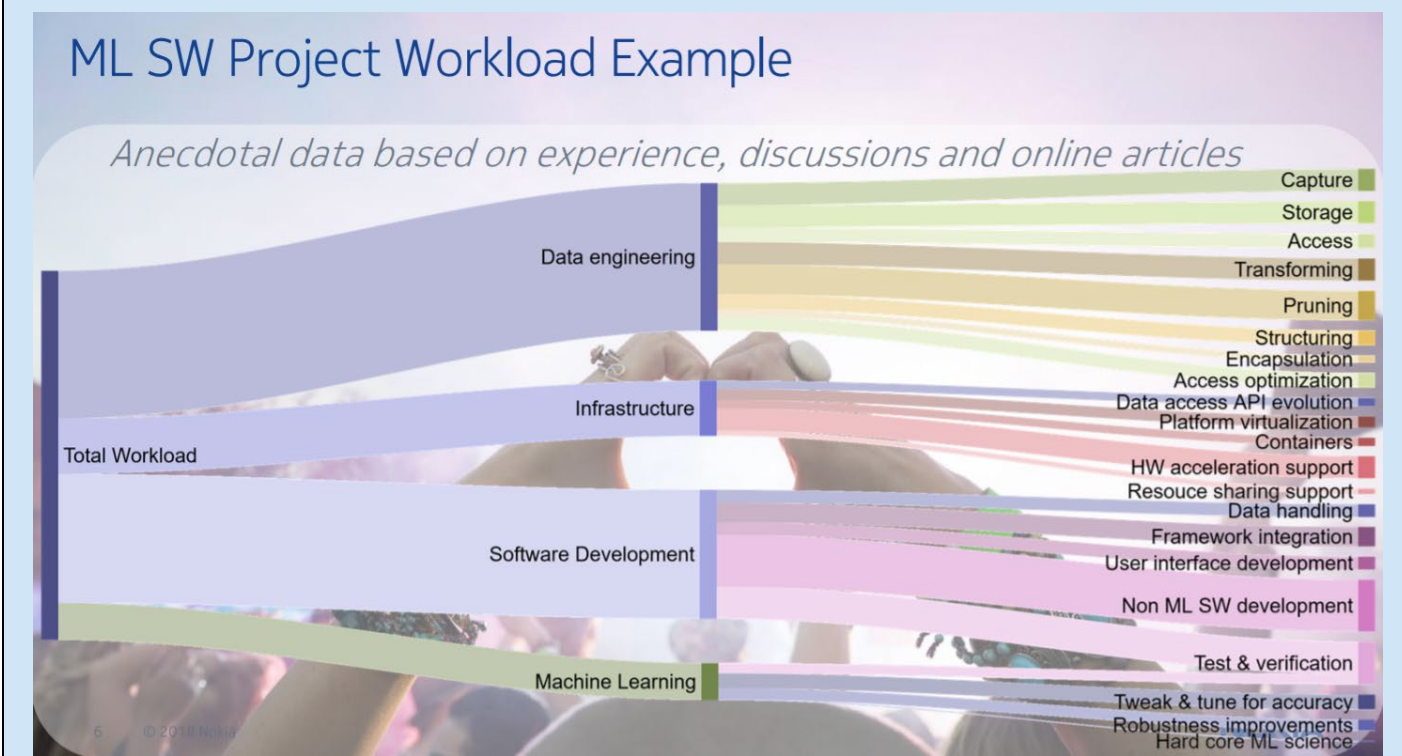
trend is likely to be holding back the growth of technology and non-technology companies alike. The Report highlighted the following skills gaps:

- Software developer
- Senior programme developers
- Data analysts / big data developers
- Artificial intelligence developers
- Computer aided design
- Cyber security
- Mobile and cloud computing
- Technology specific skills (e.g. high level technological knowledge of communications networks)

An insight into skills requirements

Artificial intelligence and data processing are expected to be a central part of the digital economy of the future. With Samsung, Qualcomm, Microsoft and Amazon already establishing global artificial intelligence R&D operations in Greater Cambridge, alongside home grown talent like Prowler.ai and Darktrace, the region is well positioned to be the leader in this field.

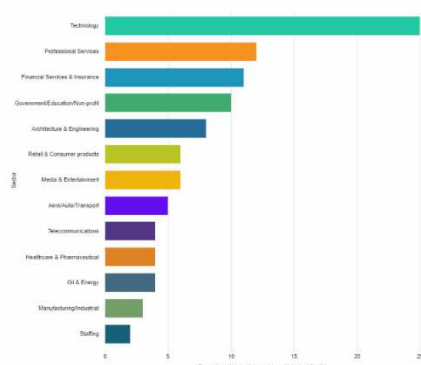
This will require the region to be able to supply newer skills in addition to programming: data management. The East of England Science and Innovation Audit identified skills, particularly related to data, as a gap in regional provision that needs to be fulfilled. The slide below focuses on a machine learning software project workload, presented by Nokia at CW Technology and Engineering Conference 2018¹⁶. It demonstrates that the largest proportion of time on a machine learning project is spent on data capture, storage, access, transformation, pruning, structuring and encapsulation.



¹⁶ Machine learning: What's in it for communications networks, Nokia, September 2018

3) And tech skills are being used across a diverse range of sectors aside from Technology (25%), including Professional Services (12%), Financial services (11%), and Architecture and Engineering (8%).

Top industry sectors worked in by LinkedIn members with tech skills



As more industries adopt digital technologies into their workflows, more strain will be placed on the supply of suitable talent leading to an ever increasing digital skills gap. Professional services, financial services and architecture/engineering are currently employing the highest numbers of digitally skilled professionals outside the technology sector (see chart, left)¹⁷. While these sectors are smaller within the Cambridgeshire & Peterborough economy compared to healthcare, manufacturing, retail and agriculture, it is still necessary to plan for an escalation in demand – especially given this

strategy's goals related to convergence (see chapter on Adoption in Industry).

Qualification level	Percentage share		Forecast % change
	2012 actual	2022 projection	
QCF 7-8 (post-grad) Masters and Doctoral level	9.1	14.6	+60.4%
QCF 4-6 University degree level	27.6	33.1	+19.9%
QCF 3 A Level	19.9	17.6	-11.6%
QCF 2 A-C GCSE level	22.1	19.9	-10.0%
QCF 1 D-F GCSE level	15.2	11.3	-25.7%
No qualification	6.1	3.5	-42.6%

Table 1 – Projected qualification demand for Eastern Region (UKCES 2015)

Source: Old Hall Associates Ltd Report to Peterborough Skills Partnership Group (July 2015)

In its [Four-Year Plan](#), the CPCA identified that by 2022 the Eastern region will need 60.4% more masters and doctoral level qualifications and 19.9% more degree-level qualifications. This is a dramatic increase and will necessitate policies that retain talent, attract talent into the region, develop the needed skills and motivation within the region's young people and retraining the existing workforce.

The development of a supply of skilled programmers and other knowledge intensive workers to meet the needs of the digital economy is the main challenge facing the growth of the sector in Cambridgeshire and Peterborough today.

This Strategy recognises four different segments of digital users, each of which have their own skill levels and educational needs:

User group	Description	Education requirements
1 Digital Exclusion	The 11% of the UK population not connected to the internet and not using digital services on a regular basis.	<ul style="list-style-type: none"> Connectivity, if not yet in place Basic digital education
2 Basic	These are users who in their home or work life are able to securely use internet-connected devices for general browsing and communicating.	<ul style="list-style-type: none"> General IT education
3 Workforce	These are users who use specialist digital services for home or work life, such as accountancy software, warehouse management tools, or photoshop.	<ul style="list-style-type: none"> Regular information on new developments Basic understanding of how programme works

¹⁷ [Exploring tech skills in the UK, Tech Nation](#)

4	Professionals	These users design the tools used by the other user groups.	<ul style="list-style-type: none"> • Maths • Understanding of how computers work • Programming languages • Data management
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We believe that it is imperative for the region to understand the extent of local digital exclusion and to support those without digital competencies or connectivity into the digital age through appropriate training and, where needed, infrastructure improvements. Too many services are moving to online models for individuals and businesses to maintain competitive efficiency without venturing online. An in-depth study which helps to ascertain the extent of digital exclusion and the impact on productivity, life chances and health and well-being in the CPCA area could be valuable, similar to one conducted to great effect by the Joseph Rowntree Foundation in Glasgow.

However, this Strategy is primarily concerned with ensuring that appropriate IT skills are present in the workforce of Cambridgeshire & Peterborough's future. To this end, sufficient educational provision for both young people and adults needs to be accessible either through the school, college and higher education system, or through employer-led training. At the same time, businesses need to have a clear process for engaging with the education system and for signposting what skills and knowledge it needs its future workforce to

develop. One route to achieving this is through the Digital Skills Partnership, see inset above, which is a localised, nation-wide programme of joint public / private sector engagement on education. Alternatively, a more ambitious programme could be the creation of a CPCA Digital Skills Task Force, consisting of business, education and public sector leaders, that generates and actions specific



A clear recommendation made to the Commission was not to develop regional initiatives that were of necessity sub-scale but to align with nation-wide initiatives where possible. Digital skills development is a major focus area for national Government. The **Local Digital Skills Partnerships (DSP) programme** provides access to resources from national Government, extending from the commitment of the [UK Digital Strategy](#), to improve digital capabilities across the entire skills spectrum, from online literacy to the advanced knowledge needed to work in the digital sector.

Lancashire, the South West and West Midlands are already piloting the DSP programme, and the national Government has invited all other Local Enterprise Partnerships and Mayoral Combined Authorities to submit expressions of interest to form a Local DSP pilot. A further three will be selected by **April 2019**. A [Local DSP Playbook](#) has been created as a central resource to help regions to establish and run a successful Local DSP.

We recommend that the Combined Authority works with relevant local parties to submit an application to form a local Digital Skills Partnership for Cambridgeshire & Peterborough.

opportunities around the creation of digital skills among young people and adults; its mission would be to ensure that all businesses in the area are able to thrive through access to a consistent, high quality supply of talent.

YOUNG PEOPLE (PRE-18)

Providing high quality digital training to Cambridgeshire and Peterborough's young people provides a dual benefit. Firstly, a digital education with effective employability interventions can lead to the higher paid, more productive jobs of the Knowledge Intensive economy. Secondly, easing the recruitment challenges of local digital businesses by supplying a highly skilled digital workforce will improve their productivity.

To ensure that young people leave school with the skills that the digital economy values, we see that five important things must be in place

- **The curriculum must deliver what employers need.** To do this, employers need to feed back to schools through the appropriate mechanisms what they are lacking. The potential of T-Levels is recognised – as is the fact that despite there being a Digital route, no Cambridgeshire and Peterborough education providers are offering T-Levels within the first wave. The public sector needs to better signpost these feedback channels and encourage local digital companies to share their needs with the education sector.
- **Upskilling opportunities for teachers** – the Business Survey highlighted recommendations for ensuring that training opportunities are available to teaching staff in the region (of schools and higher education establishments) to ensure that the quality of education delivered is of the highest standard and in line with the skills and knowledge expected of business.
- **High quality extra-curricular provision must be available for activities that grow digital and soft skills (such as team work and creativity) within an inclusive environment.** Code Clubs and Robotics Clubs inspire young people and nurture their enthusiasm in a particular subject, as well as offering opportunities for soft skill development such as teamworking and creativity. The private sector needs to provide volunteers to support the teaching staff in delivery and to demonstrate available career paths. Diversity in volunteers should be encouraged.
- **Employers must engage with schools.** There are a myriad of programmes in the region supported by businesses such as Business in the Community, Form the Future and the Careers and Enterprise Company. The landscape can be confusing and inconsistent for both employers and schools, and it varies from district to district. It is far easier, for example, to generate STEM-based employer engagement in Greater Cambridge than in Fenland. Yet it is Fenland and East Cambridgeshire that has been identified by the Government as an "Opportunity Area" due to the low levels of academic achievement and social mobility – two factors which consistent employer engagement can help remedy. The Combined Authority needs to work with relevant organisations to identify employer engagement programmes that are effective and to rally increased support from local technology firms through brokerage, facilitation and, if needed to expand employer engagement to currently underserved areas, incentivisation.

- **A variety of career paths into the digital sector need to be supported by the business community.** The apprenticeship programme is subsidised by the Government and offers high quality on-the-job training without requiring that the employee take on the financial impact of a university degree; through apprenticeships it is possible for young people to develop competitive coding skills as well as effective soft skills. Anglia Ruskin University currently offers a digital apprenticeship programme, but uptake has been slow despite support from the likes of Bango and Aveva. Information needs to be easily available on the process for delivering apprenticeship programmes, and the Business Survey reflected the feeling that more (financial) support needs to be offered to SMEs so that they can take on interns or apprentices without losing efficiency.

ADULT (POST-18)

Adult education is an area over which the Combined Authority has budgetary control. With new technological advancements being deployed, the re-training and upskilling of adults to enable them to be more productive in their roles or move on to higher paid jobs, is of critical importance to increasing local productivity. Given the lead time for educating a young person to a digital-job-ready level, it is essential that the Combined Authority invests in and promotes digital retraining pathways for adults in parallel.

Adult education is available via part-time courses at, for example, Cambridge Regional College which has campuses in both Cambridge city and Huntingdon and offers courses in Software Programming and CyberSecurity Essentials. Meanwhile City College Peterborough offers IT Skills courses in its Adult Education portfolio and Peterborough Regional College offers courses on CAD and an Introduction to Programming. These courses are priced affordably and typically held at times that are convenient for workers.

The role of Universities in part-time adult education could be enhanced. The University of Cambridge's Institute for Continuing Education, for example, offers many humanities courses but not many computer science courses. Peterborough University has been identified by the Cambridgeshire and Peterborough Independent Economic Review as a growth opportunity for the region; this is especially important given Peterborough's low qualification rate outlined above. We hope that the University aims from the start to support the adult education work of City College Peterborough and Peterborough Regional College while providing high quality education to young people and engaging with local business to deliver skills in line with the regional economy and the latest technology trends.

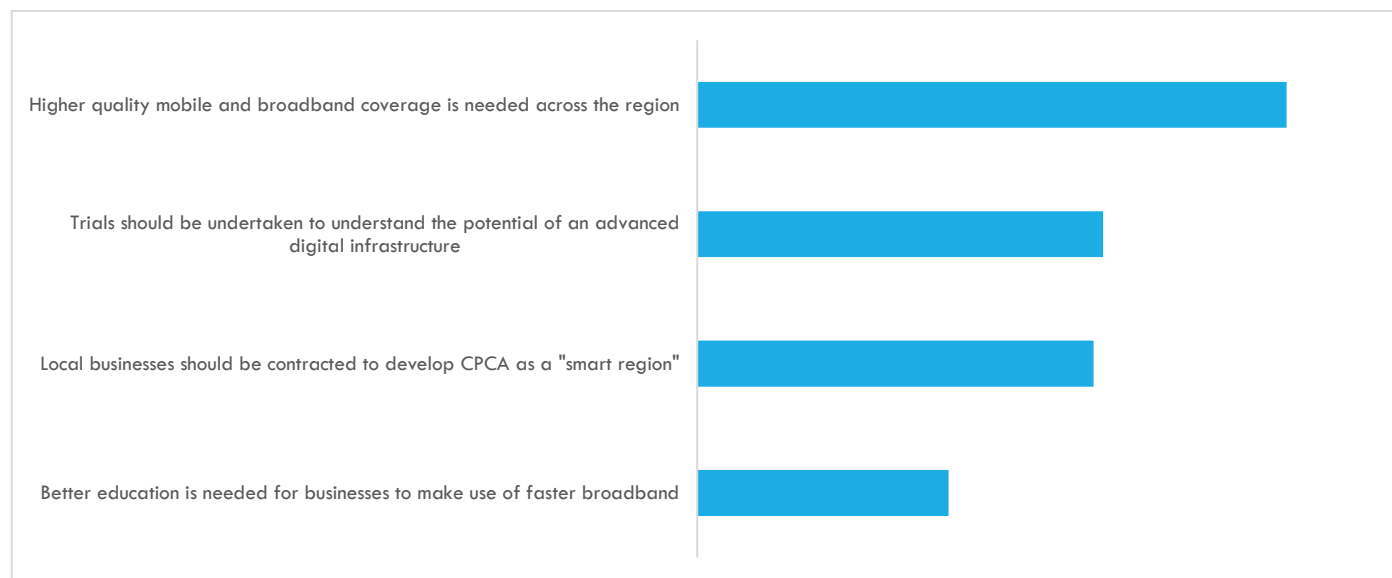
The Regeneris Skills Report concludes that employers across the CPCA area appear to be more willing to offer training to employees, in order to address skills shortages and recruitment problems, than national benchmarks, with over 70% providing some kind of training. There is also a greater propensity for firms to invest in on-the-job and online training compared to the average values for the whole England, although offsite training also plays a considerable role. Variance between Cambridgeshire and Peterborough is minimal, with employers in the latter generally more likely to

offer some form of training. This level of private sector investment in employee personal development needs to be maintained at the least. The current plans for the adult education budget are to prioritise digital literacy, qualifications up to Level 3, and the development of skills for Health & Care, Logistics, Construction and Manufacturing. We support the goals of digital literacy, and would recommend adding IT & Telecommunications to this list of priority sectors.

TECHNOLOGY INFRASTRUCTURE

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where telecommunications and digital infrastructure is understood to be an absolutely vital underpinning of the economy, and where local government acts as a catalyst to accelerate demand, encouraging the entry of private sector supply side solution providers. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Higher quality mobile and broadband coverage is needed across the region	4.42
Trials should be undertaken to understand the potential of an advanced digital infrastructure	4.04
Local businesses should be contracted to develop CPCA as a "smart region"	4.02
Better education is needed for businesses to make use of faster broadband	3.72

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
There are several practical issues mentioned in the survey results such as lack of mobile phone coverage in rural areas, on train lines, fibre cable not reaching to where businesses are (IND), or into new built environment (TAL). CPCA region should be better than average in connectivity, a test bed for 5G (INV), networks available in public places. More competition is asked for reducing the price of being connected to fast networks (IND).	<p>The Survey's answers provide some interesting evidence on how the different districts perceive the relative relevance of the proposed priorities and Technology infrastructure needs. A gradient emerges where Fenland considers all four options to be of key relevance, Peterborough also attributes relevance to all the four same priorities but with an overall slight less intensity. Greater Cambridge and Huntingdonshire focussed on two key issues and East Cambridgeshire on one. In more detail,</p> <ul style="list-style-type: none"> • "Higher quality broadband and mobile coverage is needed across the entire region", was a top priority for all areas apart from East Cambridgeshire

	<ul style="list-style-type: none"> • “Local businesses should be contracted to develop CPCA as a “smart” region” is particularly relevant for the Fenland, Peterborough and Greater Cambridge • “Better education is needed for businesses to understand how to make use of higher quality broadband (e.g. video marketing)”, was a priority for respondents in Fenland, Huntingdonshire and Peterborough, while • “Trials should be undertaken to understand the cross-sector potential of an advanced digital infrastructure”, seems to be critically relevant for Fenland, Huntingdonshire and Peterborough.
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RECOMMENDATIONS	
For public sector	For private sector
<p>Deliver a step-change in technology infrastructure ambitions with aspirational targets of 1Gb/s broadband speeds across the region by 2022. Put in place internal processes that will support the private sector in turning Cambridgeshire & Peterborough into a world-class smart region at pace.</p> <ul style="list-style-type: none"> • Aspirational target Gb/s broadband speeds and 4G on all transport routes, business sites and dwellings by 2022. • Make next generation digital infrastructure an absolute requirement for all future transport, housing and commercial development projects • Review the efficiency of the structure, processes and regulations of local Government that affect the roll-out of full fibre infrastructure, mobile connectivity and smart city technology with a purpose to make public places more digitally immersive and accessible for citizens, visitors and businesses. • Combined Authority to continue to work with Connecting Cambridgeshire to explore how the Smart Cities programme is best extended out to and integrated across Market Towns • Provide the physical space and institutional goodwill for intelligent city technology innovation projects, making it as simple as possible for the private sector to trial new products and services. This strategy should prioritise the sourcing of technology from local firms and adopt an “Open Innovation” ecosystem approach e.g. citizen engagement, democratising data. 	<p>Inspire demand for advanced technology infrastructure by bringing citizen and business communities together and raising awareness of next-generation infrastructure capabilities through networking and workshops. Campaign for faster and more ambitious roll-out.</p> <ul style="list-style-type: none"> • Grow the Digital Champion scheme to generate knowledge of and demand for Gb/s broadband schemes. • Work with local and national Government to deploy localised 5G testbeds and “Open Innovation Zones” that accelerate the development and adoption of new products, services and applications

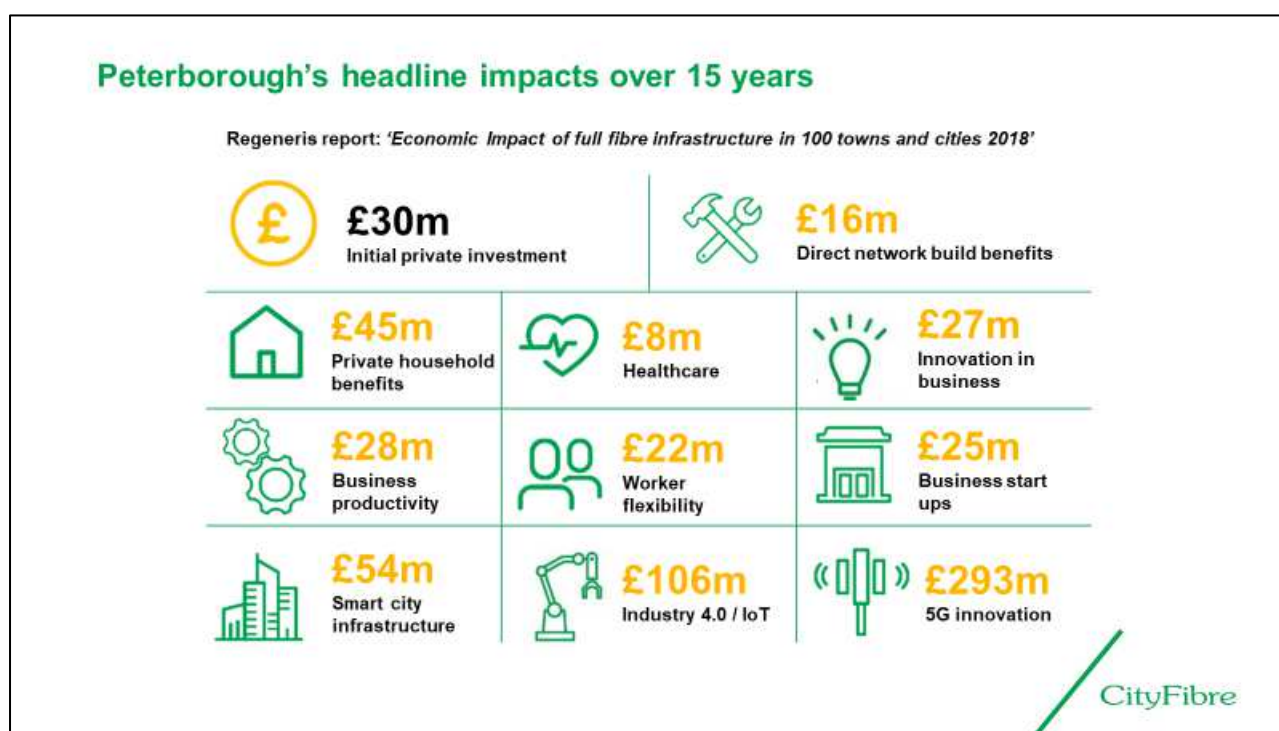
BACKGROUND ON TECHNOLOGY INFRASTRUCTURE IN CAMBRIDGESHIRE & PETERBOROUGH

Today, digital infrastructures, and their interconnections, form the absolute foundations of the digital economy. A region that seeks to expand the productivity of its technology sector, such as Cambridgeshire and Peterborough, needs cutting-edge digital infrastructures to support and sustain that growth. Internet access is now widely seen as the fourth essential utility. It underpins our economic and social lives. It means that digital businesses can set-up and collaborate in an increasingly data-driven world, and users and citizens can enjoy a high quality of work and of life. Mobile internet connectivity enables commuters to work and communicate with stakeholders while

on the move, it enables businesses to transfer the large volumes of data rapidly and, possibly, securely, and it enables a wide range of newly emerging working patterns that, while posing some key questions on the nature of working relations, are also surely delivering valuable repercussions across wellbeing, leisure and health.

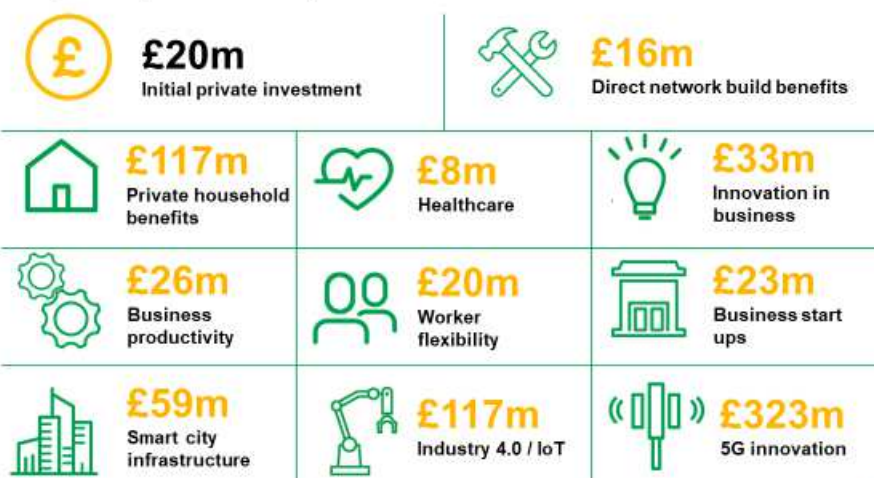
Next generation digital infrastructures are formed over fibre networks rather than legacy copper networks and through 5G fixed wireless access. In the [Future Telecommunications Infrastructure Review](#), the Government outlined targets for half the country to have full fibre connectivity (which will deliver GB/s rather than MB/s speed) by 2025 and full access to it nationwide by 2033. There are mechanisms in place to support this roll-out, including the Government's £67M Gigabit Broadband Voucher scheme, announced in March 2018, which supports businesses and business parks to access the new gigabit fibre networks.

The 2018 report by Regeneris Consulting for CityFibre on [The Economic Impact of Full Fibre Infrastructure in 100 UK Towns and Cities](#) explores ten impact areas where full fibre can add to GVA and employment, including productivity improvements, innovation, flexible working and new business start-ups. The two graphics below detail the potential benefits of full fibre to Peterborough and Greater Cambridge over fifteen years based on information from that report. This includes £726M in total estimated benefits to Greater Cambridge and £608M in Peterborough.



Cambridge's headline impacts over 15 years

Regeneris report: 'Economic Impact of full fibre infrastructure in 100 towns and cities 2018'



CityFibre

There are already programmes ongoing in Cambridgeshire and Peterborough to improve mobile and broadband services including the Connecting Cambridgeshire and the CityFibre GigaBit City deals, Virgin rolling out fibre to thousands of homes in Chatteris and March, and Hyperoptic and CNF announcing plans for Greater Cambridge. This is good progress. As a result of the Connecting Cambridgeshire programme, for example, the county's superfast broadband coverage has gone from less than 60% in 2010 to over 96% by January 2018.

Ofcom's [December 2017 Connected Nations](#) report confirms that the two cities of Greater Cambridge and Peterborough are well served in terms of digital infrastructure, and generally have coverage above the England average. However, indoor and in-car coverage for 4G mobile voice and data services for all other areas of the county is below the England average. At 8%, full fibre (FTTP) coverage across Cambridgeshire and Peterborough is marginally above the national average for England but still low, particularly compared to other regions in Europe and well below, for example, South Korea.

For a region that is seeking to compete on a global stage and attract significant volumes of inward investment, this must be improved. In 2019/20, the Combined Authority is set to invest £2.1m on improving digital connectivity, working through Connecting Cambridgeshire. Priority planned investments include £1m to improve mobile coverage, £500,000 for full fibre, £200,000 to develop a 5G network, and £100,000 on public access Wi-Fi. This work will be aligned with the strategy for the economic development of market towns¹⁸.

¹⁸ [Combined Authority Business Plan 2019-20](#)

We recommend the entire region holds aspirational targets of 1GB/s or higher broadband speeds across the area by 2022 as well as 4G connectivity on all transport routes, residential areas and business parks. In order to achieve this ambitious target, we would encourage a review of the structure, processes and regulations of local Government that will enable and encourage the private sector to roll out the necessary digital infrastructure.

We understand that private companies are unlikely to prioritise investment in full fibre infrastructure in areas that may not offer promising financial returns. To address this challenge, a region-wide programme of **demand generation** for digital infrastructure must be pursued, building on the example provided by the local community Digital Champions, who have been encouraged and convened by Connecting Cambridgeshire to stimulate the Superfast Broadband roll out, and also the St Neots Smart Places Initiative who organised a three-day Future Takeover event for 193 local residents and businesspeople that explored the role technology can play in creating a 'smart' market town. The aims of such a demand generation programme would be threefold:

- inspiration: creatively unlocking the realisation of what enhanced connectivity could mean for businesses and citizens
- consultation: understanding the unique requirements of the local eco-system.
- education: raising awareness of the benefits of GB/s internet speeds and digitalisation in general

The UK Government committed £200m in the 2016 [Autumn Budget](#) to develop the country's 5G infrastructure¹⁹. This includes the funding of test networks, and sector-specific trials, an Urban Connected Community programme in the West Midlands, and other programmes yet to be rolled out. Integral to DCMS' rollout plans is the national [UK5G Innovation Network](#), headed by local membership firm Cambridge Wireless.

Cambridgeshire and Peterborough should leverage this national Government ambition and the strengths it has in the region to deploy an early 5G testbed & trials. Such a testbed would need to work with multiple businesses to maximise the impact of the new technology and generate a long term economic benefit for the area. It would involve providing the network infrastructure, but also enabling businesses to trial 5G devices and services on this network. Such a testbed would require the public sector to generate physical space as well as institutional goodwill for intelligent city technology innovation projects, making it as simple as possible for the private sector to trial, interact and learn to use, new products and services through the adoption of "Open Innovation" principles.

¹⁹5G mobile networks may deliver £173bn in UK GDP growth between 2020 and 2030 according to FCCG (2017). 'UK Strategy and Plan for 5G & Digitisation –Driving Economic Growth and Productivity'. FCCG estimates are based on global contribution of 5G from GSMA (2017). 'The Mobile Economy' and the net benefit of investment in 5G in the UK.

The UK5G Innovation Network and DCMS' Phase 1 Trials

Set up to accelerate the adoption of 5G in the UK, UK5G facilitates communication and cooperation between organisations involved in the rollout of 5G infrastructure and services. It works hand in hand with the six phase 1 trials funded by the Department for Culture, Media and Sport. These trials offer influential insights into what cities and rural areas might achieve through 5G testbeds. For example the manufacturing testbed operated by the Worcestershire 5G Consortium is set to demonstrate 1% productivity improvements through the use of 5G technology. The Smart Tourism testbed in the West of England is engaging citizens in public spaces through augmented reality applications. And the 5GRIT testbed is utilising 5G-enabled high definition video feed from drones to examine farmland and identify irregularities in real-time.

The goal for the Combined Authority area should be that visiting potential investors come away with a genuine realisation that we are world-leading smart region. To strengthen and support this aim, the Combined Authority should continue to invest in increasing the “smartness” of the region, preferably by working alongside exemplar local companies²⁰.

The CPCA have reserved over £5m of capital expenditure over the next three years for Digital Infrastructure. With this budget, the Combined Authority has the potential to increase the quality of life for its inhabitants, make it an increasingly attractive area for potential investors and provide local technology entrepreneurs with a critically larger customer-based demand, necessary, when aggregated, to create initial critical mass and to support early stage growth.

Organisations such as Future Peterborough – which brought that city to success in the 2015 Smart City of the Year Award – and Connecting Cambridgeshire with the Smart Cambridge and Smart Places initiatives are all working in this field, and it is important to note that individual market towns are also currently generating their own digital infrastructure plans.

We recommend for these individual plans to communicate, interconnect and collaborate to make deployment more efficient, supported by an overarching strategy and a single barrier-busting body whose remit is to accelerate the development of Cambridgeshire & Peterborough as a smart region through the sharing of best practice and strategic engagement with infrastructure providers and Operators.

A key requirement here is that that for all private or public initiatives involving transport, housing or commercial development, ambitious and complementary digital infrastructure provision should now become an absolute planning necessity before permission to proceed is given.

This need for a collaborative, networked approach, highlights the significant challenge to the effective deployment of next generation digital infrastructure across the entire Combined Authority area: simply the number of different policy authorities and government bodies involved. The ownership of networks of assets is complex across the landscape and there are many historical examples of fragmented management one should learn from.

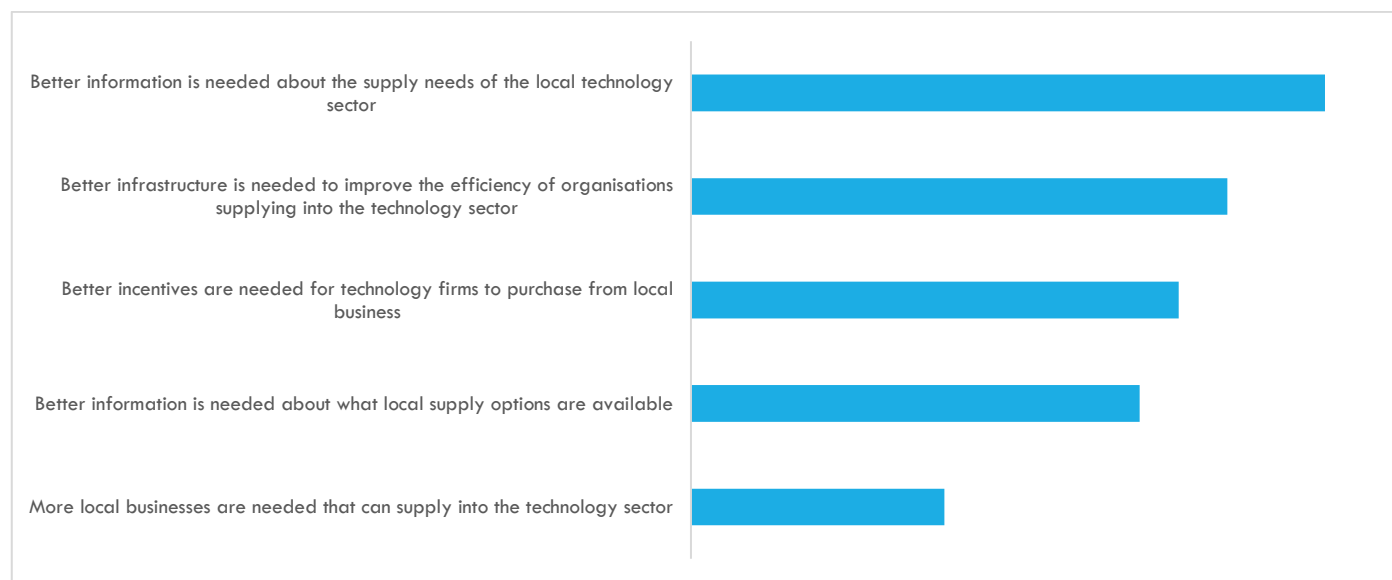
²⁰ A great example of this is Urban Data Project between Telensa, Microsoft and the Smart Cambridge team.
<https://www.telensa.com/news/telensa-announces-the-urban-data-project-with-cambridge-as-launch-partner-city>

For example: lampposts are an asset that can be central to the deployment of smart solutions while being finely distributed across the territory, providing an extended network penetrating most of the corners of present urban landscapes. They might be owned by one of a number of local councils or by a long-term PFI contract; such fragmentation makes it difficult for a scheme that aims regionally and requires input from numerous external stakeholders to be effective. Different approaches can instead be followed as piloted, for example, by GovTechnology, the Singapore government agency in charge of a “Lamppost-as-a-Platform” pilot project, that is tendering business for ideas and solutions on using this platform.

SUPPLY CHAIN

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where more local firms complement the supply and demand needs of the local technology community. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Better information is needed about the supply needs of the local technology sector	3.95
Better infrastructure is needed to improve the efficiency of organisations supplying into the technology sector	3.85
Better incentives are needed for technology firms to purchase from local business	3.80
Better information is needed about what local supply options are available	3.76
More local businesses are needed that can supply into the technology sector	3.56

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
Companies go where they find the best value for meeting their needs (IND). This region is internationally connected (UK, EXP) and buying services from anywhere from the world (EXP) does not seem to be an issue. However, 'more' of connecting (NET) the both sides would be win-win. There should be more transparent knowledge sharing (KNO) of buyer needs. Also, improved access to suppliers to both public and private procurement (IND) would open opportunities for local companies (IND) to offer their products and services.	<p>Peterborough, Fenland and Huntingdonshire set as key priorities "Better information is needed about what local supply options are available", and "Better information is needed about the supply needs of the technology sector"</p> <p>This identifies the need for bridging an information gap in these districts concerning local and technology sectors' supply chains.</p> <p>Greater Cambridge identifies the need to respond to an infrastructural need, captured in the priority: "Better</p>

	<p>infrastructure is needed to improve the efficiency of organisations supplying into the technology sector"</p> <p>Meanwhile operational improvements were considered of key relevance by Peterborough and Fenland, emphasizing the two statements "Better incentives are needed for technology firms to purchase from local businesses" and "More local businesses are needed that can supply into the technology sector".</p>
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RECOMMENDATIONS	
For public sector	For private sector
Sponsor a researched programme of networking activities that helps the region to increase understanding of the value chains of digital businesses and to help remediate potential gaps and bottlenecks in the local supply market.	Provide more opportunities for digital businesses to meet local suppliers, and vice versa, through targeted face to face networking opportunities and intra-regional programmes.

BACKGROUND ON SUPPLY CHAIN IN CAMBRIDGESHIRE & PETERBOROUGH

A well-advertised, open, accessible and utilised local supply chain is needed for high-value technology clusters to provide both direct benefit and indirect spillovers and externalities to the rest of Cambridgeshire and Peterborough²¹. The supply chain is key for the transfer of knowledge and ideas. It is not a simple linear process, but essentially a *networked* one, where parts of a product or of a service, can be reassembled and reconfigured, multiple times, and where the same actors can play different roles, as suppliers, customers or collaborators, especially for supply chains delivering the production of digital goods²². It is important to realise that such networked interactions, jointly forming the supply chains, are mutually beneficial to all parties.

"Ten years ago a report* identified that the East of England was highly successful at innovation yet lagging internationally in terms of economic output. **One of the key differences with comparable international regions was the lack of supply chains.** Since then, Cambridge and the wider region has had an influx of global corporations. Like the Eindhoven region 10 years ago, we need to develop a "create & make" policy, where start-ups can increase their success rate and grow into medium-size organisations by leveraging the presence of large companies and utilize their access to global markets."

Henk Koopmans, CEO Huawei R&D UK

*The Innovation performance of the East of England, EEDA March 2009.

CBR research from 2018 suggests that 10.8% of the value of supplies for local Cambridgeshire & Peterborough businesses across all sectors came from their local area (defined as being within thirty miles), whereas 27.8% came from overseas. This represents a missed opportunity that this strategy

²¹ Giovannetti, E. and Piga, C. (2017) "The Contrasting Effects of Active and Passive Cooperation on Innovation and Productivity: Evidence from British Local Innovation Networks", *International Journal of Production Economics*, Volume 187, May 2017, Pages 102-112

²² D'Ignazio A. and Giovannetti E. (2014) "Continental Differences in the Clusters of Integration: Empirical Evidence from the Digital Commodities Global Supply Chain Networks" *International Journal of Production Economics*, Volume 147-B, pp 486-497

recommends is addressed. However, analysing the nature and details of the supply chain of the technology industry in Cambridgeshire and Peterborough is a lengthy and data intensive task, and not one possible within the constraints of this strategy. We recommend that this is done by CPCA as a further research project.

As mentioned in the introduction, this strategy does not seek to interfere unnecessarily in the workings of the market. However, in the domain of Supply Chains two key features have been identified by the Commission and by respondents in the Business Survey which indicate the presence of a market failure, and could therefore benefit from support from Government and the business community.

1. Lack of information on suppliers in the region
2. Lack of information on the buying practices of local digital firms

These problems and barriers are not surprising as companies trading along complex supply chains are mainly doing bilateral trading, often based on relationships, not through anonymous competitive market places. Such bilateral trading takes place all along complex supply chains that involve high technology digital goods, be it a service or a commodity.

Moreover, the reality of facing just one supplier, or one customer, rather than a multitude of competing ones, may place this supplier, or customer, in a strong bargaining position, making it *unavoidable*. Such *unavoidability*, in a complex digital supply chain, can be compared to the role of an airport with no competing airports in a radius of 100 miles. When these effects, also known as market *dominance*, arise, economic theory tells us that regulators should carefully scrutinise for the possibility of their abuse, where such *dominant* positions are used to prevent new entry or to extract excessive rents.

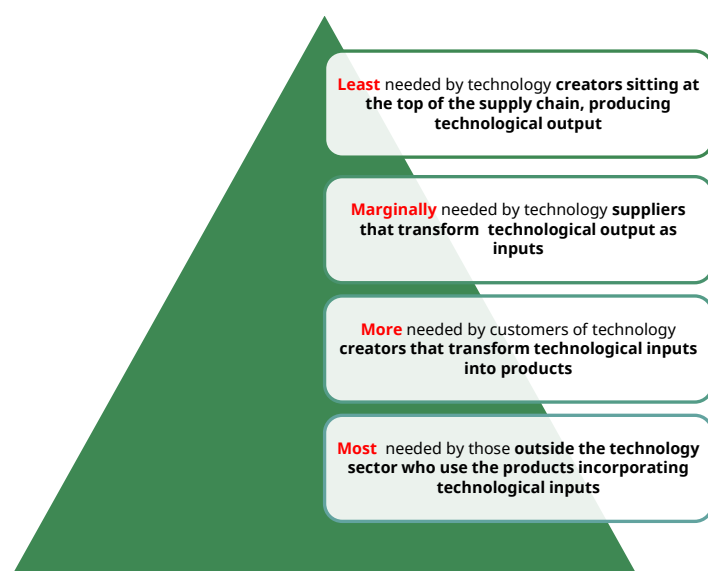
While the emergence of online platforms have initially reduced these risks, as they provide a larger set of exchange opportunities along the supply chains, when growing and becoming more successful, they also pose additional risks of *monopolisation* due to the high barriers to entry. Such barriers, potentially blocking new entrants, innovators and entrepreneurs, become steeper due to clear mechanisms, where *success bring more success*, as the number of customers on one side of an online platform enjoy higher benefits when there are more potential suppliers, on the other side of the platform. This happens, for example, when advertisers prefer to invest on social media platforms that allow them to reach more customers, hence providing these platforms, with more resources to expand and attract even more customers, leading, eventually, to a self-reinforcing process possibly, leading to the possible capture, and dominance, of the entire online market.²³

Connecting local supply with demand, across digital platforms and face to face, is the key to unlocking this failure. There may well be companies already operating within the Cambridgeshire

²³ Rochet, J-C. and J. Tirole (2003), "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association*, 1, 990–1029

and Peterborough area that could be better utilised by local technology firms. Carefully curated networking events for customers to meet suppliers will generate new opportunities and stimulate regional growth. Building connections between the region's districts will be key to ensuring that the supply pool is as broad as possible. **We feel there is an opportunity for the Combined Authority, working with local technology organisations, to support intra-regional "Trade Missions" that build connections between firms and establish new relationships.**

An additional relevant insight emerging from the quantitative analysis of the Digital Sector Strategy Business Survey shows that access to supply chain relevant information is perceived differently depending on where in the supply chain you sit. Technology creators feel the need for information less, while those outside the technology sector feel the need more. These supply chains roles can then be mapped into the district differences, discussed above, to obtain a clearer picture of the geographic distributions of respondent companies supply chain needs and roles.



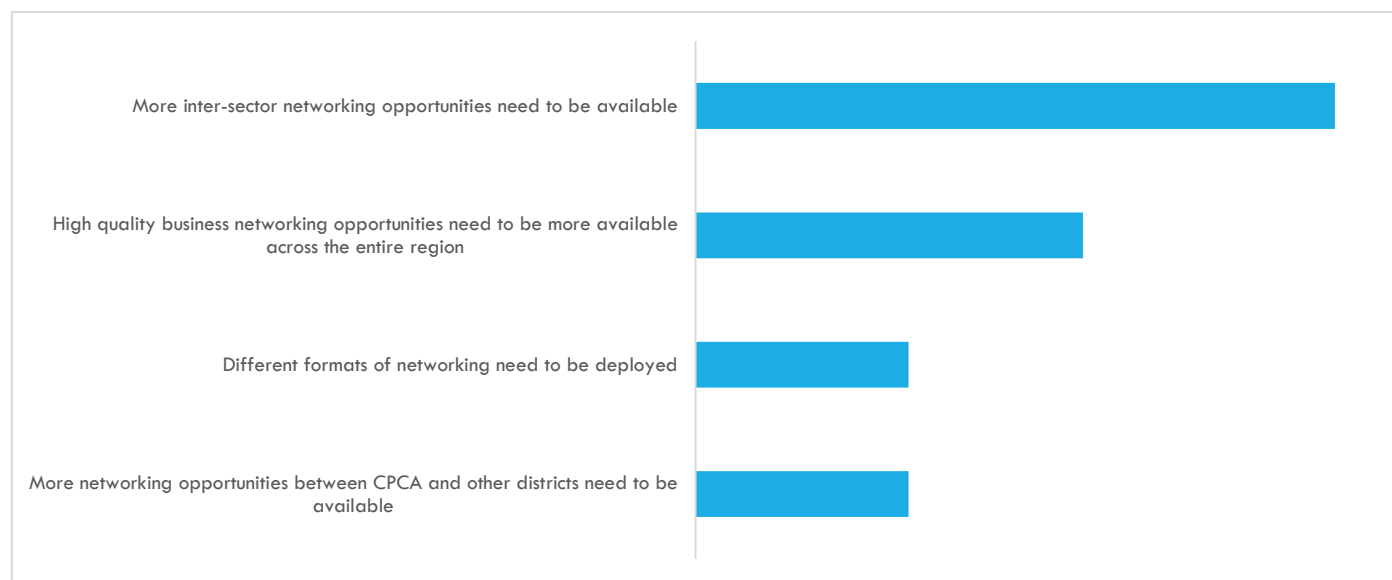
The pyramid of information needs along the digital supply chain

The Digital Sector Strategy Business Survey suggests that for digital businesses, quality over cost or provenance is the most important factor; it also reinforces the fact that many digital businesses have an international perspective on sourcing. Therefore, to develop a healthy local supply chain for the technology community, these businesses need to be globally competitive, which means the local suppliers need visibility on what digital firms are currently buying, from whom and at what quality and price. In a functioning market, this knowledge will enable firms hoping to establish in the area to position themselves appropriately for success.

HIGH IMPACT NETWORKING

VISION

The Digital Sector Strategy's vision is that the entire region becomes a highly networked environment where organisations help bring the communities together and support them as they make the right connections. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
More inter-sector networking opportunities need to be available	4.33
High quality business networking opportunities need to be more available across the entire region	4.20
Different formats of networking need to be deployed	4.11
More networking opportunities between CPCA and other districts need to be available	4.11

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA

See Annex 1

Networking is happening within industry subsectors (IND), as well as across disciplines (UK). There should be more emphasis on attracting businesses (IND) and individuals (TAL) outside of the region to attend the events which often have the same local people attending (UK). Showcase the industry cluster (IND) and share knowledge (KNO) at events by high net worth individuals from successful businesses (IND). Different parts of the region have different needs for networking. An ecosystem is joined up collaborative network. Access to venues should be easy and the region would do better with more medium sized venues. Special topic events (IND) will survive if there is enough demand for them.

INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA

See Annex 2

Networking has barriers that needs to be overcome in Fenland and Huntingdonshire

Fenland identifies two priorities as critically relevant:

- "High quality business networking opportunities need to be more available across the entire region", and
- "More inter-sector networking opportunities need to be available (e.g. "agriculture meets sensors")"

This last priority is also seen as critically important for Huntingdonshire.

RECOMMENDATIONS	
For public sector	For private sector
<p>Ensure appropriate physical space, connections and channels are available for businesses to network by transforming underutilised public infrastructure into co-working spaces or learning zones and supporting landlords in installing co-working spaces in high street spaces.</p> <ul style="list-style-type: none"> Transform available or underutilised libraries/public spaces into co-working spaces or learning zones. Using public sector asset redevelopment projects as an opportunity to create co-working spaces or learning zones, and by inviting landlords and developers to come forward with proposals to create commercial space that specifically supports flexible co-working and networking space Pump prime underserved networking areas of high potential to enable the delivery of high quality events that attract the desired delegates. Areas in need are inter-sector networking activities, intra-regional networking activities (see Supply Chain: Trade Missions). 	<p>Established networking firms to deliver high quality events across the region while collaborating to build a comprehensive ecosystem of business development and knowledge transfer.</p> <ul style="list-style-type: none"> Focus on areas of higher population density – for example Huntingdon and Peterborough – and patience will be needed to get it off the ground (ref. Alconbury). Work with Market Towns strategies to put in place community networking events where people live, with themes and content of universal appeal. We support the CPIER recommendation for the creation of a regional Fellows Network to strengthen networks across the area and identify opportunities. In particular these Fellows Networks could bring together entrepreneurs in local support groups.

BACKGROUND ON NETWORKING IN CAMBRIDGESHIRE & PETERBOROUGH

"Networking represents the lifeblood of any ecosystem, helping to bind together all its constituent parts to allow information and knowledge to move quickly between each of the individuals. Greater connectivity and transparency not only helps to highlight and eject bad actors from the system, but also creates partnerships and value that otherwise simply would not happen"

Jon Bradford, The Bradfield Centre

The Greater Cambridge cluster's business networking culture is a unique phenomenon and one to which the innovation of the area, which boasts the highest number of patents per head of anywhere in the UK, owes a considerable debt. The transfer of knowledge and development of opportune business relationships through "chance" encounters at events are a hallmark of this region's success. It has been revealing that throughout the development of this Digital Sector Strategy "High Impact Networking" has emerged as the fundamental area for region-wide development. Bringing people together to share ideas and expertise is needed to stimulate demand for new digital infrastructure, to raise awareness among entrepreneurs of the investment models available to them, to accelerate the adoption of new technologies by industry, to develop relationships and partnerships overseas, and more. Only when a regular, high quality platform exists for businesses to meet new investors, partners, suppliers or employees will productivity really start to accelerate.

What is particularly special about the networking culture is that it is almost entirely privately funded. The business community contributes to its ongoing development through, not only fees and sponsorship, but also through very substantial commitment of time. The model is highly participative and 'bottom-up'. However, while this culture of high impact networking thrives in Greater

Cambridge and stimulates its local economy, it is far less prevalent in other districts of Cambridgeshire & Peterborough.

At present there are around 60 dedicated networking organisations in the Greater Cambridge area with prominent players listed in this table.

They offer formal opportunities for high quality networking in general business areas, technology, energy efficiency, health-technology, agri-technology. These networking

Networks	Focus Areas	Approx number of company members
Cambridge Network	General Business	1000+
CW (Cambridge Wireless)	Technology	400+
Cambridge Cleantech	Energy & environmental technology	391
One Nucleus	Life Sciences	470
Agri-Tech East	Agricultural technology	149
Digital People in Peterborough	Technology	Open to all
Opportunity Peterborough Bondholder Network	Business	200

organisations work alongside organic, community-driven networking opportunities highlighted successfully in [Tech Nation 2018 through Meet-Up data](#). The most popular Meet-Ups include Makespace Cambridge (2,246 attendees), Cambridge IoT (1,210) and Data Insights Cambridge (1,074). It has a larger Meet-Up scene than London when analysed proportionally to the number of tech workers.

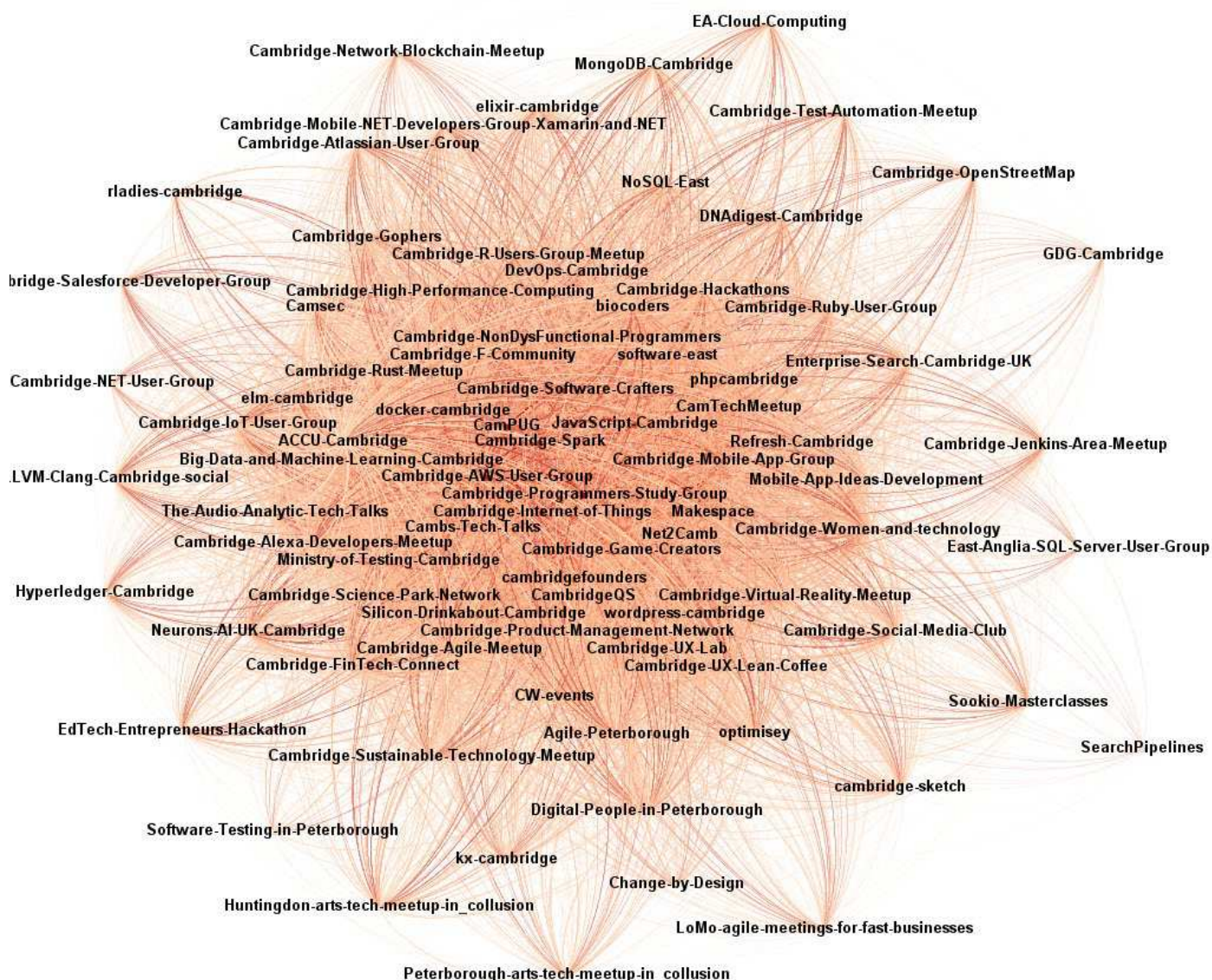
Geographically, the majority of networking opportunities, other than the traditional Chambers of Commerce activities, take place in the area around Greater Cambridge. It is necessary to offer relevant business networking opportunities in Peterborough, Huntingdon and the surrounding market towns to accelerate growth in these areas – especially as transport infrastructure around Greater Cambridge can render the accessibility of networking opportunities frustrating. CPIER recommends the establishment of a networking Fellows programme to support and advise on the development of effective, localised networking opportunities. This Strategy supports that recommendation, understanding that while growth needs to be stimulated it needs to be done in a manner that suits, while interconnecting, the local communities.

However what needs to be added is a focus on constructing bridges across localised networks, so that a larger Authority-wide “network of localised networks” can be formed. The Business Survey expresses the perception that, in Greater Cambridge in particular, there is little need for more networks to set-up. Rather, the local community need to be encouraged to participate in initiatives already in existence and those networking groups should collaborate with each other to stimulate inter-network opportunities.

Furthermore, there are gaps in the networking landscape where this “network of networks” can collaborate to deliver new events that fill as-yet unmet demand. One example of this would be more sessions that unite the technology sector with regionally important vertical markets such as manufacturing, logistics and agriculture. Another example would be delivering impactful networking activities in districts that have, to date, been under-served by networking firms. In such instances, existing organisations will need to be financially supported by the Combined Authority to pump prime this new culture of networking before attendance increases, sponsorship is found and the private sector can make it viable. Strengthening existing networks and encouraging collaboration,

rather than increasing fragmentation will serve to increase the quality of the networking opportunities available.

The Strategy team analysed the relationships between the Meet-Up networks in Cambridgeshire and Peterborough. The results, visualised in the image below, demonstrate how individuals participate in multiple networking activities. However, it also demonstrates clear outlier networks, such as Software Testing in Peterborough, that could be more tightly included into a wider ecosystem. When analysed alongside the offering of networking firms, gaps emerge such as the running of IoT related events in the area around Peterborough to connect technology firms with potential collaborators and customers in the manufacturing and logistics sector.



Connection map showing member-based links between meet-ups in the CPCA Area. If a member of one meet-up is also a member of another meet-up, a "bridge" is formed and mapped. Meet-ups with the most bridges are towards the centre.

Given the transport challenges of the region, the advancements made in recent years in remote communications and the popularity of online networking platforms, it is possible for businesses in Cambridgeshire & Peterborough to consider out-of-the-box ideas for addressing the geographic and transport challenges of networking. Video conferencing, webinars, online forums and digital communications tools can also support the educational element of networking and, to some extent, the connection-forming factor. However, we recognise the fact that open and trusting business relationships are founded on face to face contact, and that the "chance encounter" which is a hallmark of Greater Cambridge networking is much harder to replicate online.

Rebranding networking: the smart-working philosophy

Networking is powerful driver, but the word itself does not do the concept justice. “Purposeful networking” or “Smartworking” may be better. Smartworking is based on the idea that a start-up or established technology company should not only spend time in their lab developing their product, they need to get out and see the forest through the trees. For many entrepreneurs and developers, this requires a planned and sustained investment of valuable resources (both time and money) in meeting new people from different fields – and this at a time when there is a lot of pressure to not to spend time on anything other than the task(s) in hand! The people who tend to stay in are those who feel they don’t get any added value from meeting people face-to-face, and that knowledge is found mainly in papers or on a website.

Networking provision needs to be made available and attractive to the next generation of technology professionals. There is a concern as to whether future engineers are able or willing to participate in the kind of networking previous generations have embraced, partially as a result of their experience of social media networks. Expectations are different, lengthy meetings during the working day often need to be replaced by short breakfast or early evening events, with highly participative groups, and an informal social feel.

Inter-organisational networking for junior engineers should be seen as central a part of the culture of a business as much as it is for senior commercial professionals. There is social strength in cohorts – the bonds that unite peers thrown into a new situation together – and this can be used by networking firms, acceleration programmes and incubators to unite junior professionals who are new to the region and form additional social capital between organisations.

High quality networking also relies on appropriate physical space being available. Not only is affordable space needed for community organisations to host events, but co-working spaces are required that inspire regular and informal conversation between businesses. [The Bradfield Centre](#) is a prime example of a building that has been constructed with networking at its heart.

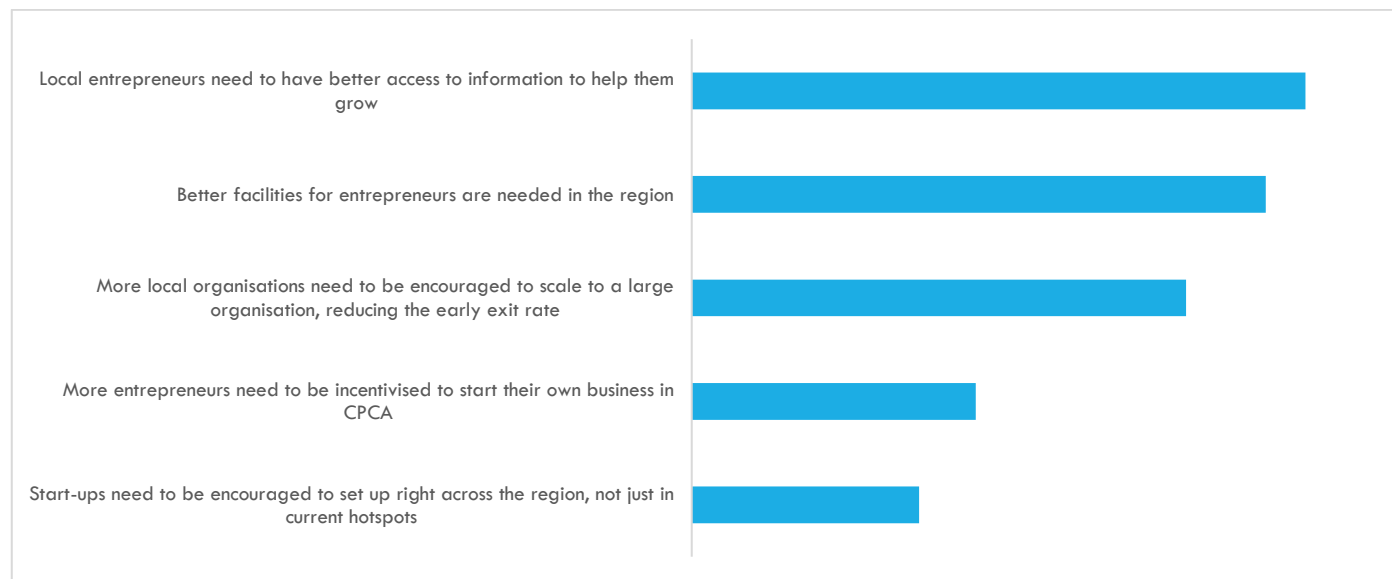
An international example of where this has happened to great success in another context is the Helsinki Central Library Oodi. This newly designed 185,677sqft space incorporates co-working, event venues and traditional libraries under one roof. It anticipates about 2.5 million users annually. Similar spaces need to be available in other urban areas of the region and the market towns, not only to provide affordable office space to start-ups but also to ease the process of organising networking opportunities.

Currently underutilised public spaces such as libraries could be remodelled to fulfil the co-working and networking requirements of high-growth businesses. Such a need for accessible space could also correlate with the Healthy High Street programmes that seek to re-purpose the centres of town given the decline in the physical retail market. Educating and incentivising landlords to tolerate the different income streams of co-working spaces would be the first step to making this happen.

ENTREPRENEURSHIP

VISION

The Digital Sector Strategy's vision is to have more entrepreneurial technology businesses in the region that scale up to larger enterprises and that stay in the region. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Local entrepreneurs need to have better access to information to help them grow	4.28
Better facilities for entrepreneurs are needed in the region	4.21
More local organisations need to be encouraged to scale to a large organisation, reducing the early exit rate	4.07
More entrepreneurs need to be incentivised to start their own business in CPCA	3.70
Start-ups need to be encouraged to set up right across the region, not just in current hotspots	3.60

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
Startups should be supported at different stages of their journey by mitigating some of the risks they take, easier access to funding (INV) and knowledge sharing (KNO). There should be more advice about access to funding and local tax incentives. The region should attract more founders and co-founders and the whole region should be promoted to new startups. Startups need affordable working space where they can network and get access to infrastructure (DIG).	<p>Stronger needs exist in both Fenland and Huntingdonshire indicating an asymmetric distribution of entrepreneurship hotspots. In detail, Fenland's answers prioritise</p> <ul style="list-style-type: none"> • "Start-ups needs to be encouraged to set up right across the region, not just in current hotspots" and • "Better facilities for entrepreneurial success are needed in the region (e.g. affordable offices)" <p>While Huntingdonshire's answers prioritise</p>

	<ul style="list-style-type: none"> • “More entrepreneurs need to be incentivised to start their own business in CPCA” and • “Local entrepreneurs need to have better access to information to help them grow”
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RECOMMENDATIONS	
For public sector	For private sector
<p>Ensure the presence of high-quality, supportive spaces for start-ups to grow across the region, along with financial stimulus that encourages growth in desired areas, for example business establishment in non-Cambridge launchpads, or digital businesses focused on products/services for Manufacturing / Agriculture / Logistics.</p> <ul style="list-style-type: none"> • Provide high quality, supportive co-working space or launchpads for start-ups, for example by reinventing libraries into skills zones or transforming high street spaces into co-working and networking spaces, and reconsidering business rates for such space use (see High Impact Networking and Talent & Skills). • Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation/Accelerator growth investment fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and establishment in hubs outside Cambridge city. • Continue co-funding in accelerator, launchpads and incubator programs run by universities, charities, private organisations, and companies. 	<p>Established networking firms and universities to deliver knowledge sharing programmes that match different stages of start-ups, from birth to scale-up, along with networking and mentoring opportunities throughout the region.</p> <ul style="list-style-type: none"> • Tailored capability programmes on culture, building a board, building teams, marketing, developing an international strategy, and support in finding the first customer. • Tailored programme for target high growth firms. • Establish entrepreneur mentoring programmes, led by local start-up Fellows. • Provide these education opportunities at a local level.

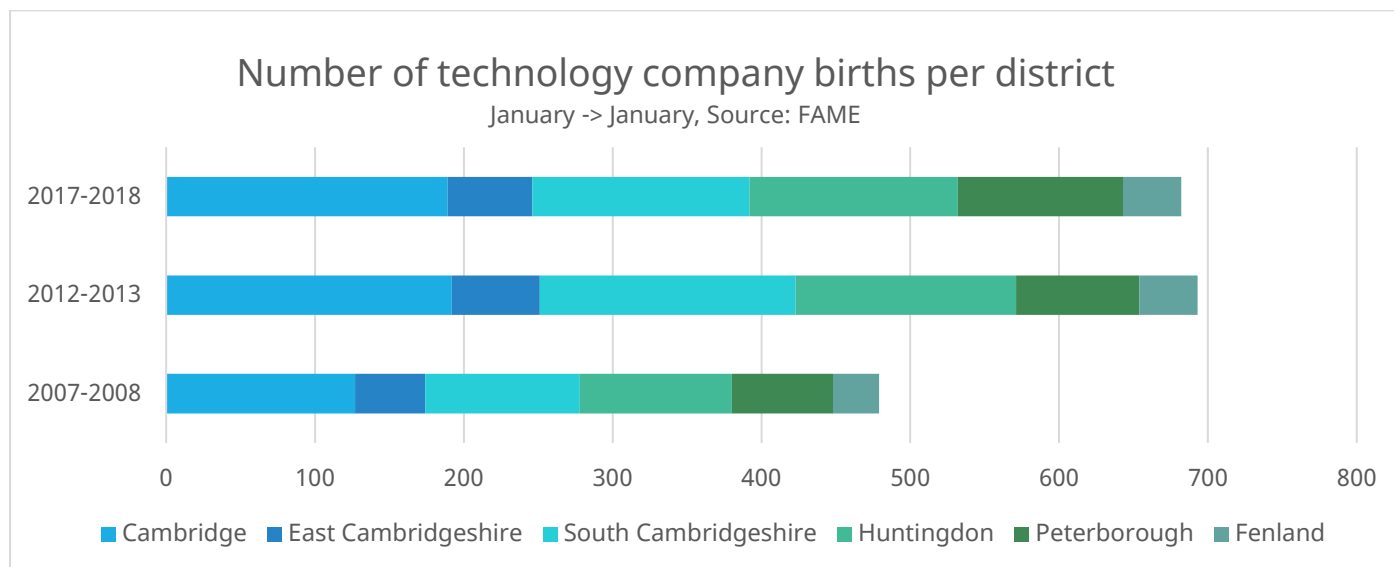
High levels of successful enterprise births and their temporal up-scaling, jointly, form the key determinants of high productivity for a region. They not only promise job creation, but attract inward investment, talent, co-founders and new ideas. Accelerator programs have had an important effect in increasing the valuation of the start-up companies which are often funded by ERDF (European Regional Development Fund) projects²⁴.

A sectoral analysis of technology start-ups in the region in 2017 using the [fame database](#) shows that the most common subsector for firms to start in is “Computer Consultancy” (144 start-ups), followed by “Business and Domestic Software Development (84 start-ups) and “Research and experimental development on biotechnology” (43 start-ups).

A geographical analysis of technology start-ups using the same source shows that within Cambridgeshire & Peterborough, Peterborough is the only region with more technology businesses starting up in 2017 than in 2012, South Cambridgeshire boasts the most growth in any one period with 70% more technology businesses being founded in 2012 than in 2007 and Fenland holds the fewest technology business start-ups of all areas. The geographical discrepancies in technology entrepreneurship are clear, and the Business Survey shows that there is a wish in the districts where

²⁴ [Accelerating the UK, Beahurst](#)

start-ups are less prevalent (Fenland, Huntingdonshire, Peterborough) to have more businesses encouraged to start in these areas, and for there to be local facilities to support this.



The *pulling* effect of Greater Cambridge's agglomeration cannot be denied, nor can the fact that physical proximity greatly improves networking and collaboration effectiveness. However, Greater Cambridge and South Cambridgeshire are not the only areas where start-ups can benefit from proximity effects. There is an opportunity to co-locate technology start-ups closer to similar organisations and their customer base by, for example, in establishing an agri-technology sandbox in Fenland.

Such physical proximity will also ease the process of knowledge transfer and accelerate the adoption of new technologies by industry. The Business Survey generated the insight that Fenland, Peterborough and Huntingdon place more importance in start-ups being encouraged to set up around the region than East Cambridgeshire, South Cambridgeshire and Greater Cambridge. To kickstart the process of encouraging technology start-ups to establish in vertical market-based hubs throughout the region, the Combined Authority may need to offer financial support. The creation of a CPCA Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation/Accelerator growth investment fund) is recommended that will nurture digital start-ups with a particular focus on convergence activities in priority markets, and to help them establish in hubs outside of the City of Cambridge.

There is already provision for start-ups within Cambridgeshire and Peterborough in terms of networking, workspace, access to mentors, access to investors and opportunities to learn from experienced entrepreneurs (see table below for more details). However, this provision is Greater Cambridge and South Cambridgeshire focused, with only a few opportunities in Peterborough such as the Allia Future Business Centre and the University Centre Peterborough. The Business Survey generated the insight that Fenland in particular prioritises better facilities for entrepreneurs and Huntingdonshire believes that local entrepreneurs need to have better access to information.

Universities & research institutes	Investment firms	Incubators / Accelerators / Training Programmes	Competitions / Events
University of Cambridge	Cambridge Capital Group	IdeaSpace	PitchFest
Anglia Ruskin University	Cambridge Angels	Bradfield Centre	CW Discovering Start-Ups
Babraham Research Institute	CIC	Allia Future Business	Cambridge University Entrepreneurs
Wellcome Genome Campus	Cambridge Enterprise	Cambridge BioMedical Campus	Start-Up Science
University Centre, Peterborough	Amadeus Capital Partners	St John's Innovation Centre	Venturefest East
Medical Research Council	IQ Capital	Babraham Institute BioIncubator	
Leverhulme Institute	Delin	Barclay's Eagle Labs	
		CJBS Accelerate Cambridge	
		ARU REACTOR Gamification	

Despite the level of provision that is currently available in Greater Cambridge, the Business Survey suggested that the greatest priorities for accelerating entrepreneurship in the region are to provide better facilities and better access to information to help start-ups grow. Furthermore, as a respondent to the Business Survey succinctly puts it, for start-ups, “the best funding is a customer”.

Basic market-oriented thinking would suggest that if a product or service is well positioned and well executed, the customers will come. However, it is worth noting that technology start-ups may struggle with having the skills and network to produce initial revenues. If there is a wish to encourage technology entrepreneurs to establish businesses across the region, provision of mentor programmes, investor access, education and networking events must be more readily available at a local level. The existing networking firms and higher education establishments are best placed to offer this service, with funding from the Combined Authority needed to reduce the risk of entering new markets. There is also an opportunity to establish more start-up co-working spaces in different areas of the region that solve the affordable office space, offering a “soft landing” for embryonic technology firms. One option for delivering on this is to transform underused public spaces such as libraries into effective start-up co-working or maker spaces.

The needs of scaleup business leaders remain clear and consistent. With ambition to grow and scale even further and faster, they want: talented workforces; opportunities to share and learn from successful peers; wider access to markets both at home and overseas; and access to growth finance that is ‘patient’ and ‘smart’. Scale Up Institute Review, 2017

INVESTMENT AND FINANCE

VISION

The Digital Sector Strategy's vision is that the region has an abundance of strategic and patient financial resources to grow businesses. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Current information on funding needs to be easier for local businesses to access	4.19
Improved funding terms need to be available to businesses looking to scale	4.18
A larger pool of funds needs to be available to local technology organisations that are scaling	4.15
More diverse sources of funding need to be available to local technology organisations that are scaling	4.12
More funds need to be available to local industries seeking to invest in cutting edge technology	4.08
Different investment models (e.g. crowdfunding, angel funding) need to be more readily available	3.96

Insights from Qualitative analysis of survey data See Annex 1	Insights from Quantitative Analysis of survey data See Annex 2
There should be better access (NET) to different types of funding (national, international) which is connected to expertise (mentors, advisers) (TAL, KNO) in running and growing a business (IND). More advice and training are needed about different types of finance instruments, and tax breaks, especially for small companies (ENT).	All the different priorities were considered as a "top priority" in Fenland, clearly indicating a very wide set of needs around information and access to finance and investment. Meanwhile, Huntingdonshire identifies the need for "Improved funding terms for local businesses looking to scale" as the key priority, indicating the willingness to scale

RECOMMENDATIONS	
For public sector	For private sector
<p>Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation / Accelerator Growth Investment Fund), supported by the British Business Bank, for digital start-ups. This Fund should complement the offering of local angels and venture capitalists, but focus on:</p> <ul style="list-style-type: none"> encouraging set-up in non-Cambridge districts and in complementary hubs supporting convergence projects The Innovation Fund should support start-ups in generating prototypes if sourcing from local companies 	<p>Increase the quality, visibility, accessibility of financial information & support</p> <ul style="list-style-type: none"> Balanced, unbiased education on the various finance options for business growth needs to be locally accessible, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. The proposed Fellows network (see Entrepreneurship) should help supply this need. Support the formation and upscaling of local - as well as access to global - crowdfunding platforms Local networking opportunities for angel investors for the purpose of knowledge sharing and attracting new investors.

BACKGROUND ON INVESTMENT & FINANCE IN CAMBRIDGESHIRE & PETERBOROUGH

[The East of England Science and Innovation Audit](#) claimed that Cambridge is a low risk place to make high risk investments, and that the East of England has the capacity to commercialise knowledge to a level that London cannot. On top of standard UK funding opportunities, there are a broad range of investment firms based in Cambridgeshire & Peterborough that target the technology start-ups that regularly spin out of the universities and consultancies in the region. Furthermore, there is a culture specifically in Greater Cambridge of successful entrepreneurs re-investing in the next generation of technology start-ups, offering both mentorship and money.

TECHNOLOGY INVESTORS BASED LOCALLY INCLUDE:

Name	Fact
Cambridge Angels	More than 60 high-net worth investors who have proven experience as successful entrepreneurs in technology, internet, software, hardware, digital healthcare and life sciences.
CIC	Focused on building healthcare and technology businesses
Amadeus Capital Partners	Focused on AI & machine learning, online consumer services, cyber security, digital health and medical technology, digital media, enterprise SaaS, fintech.
Cambridge Capital Group	Well-screened investment opportunities in hi-technology sectors such as engineering, internet, software, medtech, biotechnology, electronics, fintech and wireless communications.
University of Cambridge Enterprise Fund / Cambridge Enterprise	Investment in early stage technology companies as they spin-out of the University

However, feedback from the entrepreneurial community in reports (such as those conducted by the [Scale Up Institute](#)) and from this strategy's Business Survey highlight that the current level of financial information - and support - may be insufficient. Insights showed that more guidance should be freely accessible regarding the financial options available and, at its best, funding when granted should be linked to expertise and support. This could reflect the fact that while there are a wide range of '1:many' sources of information available (see inset, below), each business is different and

'1:1' knowledge sharing opportunities with an experienced financier or entrepreneur would be more beneficial and trusted. Balanced, unbiased education on the various finance options for business growth needs to be locally accessible through events, clinics or other activities, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. This is possible for local networking firms to deliver.

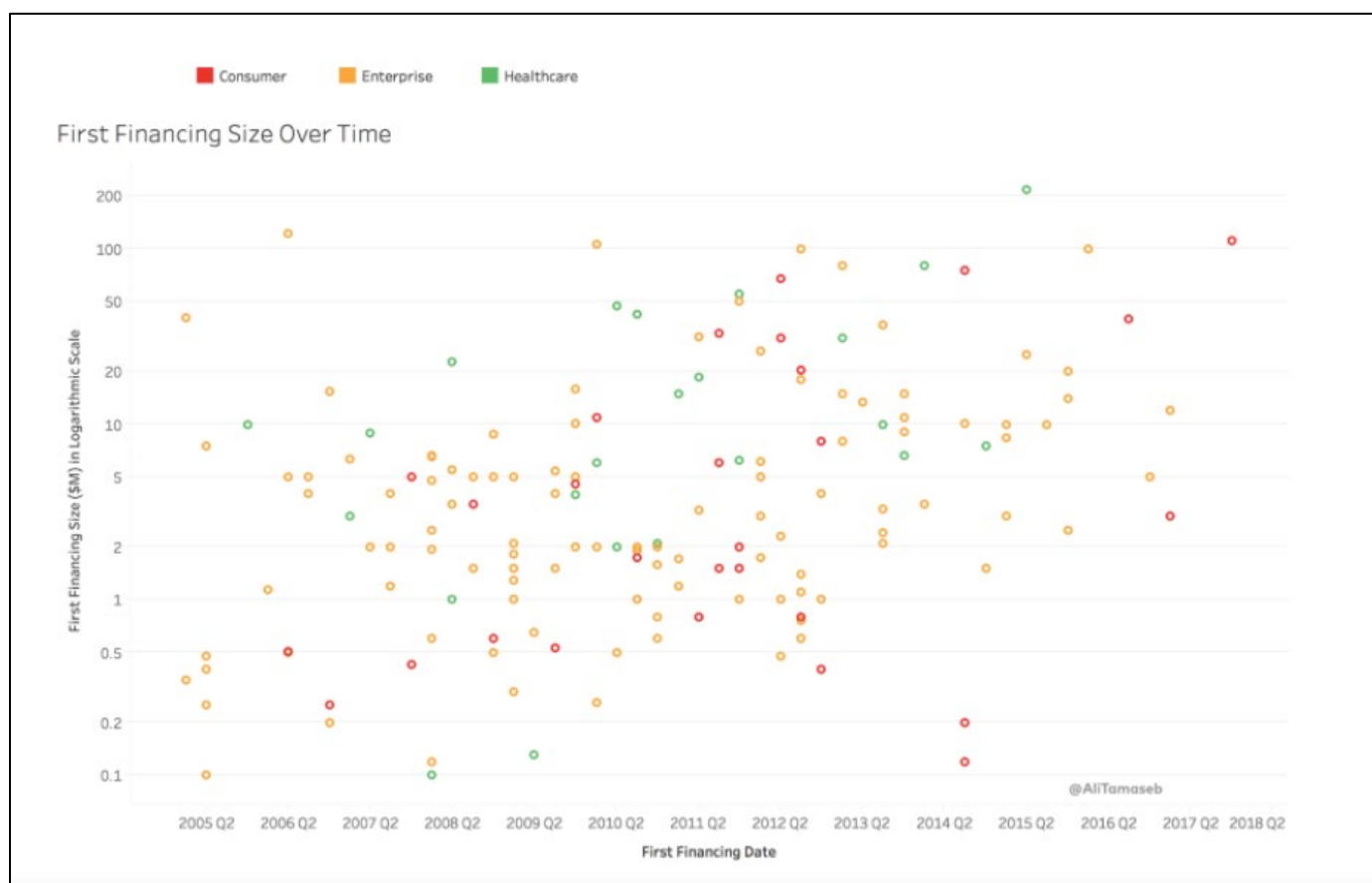
Sample sources of investment & finance information for start-ups

- [Invested Investor website](#)
- gov.uk: [Finance and support for your business](#)
- [British Business Bank: Looking to start-up](#)
- [UK Business Angels Association website](#)
- gov.uk: [Business innovation – what funding you can get and how you can apply](#)
- gov.uk - [Innovation Loans and how to apply](#)

For the sake of the international leadership ambitions of this strategy, we need to make international comparisons. The Audit claims that many firms are starting to look abroad for early stage funding where the attitude towards risk appears to be more forgiving – despite the aforementioned perspective of Greater Cambridge as a low risk place to make an investment!

There is the perception of greater readiness for venture capitalists in Silicon Valley, for example, to supply multi-million-pounds of capital to an unproven start-up compared to those in Cambridgeshire & Peterborough. In different business cultures, growth can be valued more highly than revenues, and that value provides ambitious entrepreneurs the cash they need to scale fast – cash which in the UK would only start to come more easily when revenue streams have been proven. As can be seen through the chart below, first investments for billion dollar firms have been getting incrementally bigger over the years in the United States²⁵. This suggests that for Cambridgeshire & Peterborough firms to compete on a global market, deeper pools of resources across all stages of funding rounds needs to be available. Tax reliefs for angel investors, such as the [Enterprise Investment Scheme](#). Similarly, networking and education among angel investors is important for knowledge sharing and encouraging more individuals into the practice of angel investment.

²⁵ [Land of the "Super Founders"— A Data-Driven Approach to Uncover the Secrets of Billion Dollar Startups](#)



Note logarithmic left hand scale for left hand chart.

Recent years have seen a rise in alternative funding methods (driven, incidentally, by improved digital functionality). Frontier Developments, for example, recently raised well over £1m through the Kickstarter crowdfunding platform for its “Elite: Dangerous” product. While online crowdfunding is now a recognised component of the early finance market for a new business and has grown significantly in recent years, recent research found that it is tough to reach a target and three quarters of all projects fail to do so²⁶. Investor-led services such as the Cambridge-based Syndicate Room are helping to provide opportunities that have undergone due diligence offers an alternative model.

The latest data from the British Business Bank²⁷ suggests that 70% of smaller businesses would rather accept slower growth than take on external finance to accelerate growth. This trend, based on the mistrust caused by the 2008 crisis, needs to be explored in relation to the Cambridgeshire & Peterborough digital sector and if it is an issue then it needs to be reversed. Balanced, unbiased education on the various finance options for business growth needs to be locally accessible, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. Some national initiatives are already in existence, for example

²⁶ Davies, W. E. and Giovannetti, E. (2018). [Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects](#). *Technological Forecasting and Social Change* Volume 133, August 2018, Pages 118-131

²⁷ [Going for Growth: Helping Small Firms Flourish through Access to Finance](#)

The Treasury and British Business Bank's Referral Scheme, the Business Finance Guide and expansions in the coverage of the Enterprise Finance Guarantee and ENABLE.

Compared to the graph above which suggests that the majority of billion dollar, US businesses are venture-capital backed, the reality in the UK is that most small firms tend to not look beyond traditional banks to fund their business. In this instance, if credit is not approved (for example, due to risk) then the bank should signpost alternative funding options to the entrepreneur as a venture capitalist, typically, is a lot less risk averse than a bank.

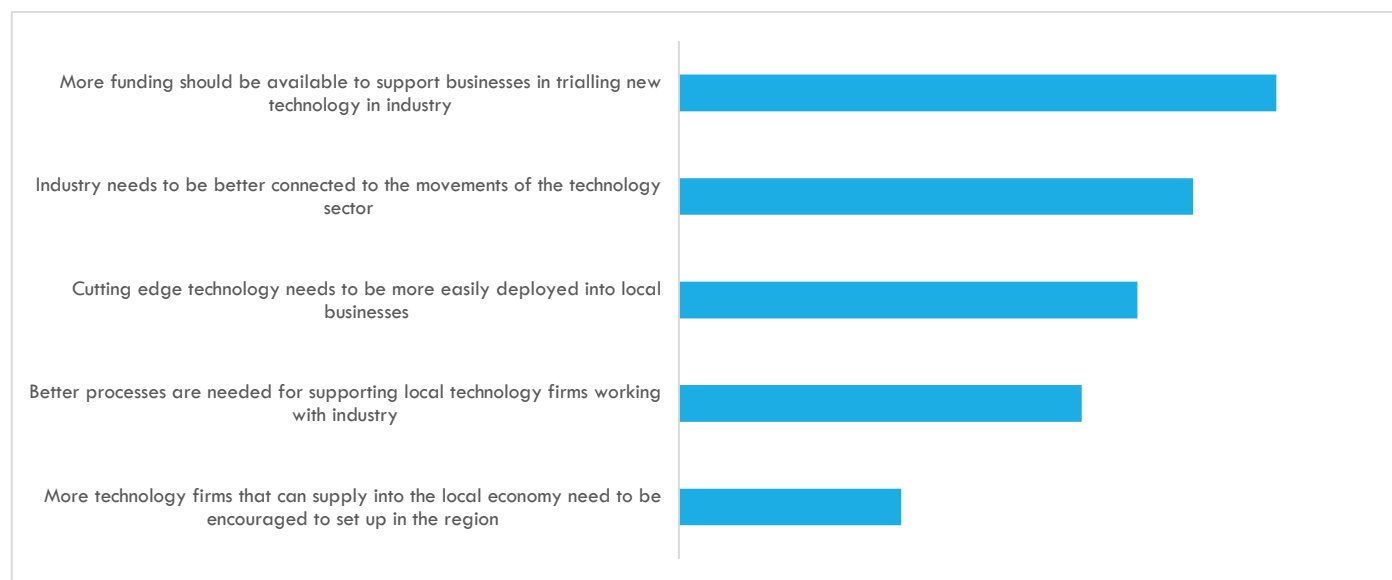
While advice on funding and scaling up can help, the most economically significant companies in Greater Cambridge (and elsewhere in the UK) have in nearly all cases developed their technology within a "soft company" model, using lead customer R&D funding to delay, minimise or avoid the need for venture capital. This in turn has enabled founders to retain control, avoid early trade sales and to grow sizeable full-function businesses. This applies to, for example, Domino Printing, Frontier, Xaar and CAT. To make adequate returns for its investors, venture capitalists must look for early trade sales which nearly always leads to the truncation of further growth and the acquisition of British businesses by foreign investors. These early trade sales are not necessarily to be avoided. However, there is a role for public sector policy to help entrepreneurs avoid venture capitalism if they wish to. Policy can aim at increasing lead customer funding for R&D and trials from both public and private sectors and at increasing other forms of non-dilutive start-up funding. This has the benefit of both enabling entrepreneurs that want to retain control to do so, and of de-risking more companies to the point where they are "venture-ready".

The creation of a CPCA Innovation Fund (with the remit to support start-ups developing technologies with potential applications in target sectors for the region such as ICT, manufacturing, logistics, agriculture, and to encourage locating in business hubs outside of the immediate Greater Cambridge cluster) has already been proposed in the Entrepreneurship chapter of this report. This Fund needs to complement the offering of local angels, venture capitalists and banks. It should be used to de-risk the creation of prototypes, and establish the public sector as a reference customer which the start-up can then utilise to raise further investment (or customers) elsewhere. This Fund exists to fill the current market lack of funding in convergence activities, with the goal that demonstration of success will encourage future private investment.

APPLICATION IN INDUSTRY

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where local technology companies deploy the latest technologies to transform vital industries. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
More funding should be available to support businesses in trialling new technology in industry	4.23
Industry needs to be better connected to the movements of the technology sector	4.17
Cutting edge technology needs to be more easily deployed into local businesses	4.13
Better processes are needed for supporting local technology firms working with industry	4.09
More technology firms that can supply into the local economy need to be encouraged to set up in the region	3.96

Insights from Qualitative analysis of survey data See Annex 1	Insights from Quantitative Analysis of survey data See Annex 2
Share knowledge (KNO, NET) and business opportunities (IND) to create and grow high quality technology companies (ENT) in new technology sectors.	<p>This question addressed a more active pro-positive stance, asking to look at the critical elements needed to transform the future. Fenland considered all these technology issues of critical importance; so too did Peterborough and Huntingdonshire, though with slight less intensity. In detail, both</p> <ul style="list-style-type: none"> • "Industry needs to be better connected to the movements of the technology sector" and • "Cutting edge technology needs to be more easily deployed into local businesses", were of key relevance for Fenland

	<p>Peterborough and Huntingdonshire as well as Greater Cambridge</p> <ul style="list-style-type: none"> • “Better processes are needed for supporting local technology firms working with industry” is critical for Fenland Peterborough and Huntingdonshire, South Cambridgeshire as well as Greater Cambridge • “More funding should be available to support businesses in trialling new technology in industry” is, as expected, relevant for all areas, even though with some variation in intensity, while • “More technology firms that can supply into the local economy need to be encouraged to set up in the region” was relevant for Fenland, Peterborough and South Cambridgeshire
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RECOMMENDATIONS	
For public sector	For private sector
Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation / Accelerator Growth Investment Fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and establishment in hubs outside Greater Cambridge.	Establish Leadership Councils for Technology in Manufacturing, Logistics and Agriculture that identify opportunities and blockers and accelerate the deployment of technology in industry.

BACKGROUND ON CONVERGENCE IN CAMBRIDGESHIRE & PETERBOROUGH

It was established at the start of this report that the highest revenue generators in the region were not technology organisations, but those in other sectors. This chapter of the strategy considers not how the technology sector can be made more productive, but how a vibrant and engaged technology community can be an enabler for productivity growth in local vertical markets such as agriculture, manufacturing and logistics.

Developments such as advanced telecommunications, sensor technology, mobile computing and artificial intelligence promise productivity improvements. A lot has been made of the benefits of the Fourth Industrial Revolution. Recent 5G trials in Worcestershire suggest that a “smart”, 5G-connected factory floor could increase manufacturing output by 1% simply by improving the processes around machine maintenance – such growth will benefit the economy around Peterborough. A [recent Deloitte report](#) suggests that just 20.7 percent of firms rate themselves as “highly prepared” to address the emerging business models of the Fourth Industrial Revolution. Furthermore, virtual reality is transforming the product design and customer feedback loop, and additive technologies (3D printing) are delivering new product creation capabilities. In Cambridgeshire and Peterborough, 2659 businesses have been identified within the High Manufacturing and Materials sector, with a geographical distribution that focuses on the East of the region. These businesses are concentrated around Peterborough, St Neots, Cambridge, Huntingdon, Wisbech and March. One such organisation is Stainless Metalcraft, based in Chatteris, which

manufactures equipment for some of the world's most dangerous environments, including nuclear, oil & gas and petrochemical industries. The CPCA has identified that challenges in support for the manufacturing sector include lack of affordable start-up support and funding, limited scale-up advice and funding, lack of support in rural areas and limited grow on space at affordable prices²⁸.

The goal of the agricultural sector is sustainable intensification, and with Fenland operating 50% of the UK's Grade 1 land, Cambridgeshire and Peterborough hosts substantial operations by some of the world's leading agricultural and agri-technology companies including G's and Associated

Crops grown in the Fens		
Crop	Acres grown in the Fens	Percentage of total English acreage
Vegetables grown in the open	72,000	37%
Potatoes	62,000	24%
Sugar beet	53,000	17%
Bulbs and flowers grown in the open*	5,500	38%
Source: June agricultural census 2006, DEFRA. *2004		

British Foods. Around 25% of Syngenta's research collaborations are in the UK with their UK HQ located in Cambridgeshire & Peterborough. This includes recent investments in a £2 million glasshouse and a £3.5 million facility for the automated formulation of agri-chemicals. A [2013 Governmental report](#) for the agricultural sector showed that the sector is diverse and complex, making it difficult for individual institutions to make connections to develop new partnerships. At the same time, the UK has a highly-regarded basic research base but there has been a lack of funding for applied and translational research. This finding was echoed by the East of England Science and Innovation Audit. At least partly as a result, the UK's competitiveness in agriculture has been in decline for a number of years. Across the UK, the same report states that the top 10% of farms produce more than £180 output per £100 input while the bottom 10% fail to recover their costs. Differences in motivations and natural circumstances can partly explain this disparity. However, inconsistent levels of knowledge, slow uptake of technologies and perceived or actual barriers to knowledge transfer are often contributory factors. As an example of how technology could be deployed to improve outcomes for farmers, [a recent trial](#) showed that integrated soil-crop system management programme developed by Cui Zhenling and his team at the China Agricultural University, increased yield by 10% while cutting nitrogen use by a fifth. The Government has invested in a number of Agri-Technology centres, including Agrimetrics, the Agri-EPI Centre, CHAP and CIEL, but none are in the Cambridgeshire and Peterborough region despite Fenland and the surrounding area having such a strong and rich agricultural future. The networking organisation [Agri-Tech East](#) provides a strong focus for this sector.

²⁸ Hethel Manufacturing Sector Review

In the logistics sector, in 2005, radio frequency identification (RFID) tags were introduced in a bid to make the supply chain more efficient. This technology is attached to individual items so they can be tracked whilst in transit, retailers also use these tags in order to have a better overview of the stock they currently have in their warehouses or stores. More recently, companies have looked towards utilising automation software or cloud-based networks to improve efficiency across the supply chain. A benefit of cloud-based systems is that they are cheaper to install, they fix supply-chain problems at their source and can be used by companies across networks, regardless of the locality of the user. The logistics sector is working on introducing drones (or unmanned aerial vehicles) in order to make the delivery of goods cheaper and more efficient. For example, DHL is piloting its Parcelcopter 2.0 project, which uses drone technology to deliver time-sensitive goods (like medicine) to remote locations, quicker and more effectively than aeroplanes or ferries could achieve. Similarly, Amazon is at the forefront of developments with drones. Ocado's Customer Fulfilment Centres have transformed the efficiency of warehouses through the application of bespoke wireless technology and automated robots.

We suggest that leadership, coordination and funding is needed to accelerate the regional deployment of technology into vertical markets with a particular focus on agriculture, manufacturing, logistics and Healthcare. This leadership should come from business, with support from local government and funding from private sources and public sources, such as Innovate UK. We suggest the establishment of Cambridgeshire and Peterborough Leadership Councils for the sectors of Manufacturing, Logistics and Agriculture to identify opportunities for the regional deployment of technology in these industries, to monitor the potential rise of barriers and remove blockers collaboratively, to educate peers on best practice (for example with relation to intellectual property) and to coordinate funds for convergence activities.

The East of England Science and Innovation Audit identified unlocking investment in the process of convergence as a significant weakness of the region. Given that one of the routes for digital technologies to add significantly to regional GVA is through the adoption of more efficient technologies by industry, it is essential that there is sufficient and accessible funding to support this process. This strategy has already recommended the creation of a regional Innovation Fund that supports the establishment of start-ups - outside of the Cambridge City area - and funds specific projects that will demonstrate the capabilities of a new technology within its target sector. In such a way the public sector can help de-risk the process of developing new technologies for application in industry by becoming a potential funder, or reference customer, from which the start-up can prove concept and, from that point, more easily grow its revenues if the product is viable and the market exists.

Colocation and clustering is key to achieving application within industry at pace. Learnings can be taken from the agglomeration effects of Greater Cambridge. Space should be provided within Cambridgeshire & Peterborough for hubs that focus on target sectors such as manufacturing, agriculture and logistics, within which technology firms that target those markets can also reside. These hubs should be encouraged in science parks outside of Greater Cambridge, both to relieve the

stress on that city's infrastructure and to spread the benefit of high growth business throughout the region. To enable cross-sector idea pollination, each business park should have a community space able to support networking events, and sufficient transport infrastructure to enable access. Each business park should have a central communication system or co-ordinator that signposts opportunities and builds inter-organisational connections.

[NOTE: Health and Social care technologies are recognised as being a strategic vertical sector where digital technologies play an increasing role improving both efficiency and the quality of care, and where the region is extremely well positioned to lead applications. We understand a separate strategy is being developed for the Health and Life Sciences].

INTERNATIONAL - FOREIGN DIRECT INVESTMENT AND INTERNATIONAL TRADE

VISION

The Digital Sector Strategy's vision is that

- Foreign Direct Investment should continue to play a significant part in the sector's development, with major corporates increasing their commitment to the region, and new corporates complementing the technology eco-system.
- The proportion of CPCA export earnings from local technology companies in goods and services doubles in 5 years.

The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Better guidance is needed to help local technology businesses deal with a post-Brexit UK	4.20
Local scale-up organisations need better support to accelerate their global development	4.11
Measures need to be put in place to increase exports from CPCA	4.02
Incoming foreign businesses must complement the current ecosystem	3.86
The level of investment from current international players needs to increase	3.84
More international technology hubs need to have a base in Cambridge	3.80
New international players needs to be incentivised to invest in CPCA	3.75
CPCA needs better branding/marketing to inspire new businesses to invest here	3.63

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA
See Annex 1	See Annex 2
<p>Government should give grants (INV) for companies going international (EXP), to attend international trade fairs and meet customers and potential customers (NET, IND). Startups are born global (ENT) but they need advice about international trade (EXP), taxes. Brexit is causing uncertainty (EXP, INV).</p> <p>Foreign funding is used to scale up companies globally (EXP), to bring new knowledge (KNO) and connections (NET) to the region and wealth. Cambridgeshire & Peterborough should offer soft landing services to foreign companies considering this region for investment (EXP). When businesses visit Greater Cambridge they should see all opportunities (UK, INV) not just those in the city of Cambridge. Brexit uncertainty is a serious issue at the moment (EXP).</p>	<p>Fenland and Huntingdonshire express two key areas of concern, while East Cambridgeshire and Peterborough focus mainly on one. In detail</p> <ul style="list-style-type: none"> • “Local scale-up companies need better support to accelerate their global development” is the top priority shared between Fenland Huntingdonshire and East Cambridgeshire • The next priority is “Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK” as a top priority in the Fenland and Peterborough • Finally “Measures need to be put in place to increase exports from CPCA”, is of top importance for Huntingdonshire <p>Foreign Direct Investment generates three areas of priority perceived as highly relevant. In Fenland this is:</p> <ul style="list-style-type: none"> • “Incoming foreign businesses must complement the current ecosystem” <p>In Huntingdonshire the highly relevant priorities are that:</p> <ul style="list-style-type: none"> • “New international players needs to be incentivised to invest in CPCA” and • “The level of investment from current international players needs to increase” <p>This final priority is also of key relevance for East Cambridgeshire.</p>

RECOMMENDATIONS	
For public sector:	For private sector:
<ol style="list-style-type: none"> 1. Foreign Direct Investment <ul style="list-style-type: none"> • Build a compelling Greater Cambridge cluster brand and marketing programme that promotes the Greater Cambridge value proposition for technology investment into the region. • As part of an agreed strategy, target major investments that will complement the regional technology ecosystem. • Ensure that an effective regional inward investment sales function is being delivered across the region by providing a concierge and retention/expansion service for corporate investors, working through existing business networks. 2. International Trade: <ul style="list-style-type: none"> • work through Department for International Trade (DIT) and local intermediaries to support bespoke programmes aimed at enabling scale-up companies to “go global”. 	<ol style="list-style-type: none"> 1. International Trade: <ul style="list-style-type: none"> • Encourage large regional companies to participate in outbound missions to demonstrate the motivation and expertise of the region, and support cohorts of new technology exporters. • Encourage local intermediary organisations to develop relationships with 2-3 overseas technology hubs . [eg: Israel, Shenzhen, Silicon Valley, Singapore, Helsinki] and encourage partnerships and networking between companies.

BACKGROUND ON INTERNATIONAL IN CAMBRIDGESHIRE & PETERBOROUGH

ICT and digital businesses are naturally globally orientated. While there are customer and convergence opportunities both within the region and the UK, the largest opportunity for business growth sits internationally.

FOREIGN DIRECT INVESTMENT (FDI)

At the time of writing the landscape is uncertain. 50% of all Global FDI into Europe was captured in 2017 by UK, France and Germany, with the UK leading the pack. However, Brexit has had a dampening effect with logistics, financial services and HQs all down on previous levels, and a worrying acceleration in outbound investment to continental Europe. 30% of respondents to the [EY 2018 European Attractiveness Survey](#) of 502 global businesses in June 2018 state that Brexit will have an impact on their footprint or activities. But EY data also suggests that digitisation is revolutionising almost every industry, and foreign investors are launching numerous projects to provide digital services to their clients or streamline their own operations. The Digital Economy is perceived to be the most important sector in terms of driving growth.

Nationally, over the last 3 years the East of England accounted for 5.07% of all FDI projects, and 4.84% of all FDI jobs²⁹. Meanwhile, over the last 2 years ICT/Digital sectors have accounted for 32% of all FDI projects and 21% of all FDI jobs³⁰. For Cambridgeshire and Peterborough, the ICT/Digital sector remains a vital part of the attractiveness of the region to overseas investors. The table below consolidates 3 years of Foreign Direct Investment project successes, as reported to the Combined Authority/LEP and the Department of International Trade. It is worth noting the imbalance of foreign direct investment across the region, with Greater Cambridge and South Cambridgeshire hosting 90% projects and 95% of jobs.

Consolidated 3 year FDI Combined Authority/LEP statistics	2015-18	2015-18	2015-18	2015-18
	All Sectors	All Sectors	ICT/Digital sector	ICT/Digital sector
	Projects	Jobs	Projects	Jobs
Cambridge	66	2178	32	1551
East Cambs	9	179	2	53
Fenland	4	18	0	0
Huntingdonshire	11	215	1	28
Peterborough	17	416	2	42
South Cambs	51	1526	13	438
Grand Total	158	4532	50	2112
% share	100%	100%	32%	47%

²⁹ DIT Inward Investment Results

³⁰ DIT: Sector breakdown for involved FDI Projects 2016-18

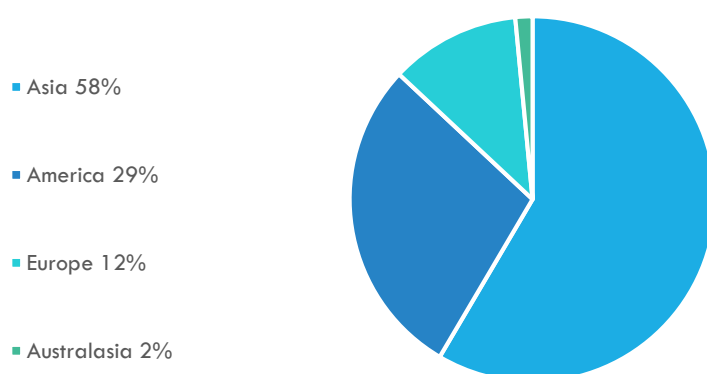
32% of FDI projects between 2015-2018 going to the ICT/digital sector matches the national % share for ICT investment, but the region attracts over double the % of jobs (47% compared to 21%). Overseas ICT/Digital sector companies are continuing to locate substantial operations in the region, often R&D based.

For comparison, over the same period, the life science & healthcare sectors attracted 24% of all projects and 24% of FDI jobs created.

Geographically the top 5 countries over the last 3 years in terms of ICT Jobs created through FDI are listed in the table to the right, showing the dominance of companies from Japan, USA and China. The chart below explores the % distribution of these ICT FDI jobs by continent and shows that Asia accounts for nearly 60% of all technology-based investment into the region.

Country	ICT jobs created through FDI
Japan	717
United States	552
China	503
France	101
Canada	48

Combined Authority Region - ICT Sector Foreign Direct Investment Successful Projects:
Jobs by continent



CBR research covering 2015-16 and 2016-7 confirms the importance of FDI to knowledge intensive companies in the Combined Authority area. Knowledge intensive (KI) companies are much more likely to be foreign owned than other (Non-KI) companies. According to CBR data, Peterborough has 67% of KI employment and 82% of KI turnover in foreign owned companies. Cambridge has 75% of KI turnover in foreign owned companies. Whereas Fenland has 5% of KI employment and 3% of KI turnover in foreign owned companies. It is critical to not underestimate the importance of foreign ownership on the knowledge intensive sector of the region.

Many major Technology corporations have a presence in the region (Google are relatively close by at their London Kings Cross HQ):

Amazon	Microsoft
Apple	Nokia
Citrix	Qualcomm
Huawei	Samsung
Intel	Toshiba
MediaTek	

Greater Cambridge has grown several global ICT/Digital businesses over the last twenty years. Many have been acquired by overseas companies (see the table to the right for some prominent examples).

The acquisition experience has not always been positive. A well-known example is how, in 2006 Motorola paid over £100m to buy TTPcom, then in 2008 laid off 155 staff, and pulled out shortly afterwards. Yet it is a mark of the 'stickiness' of the Greater Cambridge cluster that talented personnel stayed in the region and became absorbed into other technology companies or started their own businesses.

The region continues to grow global businesses. Frontier Developments, a gaming company founded in 1994, has a market value of £659m. Quixant, founded in 2005 and which produces products for gaming machines, has a market value of £295m³¹. Darktrace is latest example of extremely rapid growth: started only in 2013 the company was valued at \$1.25bn in July 2018 and employs 800 people worldwide.

It is the combination of home-grown businesses and talent, with the very substantial investment made by large, international corporates into the local economy that makes the region so compelling - the agglomeration effects referenced in the recent CPIER report make Greater Cambridge in particular a highly desirable and prestigious place for an ICT/Digital business to be based.

And yet, the resources publicly invested in the Inward Investment function for the region remain extremely low in comparison to other parts of the country. For example, London & Partners have a budget of £12m, Marketing Manchester has a budget of £7.6m (not including MIDAS the FDI agency).

This means that there are few locally deployed assets to target specific companies to invest in the region, and very little attention given to how early visits from interested investors can be professionally concierged. Interviews during the development of the strategy confirmed that potential ICT investors sometimes did not explore the region because the ability to quickly and easily

Autonomy was founded in 1996, listed in 1998 and sold to HP for \$11bn in 2011.

CSR was founded in 1998, floated in 2004 and sold to Qualcomm for \$2.4bn in 2015

CSR sold its handset technology division to Samsung for \$310m in 2012. Recently Samsung announced the opening of a new AI centre in Cambridge in May 2018.

ARM was founded in 1990, floated in 1998 and sold to Softbank Group for \$31bn in 2016.

Aveva (formed out of the UK government funded CAD centre in 1994) and with revenues of £215m in 2017, agreed to merge with France-based Schneider Electric in 2018. Schneider Electric is now the largest shareholder.

³¹ CBR

pull together a comprehensive and bespoke visit programme was not in place, in comparison to other UK regions. Interviews also suggest that sometimes investor visits can be somewhat haphazard, with no clear docking point and organisational lead.

Much inward investment will come from re-investment and expansion of existing operations. 64% of the jobs in 2017/8 came from re-investment. All these relationships need support on the ground, and local networking organisations can do this to a certain extent as part of their commitment to sustaining the cluster, but strong regional coordination and pipeline management is needed, along with triangulation through the DIT overseas network with the relevant overseas HQ.

The marketing, targeting and sales FDI functions represent a classic market failure, given there is no rationale for the local private sector to fund these activities, and the potential investor cannot be charged. The regional offer is so powerful, there is a great opportunity, along with effective marketing and organisation, to successfully and systematically target investors that will enhance the economy. As CPIER recommends, the UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs.

The key international marketing attribute for the region, when focussing on the ICT/Digital sectors, is undoubtedly the Greater Cambridge offer. The CPIER work highlights the fact that there are three distinct economies in the region - and it would be mistaken to dilute the extremely powerful marketing messages through amalgamation. Leading with the Greater Cambridge brand will benefit the rest of the region, since every investor is a potential supply chain opportunity also. Target audience will be C level leaders in target overseas technology companies, and their intermediaries.

Of course, a complementary and distinctive brand strategy also needs establishing for Peterborough and Fenland, but is likely not to lead with the ICT sector, and so is not examined here.

Much work needs to be done to clearly articulate the Greater Cambridge message and to provide guidance on what the technology ecosystem in the area offers, and how to engage meaningfully with the cluster. Despite multiple outward facing Greater Cambridge based organisations there is no clear pathway for potential inward investors, and this needs to be rectified.

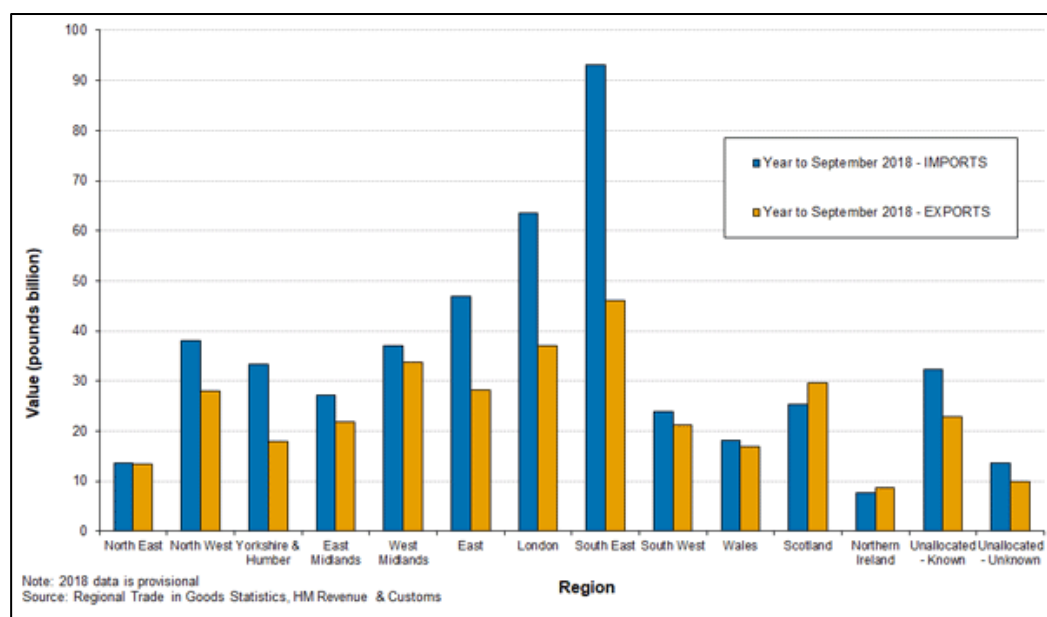
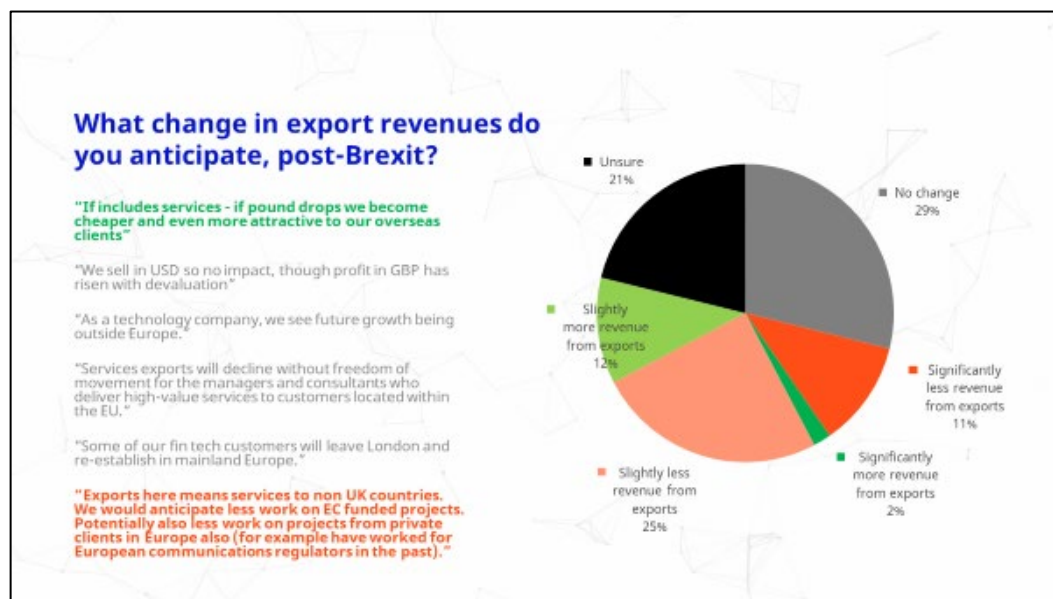
INTERNATIONAL TRADE

CW ran a Brexit Impact Survey³² from 31 Oct – 16 Nov 2018 to ask Technology companies about their opinion on the effects of Brexit. See the chart to the right for a summary of their opinion on Export revenues.

It is certainly the case that having a vigorous ICT/Technology sector exporting goods and services will continue to be crucial for the region in the years ahead. According to the latest [UK Government Export Strategy Overview](#), 90% of global development is expected to come from outside the EU over the next 10-15 years. The Digital Sector must seize the opportunity to look to markets - particularly in Asia and America.

Exports represent 35% of UK GDP and the East of England collectively is the third most significant region according to the latest HMRC statistics. The digital sector consists of 18.9% of service exports, which are in turn 35% of total trade.

The digital sector is often underreported in official statistics, a recent study shows the UK digital sector accounting for **24%** of all exports.³³



³² Link to be provided when published

³³ The Digital Sectors After Brexit, Frontier Economics for technologyUK

Key barriers related to business exports are (generally, across all UK sectors): not having the right contacts to find the appropriate partner or customer, payment risks, on-tariff barriers, and management skills in international trade.

Greater Cambridge based technology companies are often “born global”. A quick survey of recent press announcements in [Business Weekly](#) shows companies active in numerous markets:

Company	Product	Export Market
CyanConnode (Cambridge)	Narrowband radio frequency mesh networks	Philippines, Ukraine
Sepura (Cambridge)	Digital radio specialist	Mexico
Bango (Cambridge)	Online payment	Chile, South Korea
Bligher Surveillance Systems	Radar & surveillance	India
UltraSoC	Embedded analytics	Asia
Pixel (Cambridge)	Radar	China

The DIT provides export services and information suitable for early stage companies, and can also connect companies to useful contacts and opportunities through their overseas network along with Export Finance if needed. In 2017/8 the DIT Technology Exports team supported 330 UK technology companies win 506 projects/contracts overseas.

Department for International Trade Case Study on SG Control's export growth in the Far East

SG Controls is a Cambridge-based company that designs and supplies equipment for the optical fibre manufacturing sector and is set to double the volume of products it makes following a surge in demand in China, Japan and India. SG Controls has been exporting its products since 1979 and is working with trade advisers from the Department for International Trade (DIT) and UK Export Finance (UKEF), who is supporting the company to fund its new ventures in the Far East. The company's international success led to the creation of 40 new jobs at its site in Newton in the last 18 months to cope with growing demand. “Working with the DIT enabled us to find a funding mechanism to satisfy our requirements and those of our customers, as DIT trade advisers work directly with UK Export Finance to provide support to our banks to allow them to issue guarantees to customers,” says Ian McNulty, MD at SG Controls.

Businesses should be pointed towards the services that can be provided. With limited resources, focusing on scale-up companies that can quickly take advantage of global export opportunities makes sense, as well as strategically identifying a shortlist of target overseas markets.

Cultivating deeper links with ICT Technology hubs will also prove beneficial. Connecting networking organisations based in these hubs (eg: [Israel Technology Hub](#)) with local networking organisations, and supporting repeated trade missions and meetings will build relationships and drive partnerships and contracts. A focus on Asian markets will be particularly important here, especially given the proportion of FDI investment from Asia.

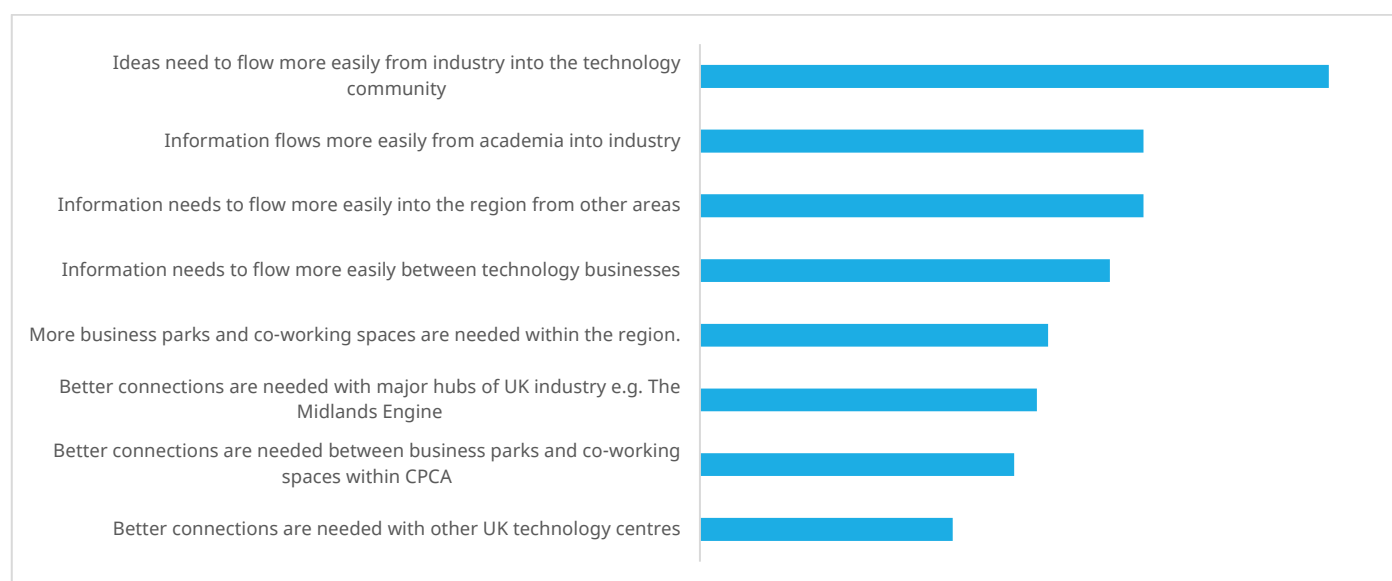
Finally, it is worth pointing out that digital transformation is radically affecting export processes. Digital companies can transform the productivity of companies in vertical industries, enabling expansion into overseas markets. Advanced digital solutions enable better access and management of international customers through B2B e-commerce platforms.

It is very welcome that the CPCA has announced in their Business Plan that a strategy will be developed aiming to secure funding for more enhanced, higher impact Trade and Investment activities starting in 2020/21. It is also noted that the CPCA will support Opportunity Peterborough's inward investment activities, delivering support to more companies in the North of the area. However, the current CPCA business plan allows only for £50K per annum against Trade & Investment functions out of the revenue budget, and this is clearly not enough. This strategy recommends that more resources need to be devoted to provide effective internationalisation programmes and projects.

KNOWLEDGE TRANSFER

VISION

The Digital Sector Strategy's vision is that knowledge and ideas can disperse successfully throughout the region. We also wish this to be a region where businesses of any sector can efficiently collaborate through linked networks of science parks and co-working spaces and where knowledge transfer between academia, technology firms and industry works seamlessly. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Ideas need to flow more easily from industry into the technology community	4.52
Information flows more easily from academia into industry	4.19
Information needs to flow more easily into the region from other areas	4.19
Information needs to flow more easily between technology businesses	4.13
More business parks and co-working spaces are needed within the region.	4.02
Better connections are needed with major hubs of UK industry e.g. The Midlands Engine	4.00
Better connections are needed between business parks and co-working spaces within CPCA	3.96
Better connections are needed with other UK technology centres	3.85

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA
See Annex 1	See Annex 2
Knowledge transfer between academia and industry can reduce risks and accelerate market entry (IND). Attention should be paid to IP Management, ownership and knowledge transfer processes	The respondents identified three key priorities for Fenland <ul style="list-style-type: none"> “Ideas need to flow more easily between industry and the technology community”

(SUP). Funding collaboration between industry and academia should be encouraged (INV). Connecting the region (NET) with other regions is about bringing new skills, talent (TAL), business opportunities (IND) and businesses (INV) to the region. While businesses outside of the region are considering of locating themselves here, they should be shown other parts of the region than Greater Cambridge locations (NET).

- "Information needs to flow more easily into the region from other areas", and
- "Information needs to flow more easily from academia into the technology community"

Interestingly, two of these priorities are also perceived as significantly important in Huntingdonshire

- "Ideas need to flow more easily between industry and the technology community" and
- "Information needs to flow more easily into the region from other areas"

The perception that "Ideas need to flow more easily between industry and the technology community", is also highly important in Peterborough.

This domain of "Links within the UK" is of particular relevance to the Fenland, whose respondents selected four issues as critically relevant. Peterborough highlighted three areas and Greater Cambridge two. In detail:

- "More business parks and co-working spaces are needed within the region",
- "Better connections are needed between business parks and co-working spaces within CPCA"

"Better connections are needed with other UK technology centres", was a priority in Fenland, in Greater Cambridge and in Peterborough

RECOMMENDATIONS

RECOMMENDATIONS	
For public sector	For private sector
Working with existing communities for technology / industry, deliver more inter-sector networking opportunities across the region that connect industry with the technology community and academia.	Develop Launchpads outside of Greater Cambridge where the applications of new digital technologies and solutions can be trialled. These Districts should feature the latest technology infrastructure, should be accessible for start-ups and should focus on industries that are important to the Combined Authority economy, such as Manufacturing or Agriculture.

BACKGROUND ON KNOWLEDGE TRANSFER SYSTEMS IN CAMBRIDGESHIRE & PETERBOROUGH

Knowledge transfer is the sharing process of learnings and skills between academia and the non-academic community, including business and the public sector. It is a key driver of economic growth and an important reason for Government investment in university research. Equally, for academics, the knowledge transfer system is a source of new ideas. While often measured in outputs such as university spin-out businesses and patents filed, there are far more elements to a successful knowledge transfer system including publication, collaborative research and academic consultancy.

Cambridgeshire and Peterborough, led by the University of Cambridge and Anglia Ruskin University, has a long-established knowledge transfer system that is a key contributing factor to this area being one of the most well-regarded technology innovation hubs in the world. The region's ecosystem has been a source for many globally competitive businesses like ARM and HP Autonomy. Its excellence in research has attracted inward investment from many global ICT businesses such as Microsoft, Huawei, Apple, Google, IBM – investment which is underpinned by outstanding research and teaching in the region's universities. (BEIS SIA, 2017)

As a world-class example for digital knowledge transfer, the [University of Cambridge's Computer Laboratory](#) and Cavendish Laboratory have been prolific sources of ICT and digital spin-out businesses. The Computer Laboratory has produced at least 200 companies including Acorn, Jagex, Ubisense and Raspberry Pi foundation.

Anglia Ruskin University (ARU) brings considerable research and teaching excellence, including in emerging specialisms such as internet of things, cybersecurity, computer science and digital gaming. ARU is well-known for its multi-disciplinary approach to university education and research, as well as entrepreneurship embracing industry collaboration e.g. via apprenticeships and effectively matching teaching activity to business needs.

In addition, UK Research Councils and charities have invested heavily in installing research centres in the region which have considerably augmented the strength of the area's knowledge ecosystem. These include the Sanger Institute, the Babraham Institute, the Laboratory for Molecular Biology (LMB) and the Wellcome Genome Campus.

A major source of funding for establishing and developing better knowledge transfer between academia, technology companies and industry in the region has been the European Regional Development Fund (now, of course, at risk). Programs like Innovate2Succeed, Serious Impact, Innovation Bridge, Keep+ and REACTOR have been contributing to digital innovations, especially among SMEs and start-ups.

One important mechanism of universities in supporting new business creation, other than spin-outs, is linking academia to industry to support early stage technologies companies by providing knowledge in different forms (academic expertise, business connections, mentoring, space and skills). The co-funding element of this mechanism via public and private funding has had a great impact on knowledge transfer³⁴. As an example, Accelerate Cambridge is a programme run by CJBS (Cambridge Judge Business School) that has accelerated already over 100 early stage technology companies. Similarly, REACTOR (Anglia Ruskin University) has supported over 50 SMEs/Startups with their gamified, digital innovation.

³⁴ [Accelerating the UK, Beahurst](#)

The mechanisms by which start-ups spin out of the major universities are already established and working well, particularly in the Greater Cambridge area. These include recruitment, knowledge sharing through networking, presenting at events, publication and collaborative research. However, the process through which businesses can collaborate with the university is less straightforward. It must also be noted that there are intra-regional discrepancies with the strength of the knowledge transfer system. It is currently centred around Cambridge city where the two main universities of the region have their main bases. The opening of the University of Peterborough offers a good opportunity for a similar system to be established in that city. The flow of information between academia, consultancies, start-ups and corporates must be nurtured across the region with relevant networking activities and knowledge sharing events for highlighted digital sectors, such as Artificial Intelligence (as per the Business Survey).

As a final note, it is R&D of the private sector that contributes the majority of funding to research activities in a commercial context. These activities have also had a great impact in recruiting and retaining world class talent and skills within the region, which has contributed hugely to the region's social capital and it is imperative that the region maintains and increases the level of private R&D in the region by supporting start-ups to scale and attracting foreign direct investment through ambitious regional marketing programmes.

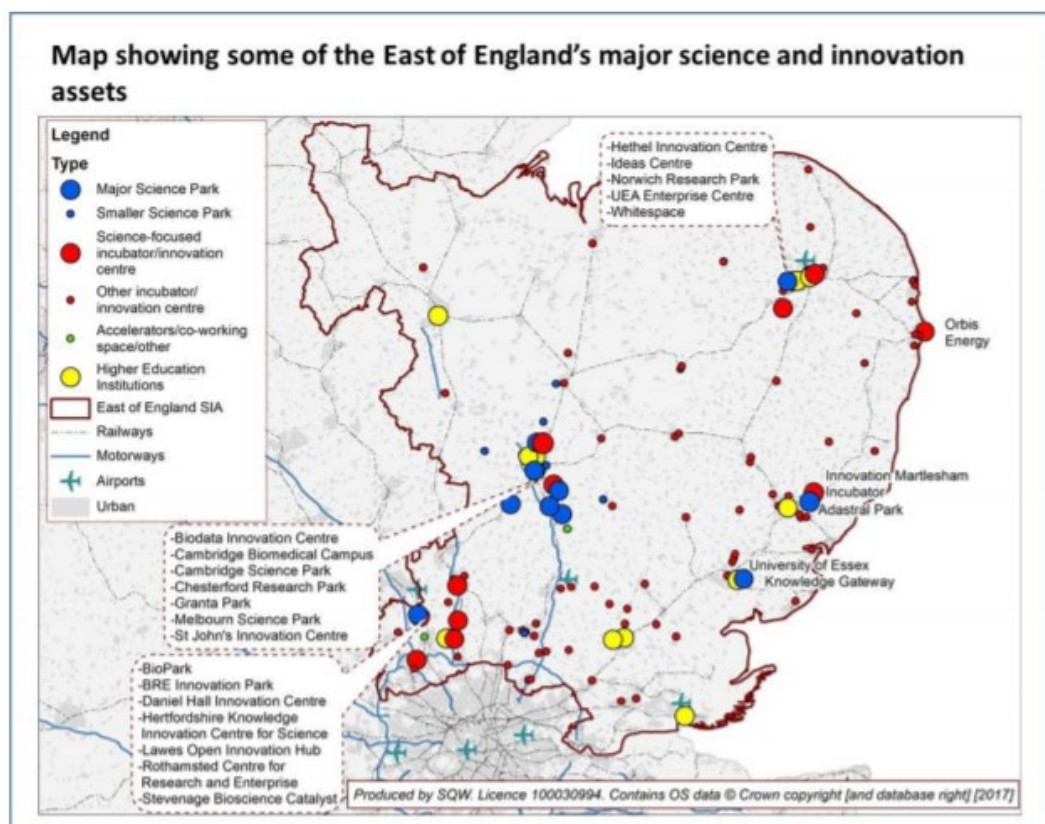
LINKS WITHIN THE UK

Cambridgeshire and Peterborough benefits from a number of key geographical and transport assets:

- The M11 provides rapid and direct access South to London and Stansted Airport
- Railways offer access to London from Peterborough in 51 minutes, from Cambridge in 49 minutes and from Huntingdon in 63 minutes. The new line from Cambridge via St Pancras offers direct route to the finance markets of the City.
- Stansted Airport provides access to international destinations
- The A1(M) to the East connects the region to London in the South and the Midlands and North East.
- The A14, which is currently undergoing significant improvement works, connects Cambridgeshire and Peterborough to Norfolk and Suffolk, including the technology hubs at Norwich and Ipswich and the busiest container port in the UK, Felixstowe, dealing with 42% of Britain's container trade.
- The A14 also connects Cambridgeshire and Peterborough to the Midlands Engine and the manufacturing hubs of Birmingham and the West Midlands.

There is huge potential in these assets to continue to grow Cambridgeshire and Peterborough's business connections. However, transport within the region remains an issue especially in more rural areas such as the Fenland. To enable businesses in the region to benefit from more efficient connections to stakeholders, networking opportunities and reduced commuting times,

improvements in transport infrastructure within the area must be the first priority. Individual market towns must be better connected, and travel within cities must be eased.



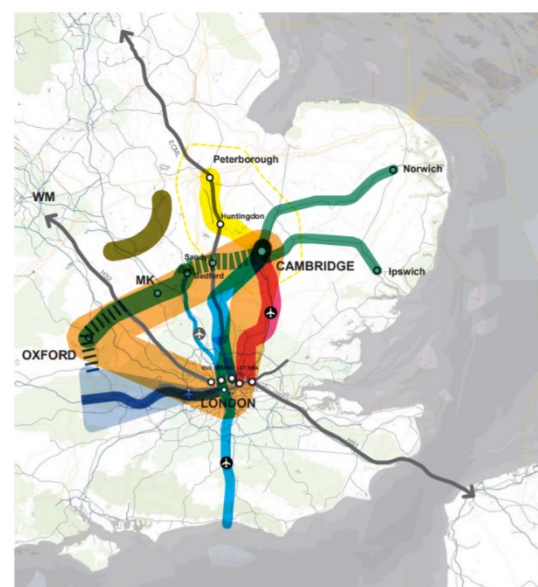
Cambridgeshire and Peterborough has the fortune to be involved in a number of prominent corridor plans that connect high growth areas and encourage collaboration. These include:

- **Cambridge Milton Keynes Oxford Corridor:** working to fix the housing and transport challenges of Cambridge by expanding towards Milton Keynes. Joining up the “golden triangle”

- **London Stansted Cambridge Consortium / Innovation**

Corridor: This vibrant polycentric region provides a unique ecosystem of talent and business including Technology City, GSK, Google, Cambridge University, UCL, Raytheon, Wellcome and Microsoft.

The Oxford - Milton Keynes - Cambridge corridor in the context of various other intersecting regional/cross-boundary growth corridors/initiatives/strategies >



- **Cambridge Norwich Technology Corridor:** has the potential to be home to an additional 26,000 additional jobs, 46,000 people and create value of an additional £2.75bn to regional economy.
- **Cambridge Ipswich Banana:** there is potential for links to be strengthened between the telecommunications and software hub of Ipswich and Cambridge.

If such plans are successful in their goals, they will serve to increase the supply of talent and productivity of Cambridgeshire and Peterborough's digital sector. This strategy supports and aligns itself with these plans.

END

ANNEX 1

Qualitative findings from primary data

Qualitative survey findings are collected from the survey respondents, board meeting notes, and brief interviews. They have been analysed at domain theme level, as well as in detail at comment level. As expected, domains become connected to each other in the responses. Below are the selected domains to which quotes are referred to.

Entrepreneurship ENT	Links within the UK UK	Export Strategy EXP
Investment & Finance INV	Talent & Skills TAL	Adoption within Industry IND
High Impact Networking NET	Foreign Direct Investment FDI	Digital Infrastructure DIG
Knowledge Transfer KNO		Supply Chain SUP

QUALITATIVE SURVEY INPUT ON TALENT AND SKILLS



It is important to understand the demand and supply of skills (SUP) in the region and the changing needs of now and future. Growing skills pool ‘organically’ is a long process, from school, to universities (KNO) and to the job market (IND). The respondents refer to very different types of talent needed in the region (UK), e.g. via apprenticeships, BSc, MSc, or PhDs but one pattern is that a skilled person is a ‘specialist’ in a certain topic of need, mostly in STEM subjects (DIG). Respondents widely talk about investing (INV) more in the youth but not to forget ‘adult’ groups and teaching the teacher. When it comes to locations where talent is or wants to be, Cambridge (UK) will remain a magnet but the idea of offering a high quality and balanced life style of the work force is becoming a selling argument of a location. Brexit is bringing uncertainty in recruiting talent (FDI).

Quote: “Better digital skills training (IND) and support for young people at school, college, university is critical (KNO).”

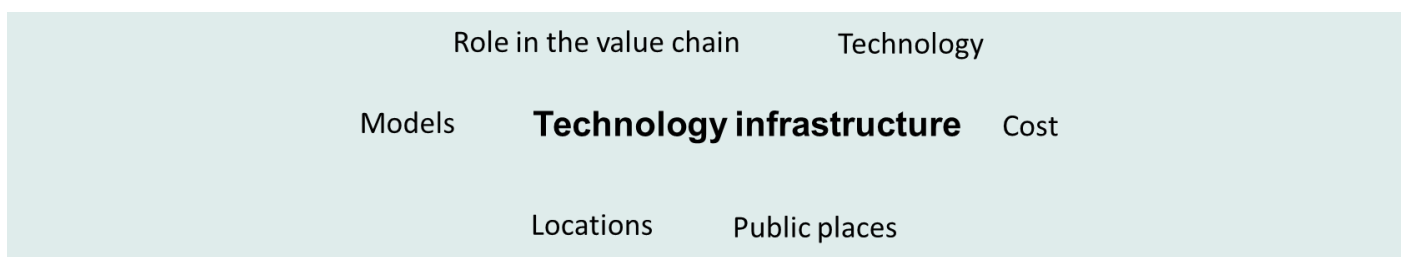
Quote 2: “I’m certainly feeling the problem of recruiting developers (IND, KNO), digital designers and digital marketers in this region (UK).”

Quote 3: "Life style is important also. If affordable housing and transport (DIG, INV) are not addressed the increase in salary that comes with skills and jobs (IND) is negated by the frustration of day to day life."

Quote 4: "Cambridge City (UK) does tend to be a larger magnet for talent in the region, more needs to be done to show the advantages available to working for businesses around the region."

Topic	Survey findings
Need for skills	Identify what specific skills are needed. Understanding what type of skills are pivotal. Adapt skills learning system to changing skills needs. Emphasise remote working due to the costs of transport. It is difficult to recruit developers. We need more BSc/MSc/Phds. Long 'organic' lead time from school education to industry. Provide more makerspaces, adult education, apprenticeships. Support businesses to recruit people.
Quality of living	Living costs are high, public transportation should be improved and flexible work conditions be offered. People want to stay in a place with great life style and balanced life between family and work.
Demographics	Even focus should be on skills development at the young age, digital skills support should be provided to adult groups too.
Locations	Ensure free movement of talented people. Demonstrate advantages working around the region. Cambridge is the talent magnet in the region. Create other than Cambridge, places where people can excel in their career.
Resources	Invest in skills development across the region. Teach the teachers about latest technologies.
Institutions	Education can be delivered not only by Universities but by other institutions and private companies.
Funding	High cost of university education Grants for SMEs/Startups to employ students. Offer grants to those who want to study STEM subjects.
Brexit	Brexit is already affecting recruitment.

QUALITATIVE INPUT ON TECHNOLOGY INFRASTRUCTURE



There are several practical issues mentioned in the survey results such as lack of mobile phone coverage in rural areas, on train lines, fibre cable not reaching to where businesses are (IND), or into new built environment (TAL). CPCA region should be better than average in connectivity, a test bed for 5G (INV), networks available in public places. More competition is asked for reducing the price of being connected to fast networks (IND).

Quote 1: "Connectivity for the wider population (TAL) to get more support and investment (INV) across the community as a whole, particularly by improving public services and locations such as schools, hospitals, libraries etc."

Quote 2: "A review of the not-spots as in Norfolk, to identify and prioritise areas for investment (INV)"

Quote 3: "We need to be developing new technology for digital networks (e.g. 5G core), not just buying from USA and China (EXP)."

Quote 4: "1) Mobile phone coverage would be useful in our postcode! (TAL) 2) Ensure coverage on all rail lines in the region 3) For any new build and not just for larger developments, to require Fibre to the Premises (IND, INV)."

Topic	Survey findings
Technology	Infrastructure is more than fibre cable only, it is also about better mobile connections, access to street lights, electric vehicles. Mobile phone coverage in rural areas as well as all rail lines. All new built environment should be connected to fibre networks. Region should be a testbed for 5G. More competition between providers is needed.
Role in the value chain	Embrace the emerging technologies within the region for the testbed purposes.
Locations	CPCA region should be higher than the national average in connectivity.
Models	Use connectivity and infrastructure to change people's behaviours (e.g. Smart cities). Shared leased lines for small businesses in rural areas, subsidised.
Cost	Identify the areas that should need an investment. Incentivise providers to build fast fibre network.
Public places	Improve the connectivity in public places for public services and locations such as at schools, hospitals and libraries.

QUALITATIVE INPUT ON SUPPLY CHAINS

Connecting supply and demand

Supply **Supply chains** Demand

Companies go where they find the best value for meet their needs (IND). This regions is internationally connected (UK, EXP) and buying services from anywhere from the world (EXP) does not seem to be an issue. However, 'more' of connecting (NET) the both sides would be win-win. There should be more transparent knowledge sharing (KNO) of what are the needs of the buyers. Also, to give a better access to suppliers to both public and private procurement (IND) would open the opportunities for local companies (IND) to offer their products and services.

Quote 1: "In many digital supply chains, location is irrelevant as we're purchasing from worldwide suppliers (EXP)."

Quote 2: "Only once have I found a local company (UK) that could supply us, we bought them (INV)."

Quote 3: "The more local start up business (ENT) know about the need of and operational requirement (industrial standards) of large local customers (IND) the better."

Quote 4: "Too much emphasis on local companies supplying other local companies (UK, IND) worries me it looks parochial."

Topic	Survey findings
Demand	<p>For many digital services, location is irrelevant.</p> <p>Do not buy inferior technology for the sake of cost, including from foreign companies.</p> <p>Buy from the best, if they are local that is great.</p> <p>It should be easier to find locally based suppliers.</p> <p>Only once have I found a local company that could supply us, we bought them.</p>
Supply	<p>Supply chain is key for the knowledge transfer and ideas.</p> <p>Support training, innovation and collaboration.</p> <p>Online portal to publish opportunities.</p> <p>It should be easier for local business to tender for public service calls.</p>
Connecting demand and supply	<p>National and international aspects of demand and supply.</p> <p>Networking between suppliers and customers.</p> <p>Support for encouraging local supply of certain products.</p> <p>The more local startups businesses know about the need the better.</p>

	Emphasis on local companies is parochial. Many business can supply but the needs are not well known.
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QUALITATIVE INPUT ON HIGH IMPACT NETWORKING

Attendees	Networking needs and topics	
Type of networking	High-Impact networking	Regional aspects
	Organisers	

Networking is happening within industry subsectors (IND), as well as across disciplines (UK). There should be more emphasis on attracting businesses (IND) and individuals (TAL) outside of the region to attend the events which often have the same local people attending (UK). Showcase the industry cluster (IND), as well share knowledge (KNO) in events by high net worth individuals from successful businesses (IND). Different parts of the region have different needs for networking. An ecosystem is joined up collaborative network. Access to venues should be easy and region would do better with more medium sized venues. Special topic events (IND) will survive if there is enough demand for them.

Quote 1: "We need to invite successful startups (ENT) in Cambridge & London areas (UK) to deliver talks about digital skills (DIG) and inspire young generation (TAL) to avail this opportunity accordingly."

Quote 2: "While there will always be a high concentration of tech businesses in the city, people need (SUP) help everywhere in the region (IND, UK, TAL)."

Quote 3: "Local networking (UK) is almost 'unimportant' as the amount of local customers (SUP) will always be small by the nature of our work."

Quote 4: "Different parts of the region may have different appetites for networking."

Topic	Survey findings
Attendees	Get dynamic companies which can bring cross market skills. Too few individuals are engaged and same people in the most events. Too many people trying to sell their services.
Type of networking	Networking should cover both the needs of online and face-to-face meeting needs. There could be a central hub where themes are discussed and opportunities shared.

	Events should be encouraged to invite successful startups from Cambridge and London to share experiences.
Regional aspects	Networking should be done in places with easy access. Different regions have different needs for networking. Networking should support the whole region to join, not just Cambridge. Local networking is not important at all. It is difficult to find a decent location for medium sized events. The volume of possible business is limited by the size of 'locality'.
Networking need and topics	Market forces will finally determine which themes will survive. Local companies to address local problems. Greater range of events. An ecosystem is a joined up network.
Organisers	The credibility of the organisation is imperative. There should be funding available to support existing networking groups to expand.

QUALITATIVE INPUT ON ENTREPRENEURSHIP



Startups should be supported at different stages of their journey by mitigating some of the risks they take, easier access to funding (INV) and knowledge sharing (KNO). There should be more advice about access to funding and local tax incentives. The region should attract more founders and co-founders and whole region should be promoted to new startups. Startups need affordable working space where they can network and get access to infrastructure (DIG).

Quote 1: "Lowering the costs of office space and technology (DIG), increasing the available funding and support (INV), and increasing the follow-on business support beyond the first 12 months for new start ups."

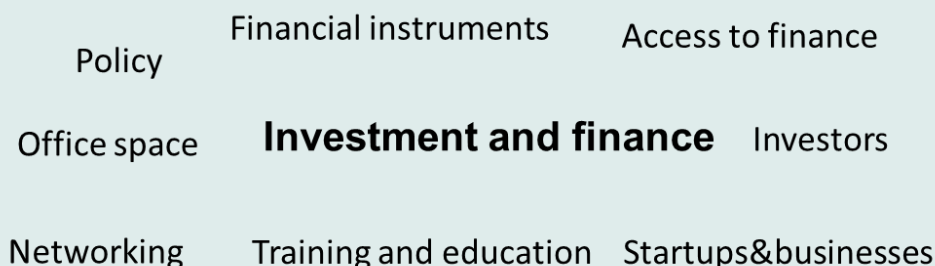
Quote 2: "Create sector-specific (IND) opportunities for tech leaders (NET) to come together, share best practices and grow the sector as a whole."

Quote 3: "Key emphasis really needs to be on growth, specifically national and international sales (UK, EXP)."

Quote 4: "Getting more of the entrepreneurial spirit distilled into Fenland and East Cambs (TAL)."

Topic	Survey findings
People	Entrepreneurial spirit across the region should be embraced. Learn from people who have created successful business, or those who have failed. Access to affordable skills.
Opportunities	Create sector-specific opportunities and discover new ideas; share co-development opportunities.
Industry sectors	More startups on aging, climate change, sustainability, social enterprises
Marketing and promotion	Promote the region as place to setup a startup
Economic incentives	Give tax incentives to startups
Funding	Support raising funding to scale-up companies; and run 'the winners'. Give grants to early stage companies. Closing the gap between angel investments and VCs. Offer grants and soft loans, microgrants.
Growth	Support growth through national and international sales
Access to support	Facilitate the access to startup support
Training and education	Train future entrepreneurs to avoid reinventing and making mistakes.
Office space	Affordable office space
Transportation	Improve transport links, public in particular
Regional	Cambridge needs to be deemphasised
Networking	Support networking opportunities with more diverse participation through which entrepreneurs can connect to hubs, academia and the industry.
Risk	Try to support startups by mitigating risks of failure, including investment risk.

QUALITATIVE INPUT ON INVESTMENT AND FINANCE



There should be better access (NET) to different types of funding (national, international) which is connected to expertise (mentors, advisers) (TAL, KNOW) in running and growing a business (IND). More advice and training is needed about different types of finance instruments, and tax breaks, especially for the small companies (ENT).

Quote 1: "More focus on alternative investment (INV) models for early-stage startups. (ENT)"

Quote 2: "The current system either means divesting ownership or gambling on high growth to repay loans and interest - neither results in a patient, lower and more sustainable rate of growth. Pooling growing businesses together (NET) as funding opportunities might help, along with making it easier to match businesses with groups of people (TAL) committing smaller individual amounts, matched by a large fund or organisation (IND), for example."

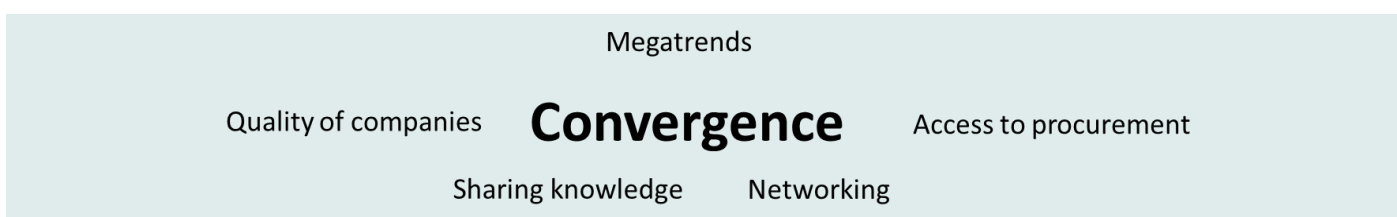
Quote 3: "Create a favourable tax environment for small investors."

Quote 4: "Local tax breaks, incentives or capital grants for cutting-edge equipment."

Topic	Survey findings
Investors	Pool of investors and funding is too small; London and international investors are needed. Attitude and approach towards funding of businesses should be improved. Traditional banks are not accommodating..
Office space	Investors should be close to businesses.
Networking	There should be centralized point of access to investors.
Startups&Businesses	Pooling growing business together. Understanding the stage of business is pivotal. Diversity of business builds resilience.
Training and education	More financial assistance, support and information about sources of funding is needed.
Policy	Government has a bad track record in investments. Local tax breaks. Market place will sort out this problem.
Financial instruments	Pooling of different types of investors to lower the risk. Public sector could commission innovation. New investment models and funding sources should be advertised.

	Novel investor categories. Crowdfunding training and alternative finance. Grants for micro startups. Angels could offer grants.
Access to finance	There is no lack of finance in the region for high quality companies. Lower the key barriers to access to finance. Customers are the 'best funding'.

QUALITATIVE INPUT ON APPLICATION IN INDUSTRY (CONVERGENCE)



Share knowledge (KNO, NET) and business opportunities (IND) to create and grow high quality technology companies (ENT) in new technology sectors.

Quote 1: "More research (KNO) should be done on identifying the current industry trends (DIG) for the local businesses (IND) in this region (UK)."

Quote 2: "It's the link (NET) between equipment makers (IND), technology developers, and process developers (TAL)."

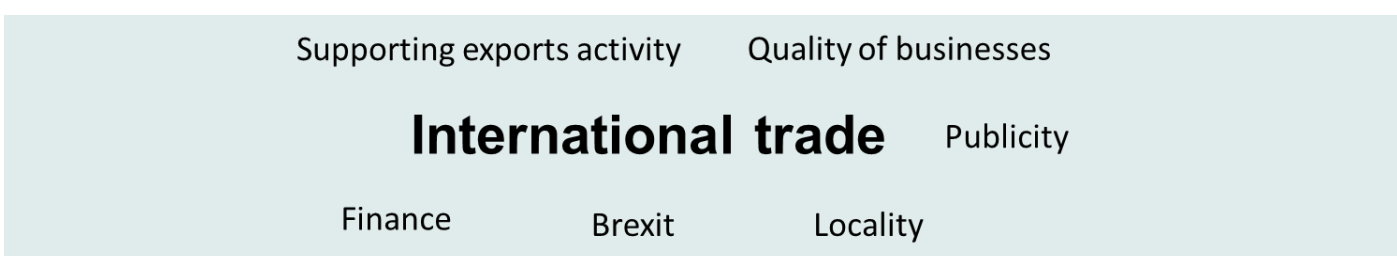
Quote 3: The creation of hubs (NET) to cluster industry in sectors (IND, TAL) and/or related sectors."

Quote 4: "Speakers at business breakfast/ business friend networks (NET) to bring the new technologies (DIG) to the attention of the market."

Topic	Survey findings
Megatrends	We should look at what roles we have in the technology supply chain in supporting innovation and learning. The problem with cutting edge technology is that it is often demonstrations work. This is a competitive differentiator.
Sharing knowledge	Learn from and share best practices across sectors to identify industry trends. What is available and how accessible it could be?
Quality of companies	Great firms will survive, poor management will fail.

Access to (public) procurement	Small businesses should be involved easier to local public procurement opportunities and systems. Rewarding large business and government for buying from early stage innovators can help both sides.
Networking	Establish links between equipment makers, technology developers, and process developers. The creation of hubs to cluster industry in sectors. Speakers at business breakfast/ business friend networks to bring the new technologies to the attention of the market.

QUALITATIVE INPUT ON INTERNATIONAL TRADE



Government should give grants (INV) for companies going international (EXP), to attend international trade fairs and meet customers and potential customers (NET, IND). Startups are born global (ENT) but they need advice about international trade (EXP), taxes. Brexit is causing uncertainty (EXP, INV).

Quote 1: "Support beyond existing DIT services, to research international market opportunities (EXP, INV), plus facilitate business introductions (NET), through grants (INV) to attend trade fairs, travel, marketing and communications (NET)."

Quote 2: "In the digital sector international trade (EXP) should be seamless, technical barriers are low. "

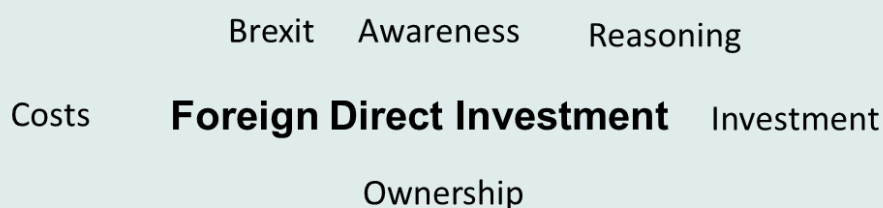
Quote 3: "Make grants (INV) available for market research in targeted areas (EXP), and use centralized resources to facilitate making first moves."

Quote 4: "Fight Brexit to avoid a step-change downwards (EXP)."

Topic	Survey findings
Support exports activity	The support for businesses should be go beyond existing DIT services. There should be easy access to services and trainings including online resources. Facilitate business introductions and access to real demand. Provide support, advice in trade activities e.g. tax advice.

Quality of businesses	Create and develop high quality businesses that trade to foreign markets. Technology startups are mostly born global.
Finance	Create grants to attend trade fairs, travel, marketing and communications including trade missions.
Locality	Focus on developing skills and capabilities.
Brexit	Brexit uncertainty can create step-change downwards.
Publicity	Publish success stories, also failure.

QUALITATIVE INPUT ON FOREIGN DIRECT INVESTMENT



Region should offer soft landing services and advice to foreign companies (EXP) considering this region for investment. When businesses visit Cambridge they should be offered to see other places than city of Cambridge (UK, INV). The foreign funding is used to scale up the companies globally (EXP), to bring new knowledge (KNO) and connection (NET) s to the region and wealth. Brexit uncertainty is a serious issue at the moment (EXP).

Quote 1: " There is a need to protect our region's technology assets (KNO) from purchase and asset stripping but investment in our research institutes and businesses (INV) is crucial to fund further development.

Quote 2: " Areas beyond Cambridge (UK) should be advertised as easier access into Cambridge, also at international level."

Quote 3: " The Foreign firms should be made adopt a few start-ups (ENT) to help them mentor them and grow."

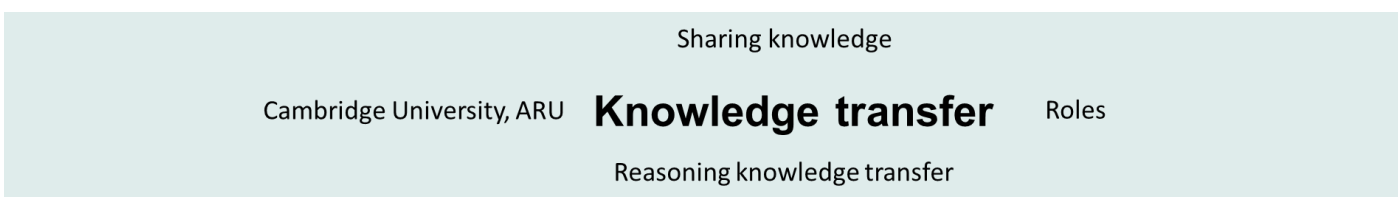
Quote 4: " In my experience, the attraction for foreign investment is to gain teams with unique skills (KNO) and experience rather than any other incentives."

Quote 5: Providing a framework for investment, dealing with due diligence and terms (KNO) as well as introducing investors (INV) and entrepreneurs (ENT).

Topic	Survey findings
Awareness	Demonstrate unified presence at international events. Providing a framework for investment, dealing with due diligence and terms as well as introducing investors and entrepreneurs.
Costs	Foreign technology firms cause costs increase of running businesses.

Investments	Foreign investment should invest in research, businesses on a longer period of time. Areas beyond Cambridge should be advertised. Foreign investment often helps the companies to scale-up and go global markets.
Ownership	We should protect region's technology assets from acquisitions. Foreign firms should adopt, mentor and grow local startups.
Reasoning	Attraction for foreign investment is to gain teams with unique skills and experience. Firms will locate here because of the local talent.
Brexit	Make clear how Brexit affects foreign investments.

QUALITATIVE INPUT ON KNOWLEDGE TRANSFER



Knowledge transfer between academia and industry can reduce risks and accelerate market entry (IND). Attention should be paid to IP Management, ownership and knowledge transfer processes (SUP). Funding collaboration between industry and academia should be encouraged (INV).

Quote 1: "Support to share best practices (NET) and what excellence looks like in the development of innovation and IP, including reducing investment risk and accelerating market adoption."

Quote 2: "The universities (Cambridge and ARU) are getting much better at engaging with business (NET) in the region (UK), but it's still hard for smaller businesses (ENT) to collaborate on research and innovation work with them (SUP)."

Quote 3: "SMEs are very cautious talking to large companies because IP theft (ENT) is sadly common."

Quote 4: "The best way to transfer knowledge and experience is people (TAL). The more talent is attracted to, and grown in, the region the more easily business (IND) can learn from each other."

Topic	Survey findings
Sharing knowledge	Region should be showcasing local innovation and truly valuable information to support collaboration across sectors. Strategy should identify the more relevant channels to transfer knowledge. Encourage younger people to be involved in the knowledge transfer. Develop, define the culture of knowledge transfer.

Cambridge University Anglia Ruskin University	Harnessing the university IPR by working with smaller business Establish access to resources, skills and technology and support interaction between academia and the industry.
Reasoning knowledge transfer	Knowledge transfer can reduce investment risk, accelerate market adoption Industry and academia can bid for collaborative innovation funding. Develop processes that make knowledge transfer faster, time to market.
Types of knowledge transfer	Programs that fund knowledge transfer between industry and academia e.g. KTPs.
IP Management	How will IP transfer be managed which doesn't go to competitors. Value of IP.
Roles	Regional co-ordinator could work with InnovateUK, KTN, academia on connecting experts to local communities. Visualising the regional actors.

QUALITATIVE INPUT ON LINKS IN THE UK



Connecting the region (NET) with other regions is about bringing new skills, talent (TAL), business opportunities (IND) and businesses (INV) to the region. While businesses outside of the region are considering of locating themselves here, they should be also shown other parts of the region than only Cambridge and near-to Cambridge locations (NET).

Quote 1: "Attracting more partnerships with tech businesses (INV) outside the region by improving the skills (TAL), facilities (DIG), events (NET) and support in the area."

Quote 2: "Technology showcase events (NET). Trade 'Missions' to other networks."

Quote 3: "Skills, industry knowledge exchange (TAL, KNO) and transport links are important."

Quote 4: "Areas of rural development need to offer hi-tech business space (IND) to grow."

Topic	Survey findings
Partnership development	Attract more partners from outside of the region which benefit all parties involved.

Networking	Bringing opportunities to businesses in different locations in the region.
Assets and knowledge	Support improving skills that are interest beyond the region. Offer high quality facilities to network with local businesses
Events	Organise technology showcase events. Cross-discipline events that facilitates group thinking, collaboration and creativity in a sustained manner.
Venues and locations	Areas of rural development need to offer hi-tech business space to grow. Getting co-location of this expertise with industry

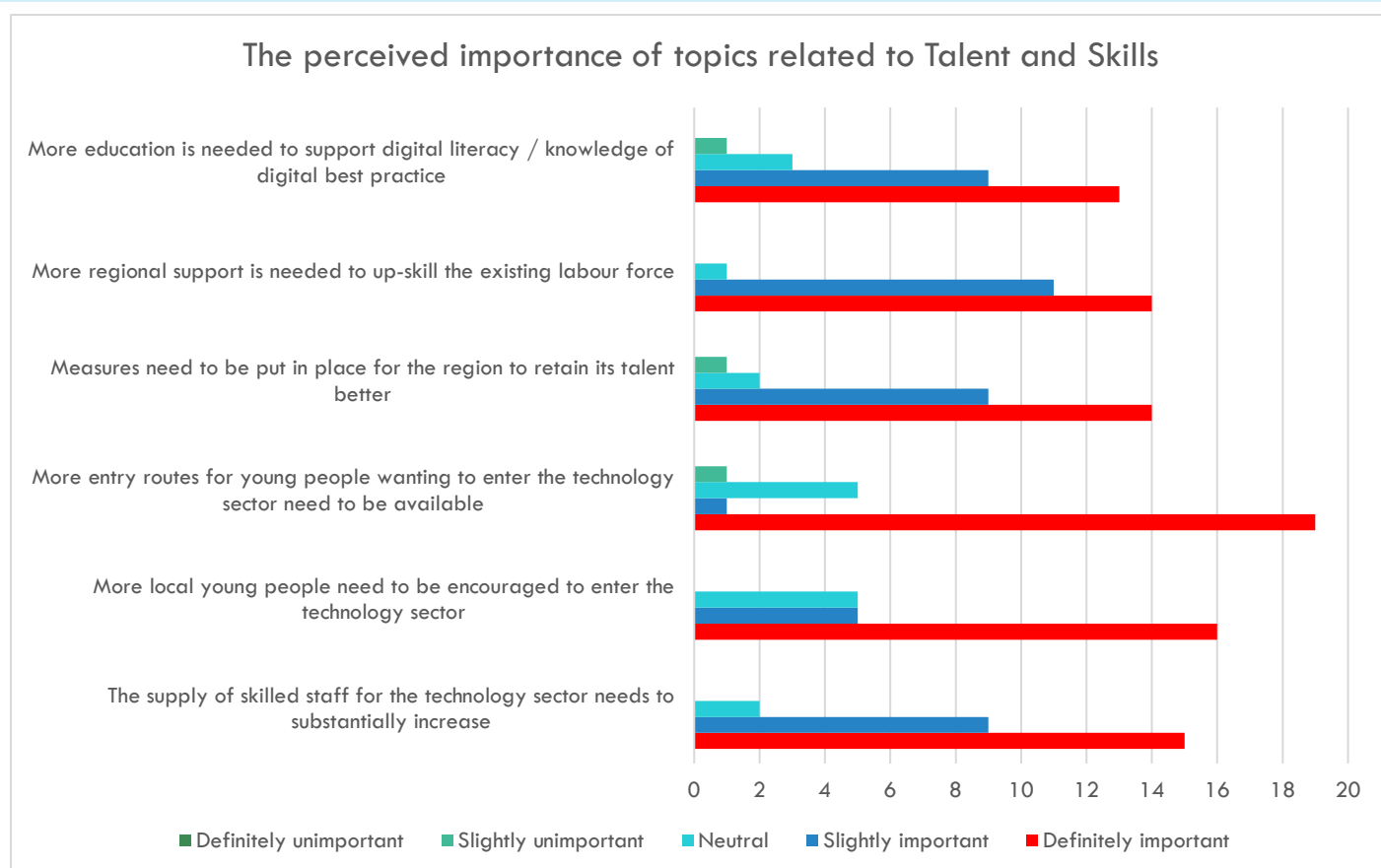
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ANNEX 2

Quantitative findings from primary data

Quantitative survey findings were collected from the survey respondents and analysed at domain theme level. The charts below outline the overall perceived importance of the hypotheses that were being tested per domain, the geographical variation between respondents and variation caused by the respondent's position within the technology supply chain.

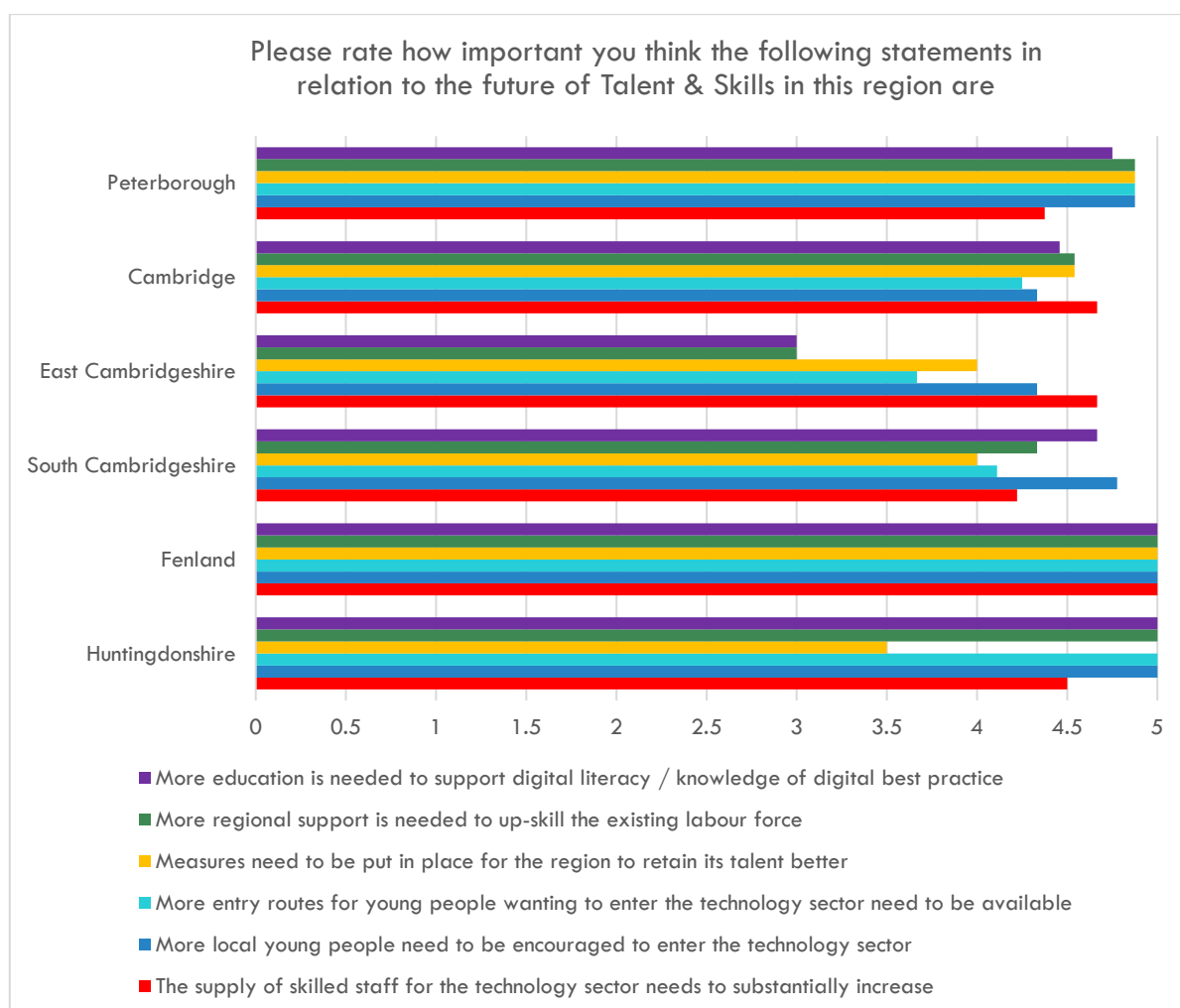
QUANTITATIVE INPUT ON TALENT AND SKILLS



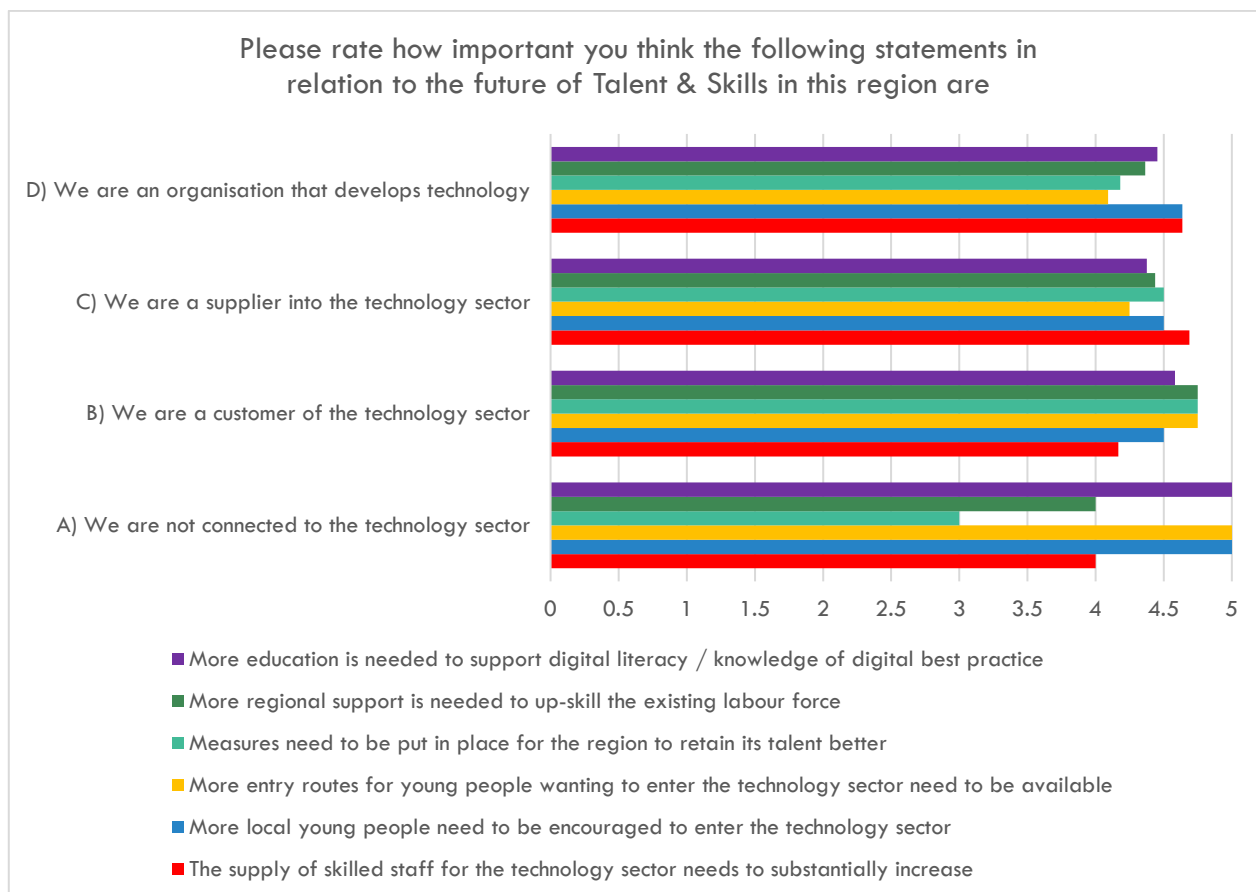
The results become more interesting when looking at the answers disaggregated at district level, one can see that Talent and Skills are perceived as significantly important along all the six priorities in the Fenland, four in Huntingdonshire, three in Peterborough, two in South Cambridgeshire and one each for Cambridge and South Cambridgeshire.

In detail,

- **More local young people need to be encouraged to enter the technology sector**, is particularly relevant in Fenlands, Hunts, South Cambridgeshire and Peterborough, (but it is still relevant also in Cambridge and East Cambridgeshire)
- **More regional support is needed to up-skill the existing labour force**, is relevant in Fenlands, Hunts, and Peterborough
- **More education is needed to support digital literacy / knowledge of digital best practice**, is a relevant issue everywhere apart from East Cambridgeshire
- **More entry routes for young people wanting to enter the technology sector need to be available**, is a particularly relevant issue in Fenlands, Hunts and Peterborough (but also relevant in Cambridge and South Cambridgeshire)
- **The supply of skilled staff for the technology sector needs to substantially increase**, is of key relevance to every region including Cambridge that clearly perceives this bottlenecks.
- **Measures need to be put in place for the region to retain its talent better**, is of key relevance for respondents in the Fenlands, Peterborough and Cambridge

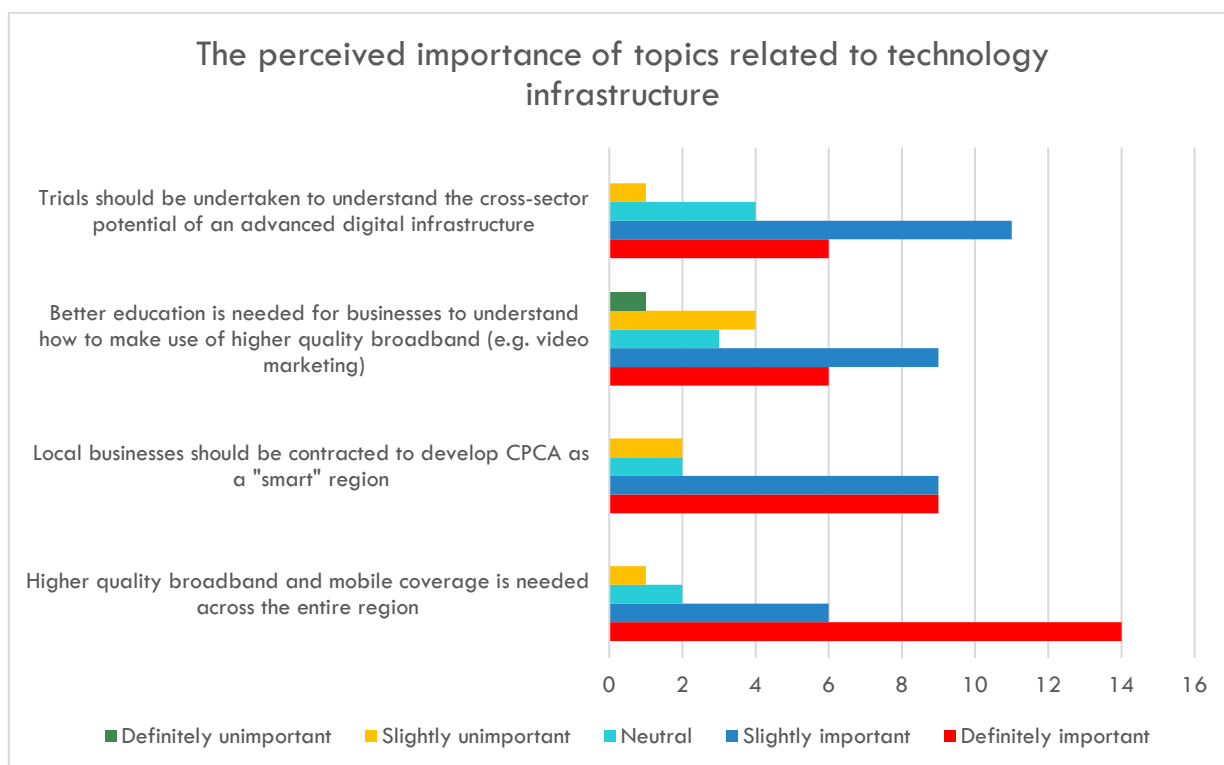


When disaggregating according to the role played in the technology values chain, one can see that the future of Talent and Skills in the Region is perceived as particularly relevant mainly by the respondents that are not connected to the technology sector, and that the key priorities for these respondents are: **More education is needed to support digital literacy / knowledge of digital best practice; More local young people need to be encouraged to enter the technology sector** and; **More local young people need to be encouraged to enter the technology sector**.



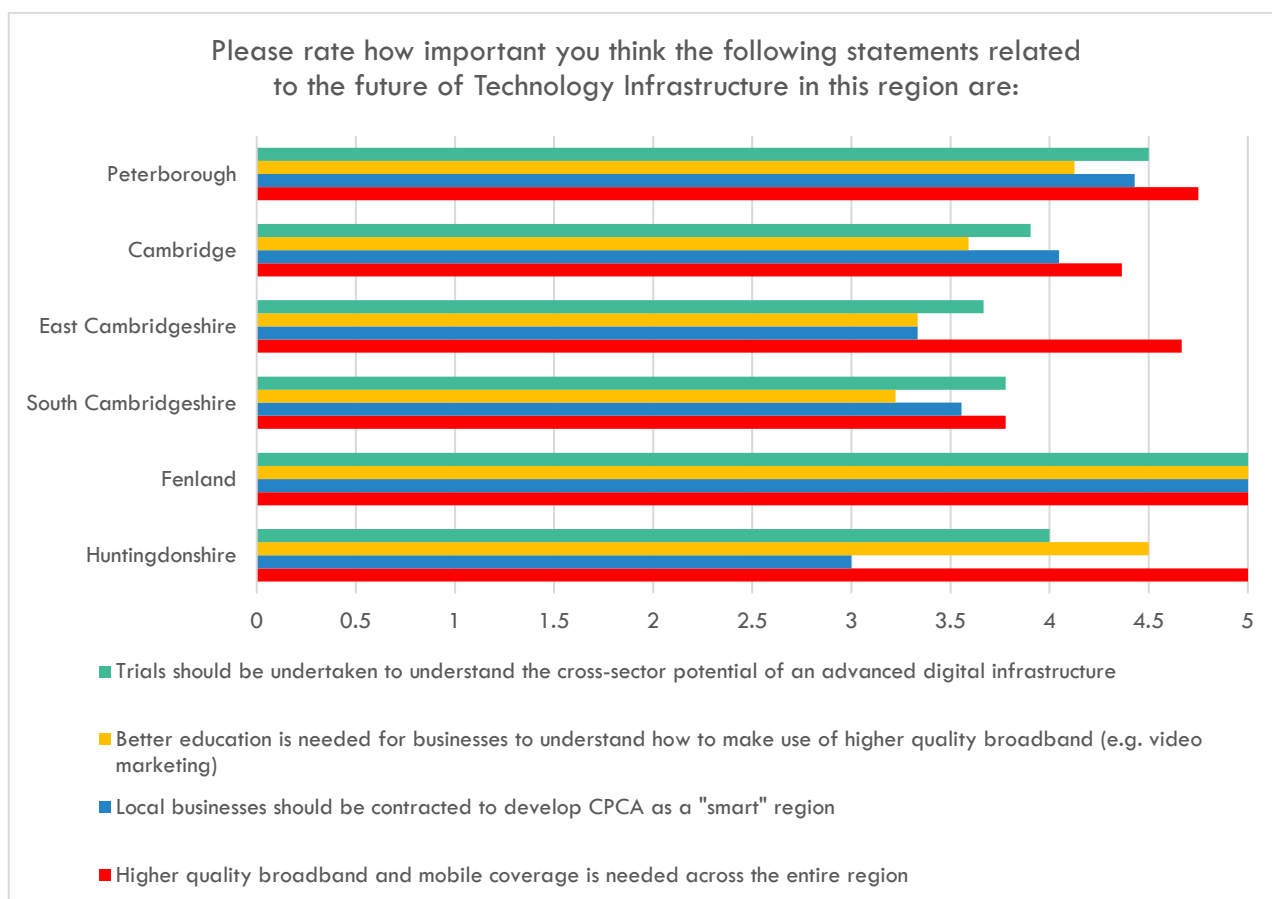
QUANTITATIVE INPUT ON TECHNOLOGY INFRASTRUCTURE

When looking at the perceived importance of topics related to technology infrastructure the aggregate responses show that **Higher quality broadband and mobile coverage is needed across the entire region, is the key priority.**

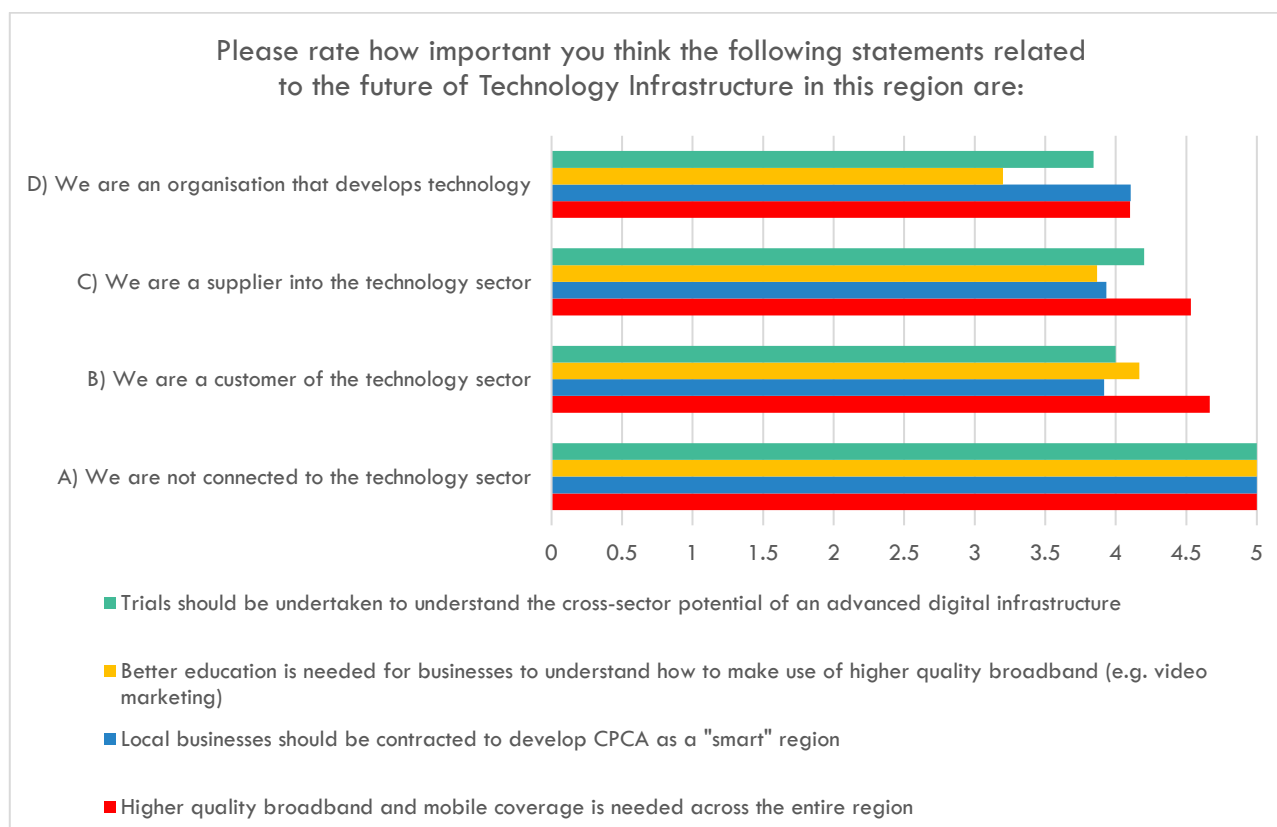


When looking at the disaggregated responses, however, the data show that the Fenlands considered all four options as of key relevance, Peterborough also but with slight less intensity, Cambridge and Huntingdon focussed on two key issues and East Cambridgeshire on one. In detail,

- **Higher quality broadband and mobile coverage is needed across the entire region**, was a top priority for all areas apart from East Cambridgeshire
- **Local businesses should be contracted to develop CPCA as a "smart" region**, is particularly relevant for the Fenlands, Peterborough and Cambridge
- **Better education is needed for businesses to understand how to make use of higher quality broadband (e.g. video marketing)**, was a priority for respondents in Fenlands, Hunts and Peterborough, while
- **Trials should be undertaken to understand the cross-sector potential of an advanced digital infrastructure**, seems to be critically relevant for Fenlands, Hunts and Peterborough.

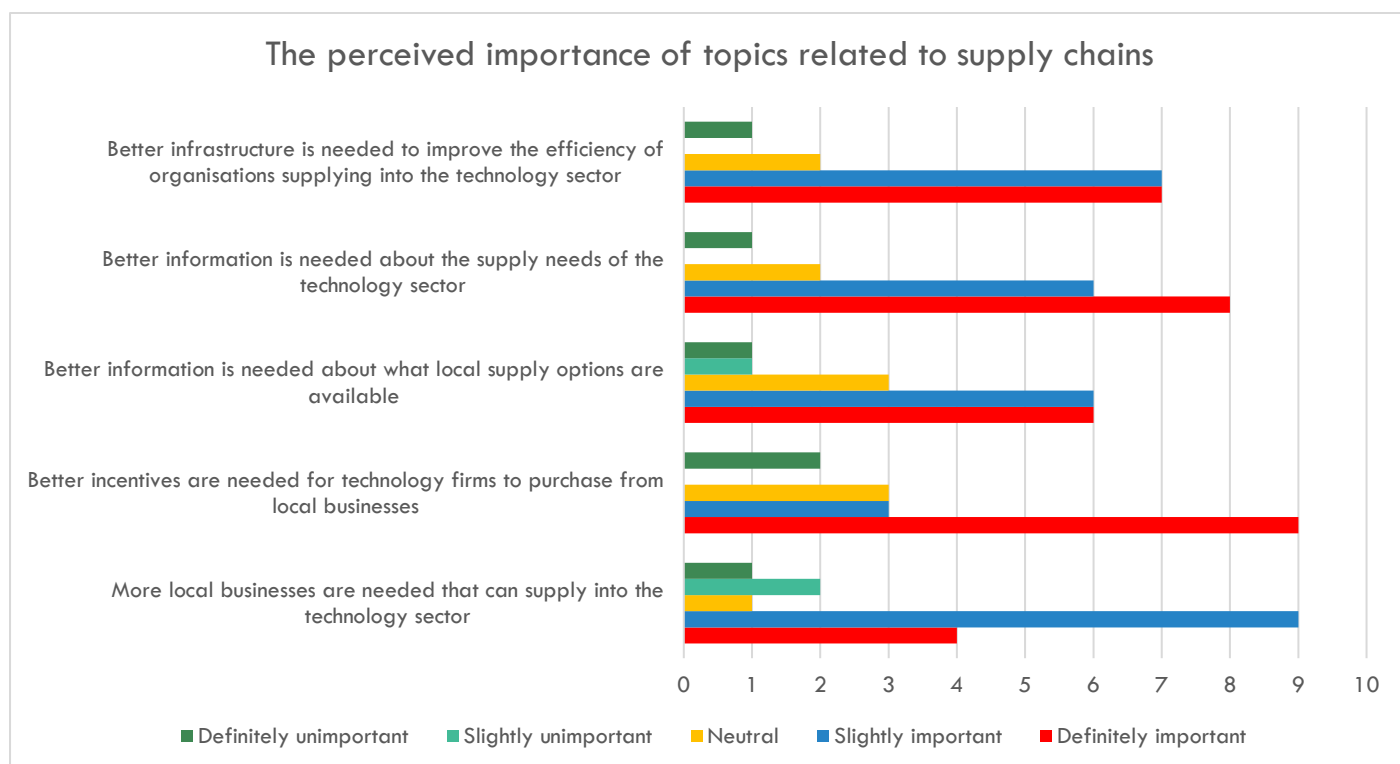


All the priorities were of higher relevance, for the respondents that considered themselves as not connected to the technology sector.

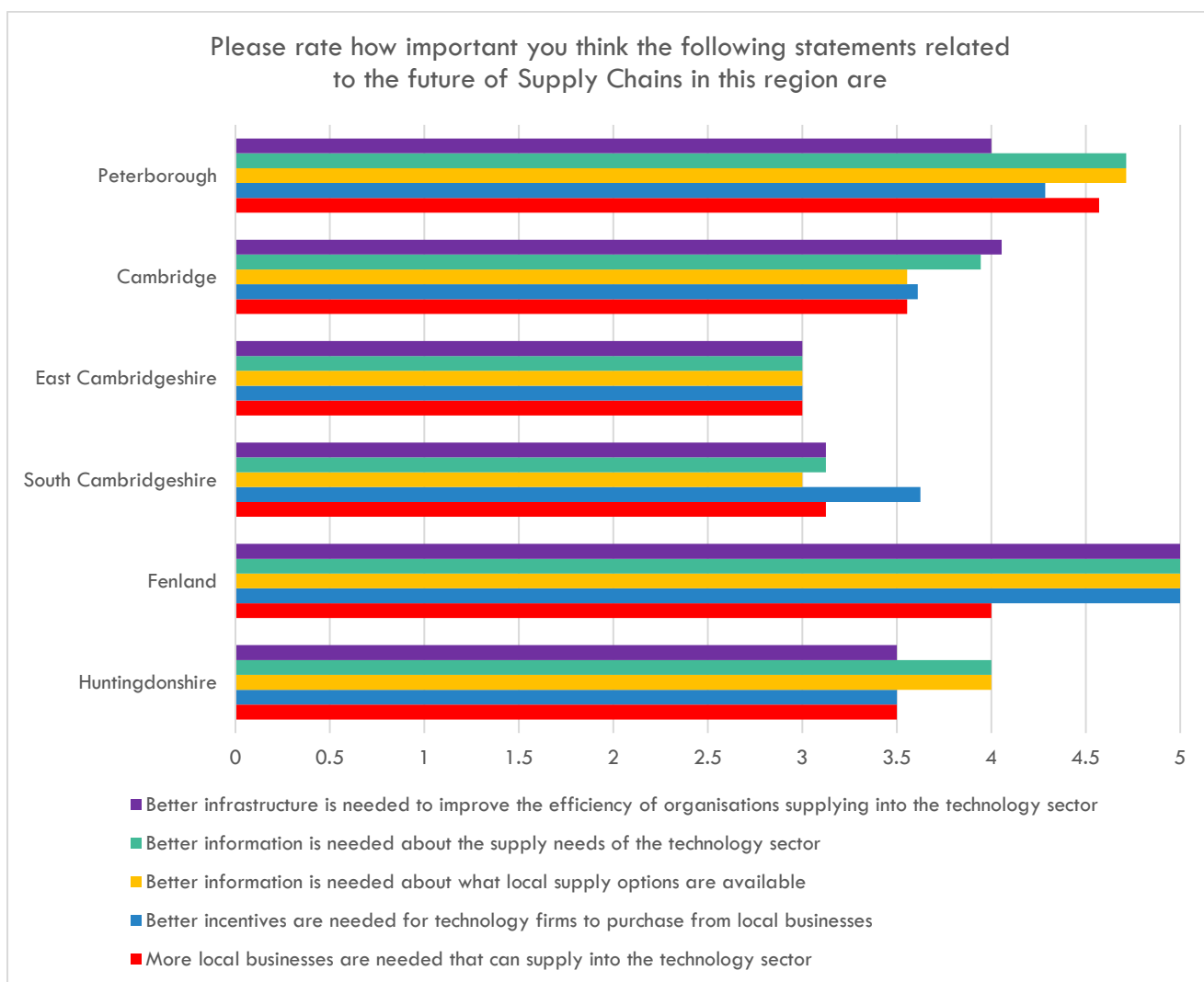


QUANTITATIVE INPUT ON SUPPLY CHAINS

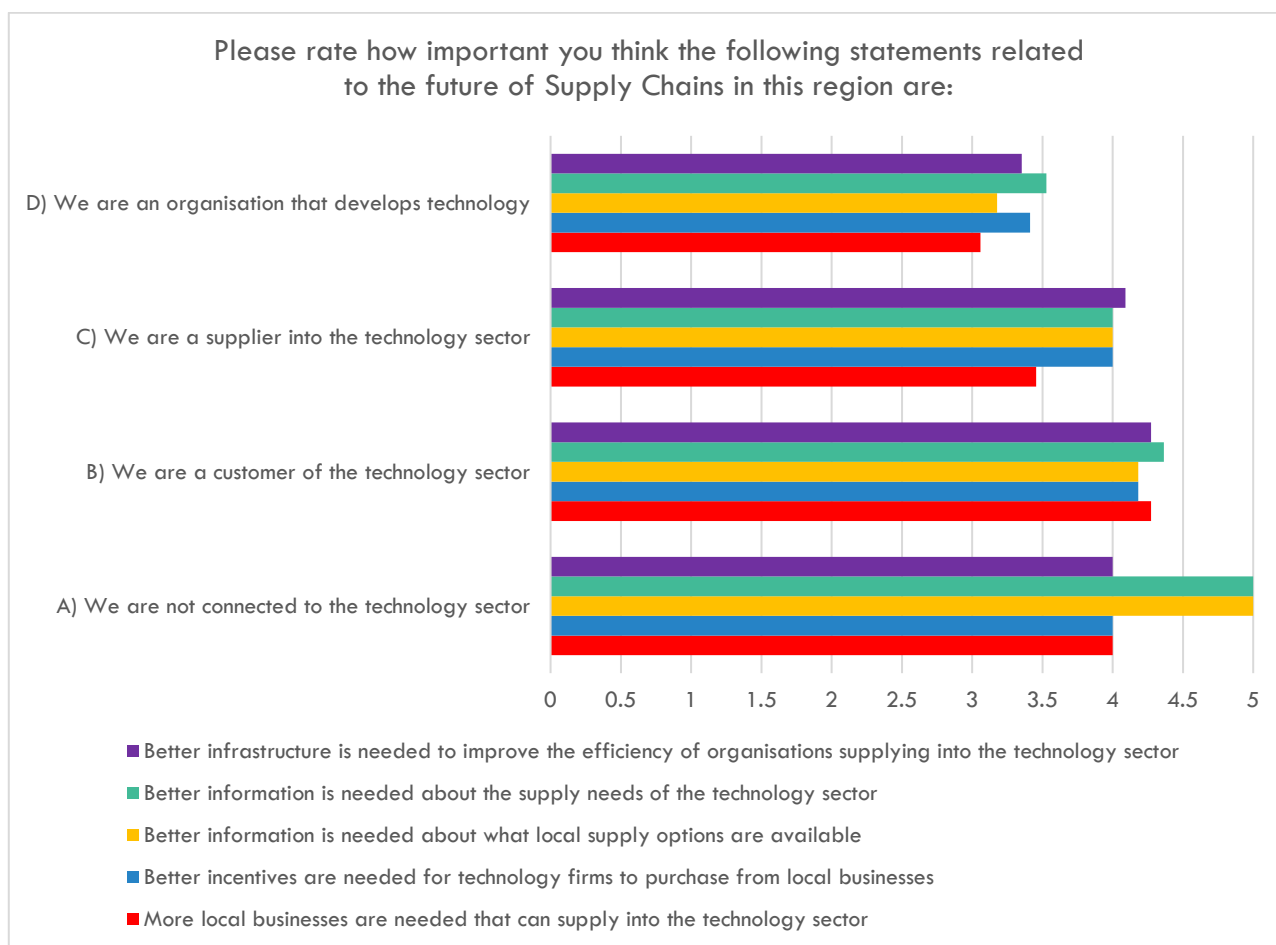
Moving to the perceived importance of topics related to supply chains, one can see that **Better incentives are needed for technology firms to purchase from local businesses**, is the top priority at aggregate level followed by **Better information is needed about the supply needs of the technology sector** and that **More local businesses are needed that can supply into the technology sector is also** relevant for a significant number of respondents.



- **Better information is needed about what local supply options are available**, and
- **Better information is needed about the supply needs of the technology sector**, were the priorities on supply chains for Peterborough the Fenlands and Hunts
- **Better infrastructure is needed to improve the efficiency of organisations supplying into the technology sector**, was a key priority for Peterborough the Fenlands and Cambridge
- **Better incentives are needed for technology firms to purchase from local businesses**, were of high relevance for Peterborough and the Fenlands and, finally
- **More local businesses are needed that can supply into the technology sector**, was of high relevance only in Peterborough and the Fenlands

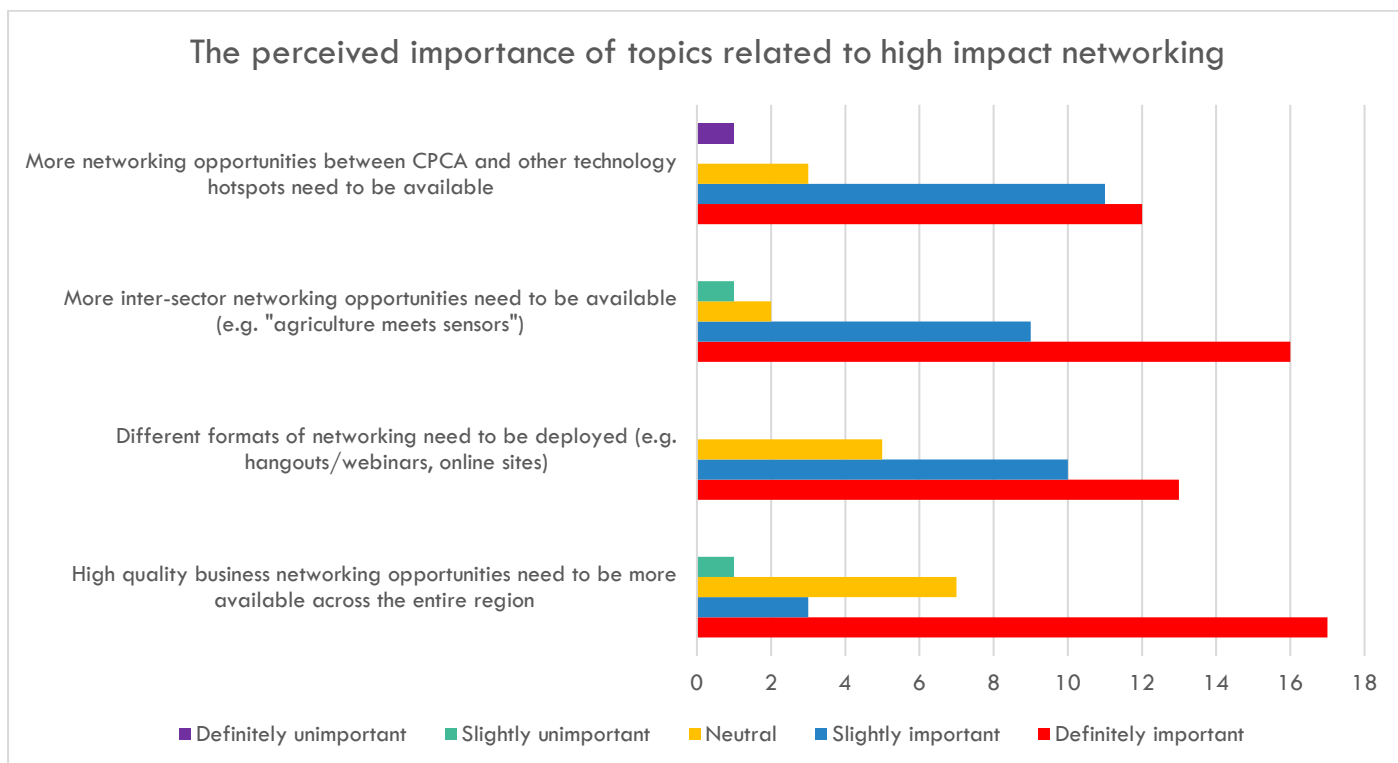


- When focussing on the role in the value chain, **Better information is needed about what local supply options are available**, and **Better information is needed about the supply needs of the technology sector**, were the key priorities, the relevance of which was particularly by the respondents that considered themselves as not connected to the technology sector.



QUANTITATIVE INPUT ON HIGH IMPACT NETWORKING

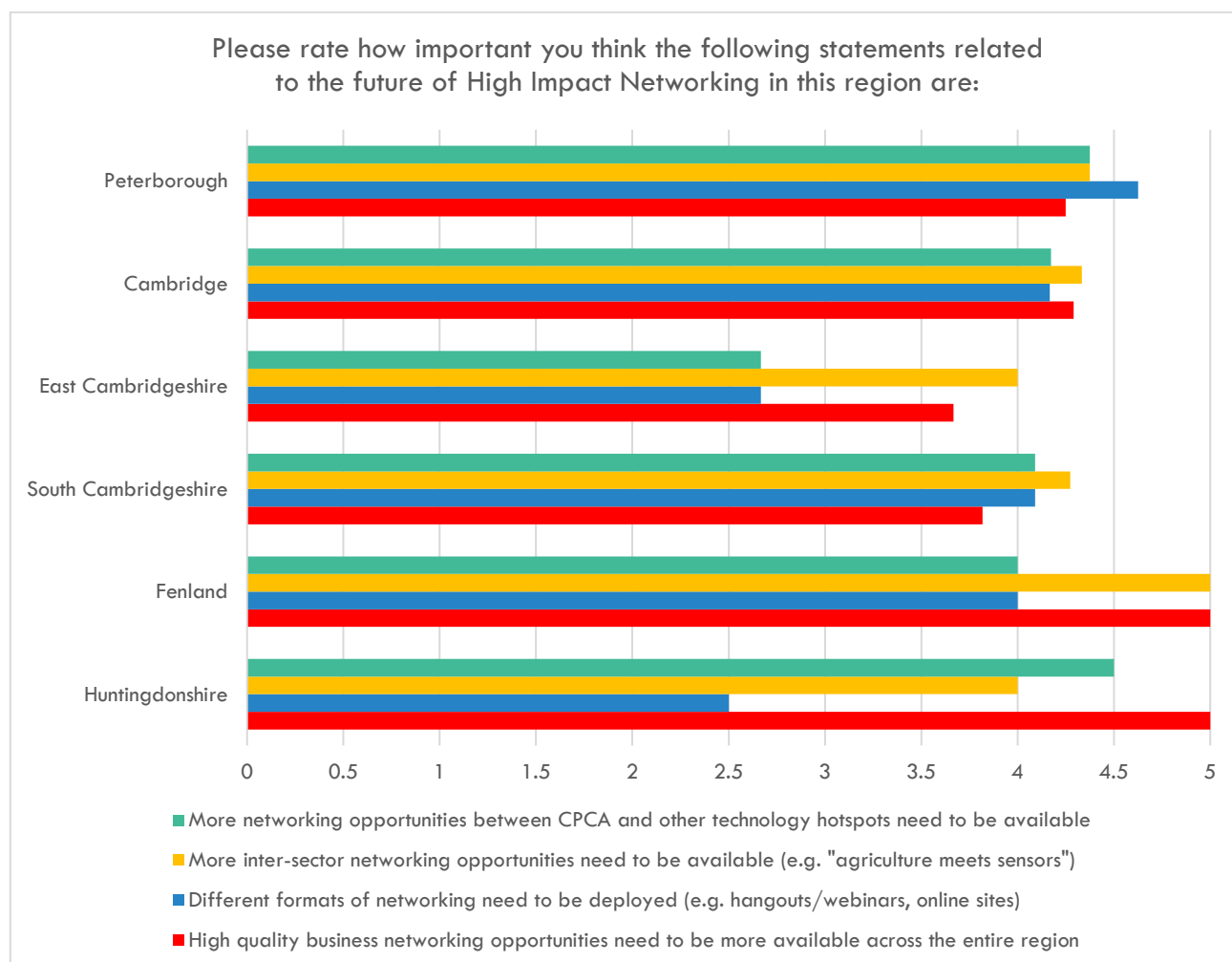
Moving to the perceived importance of topics related to high impact networking, one can see **that High quality business networking opportunities need to be more available across the entire region**, and **More inter-sector networking opportunities need to be available** are the two top priorities at aggregate level.



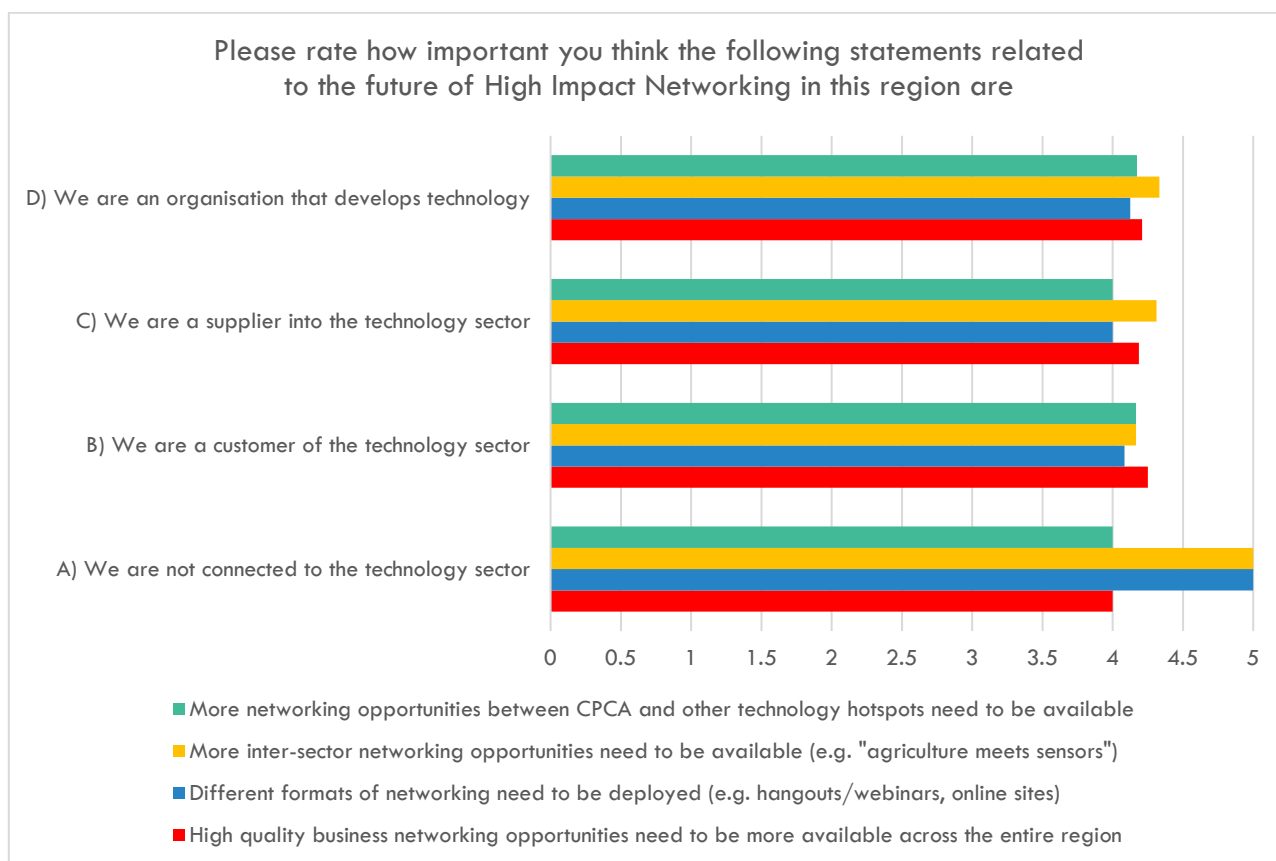
By looking at the geography data, The Fenlands identify these same two priorities as critically relevant:

- **High quality business networking opportunities need to be more available across the entire region, and**
- **More inter-sector networking opportunities need to be available** (e.g. "agriculture meets sensors")

This last priority is critically important also for Huntingdonshire

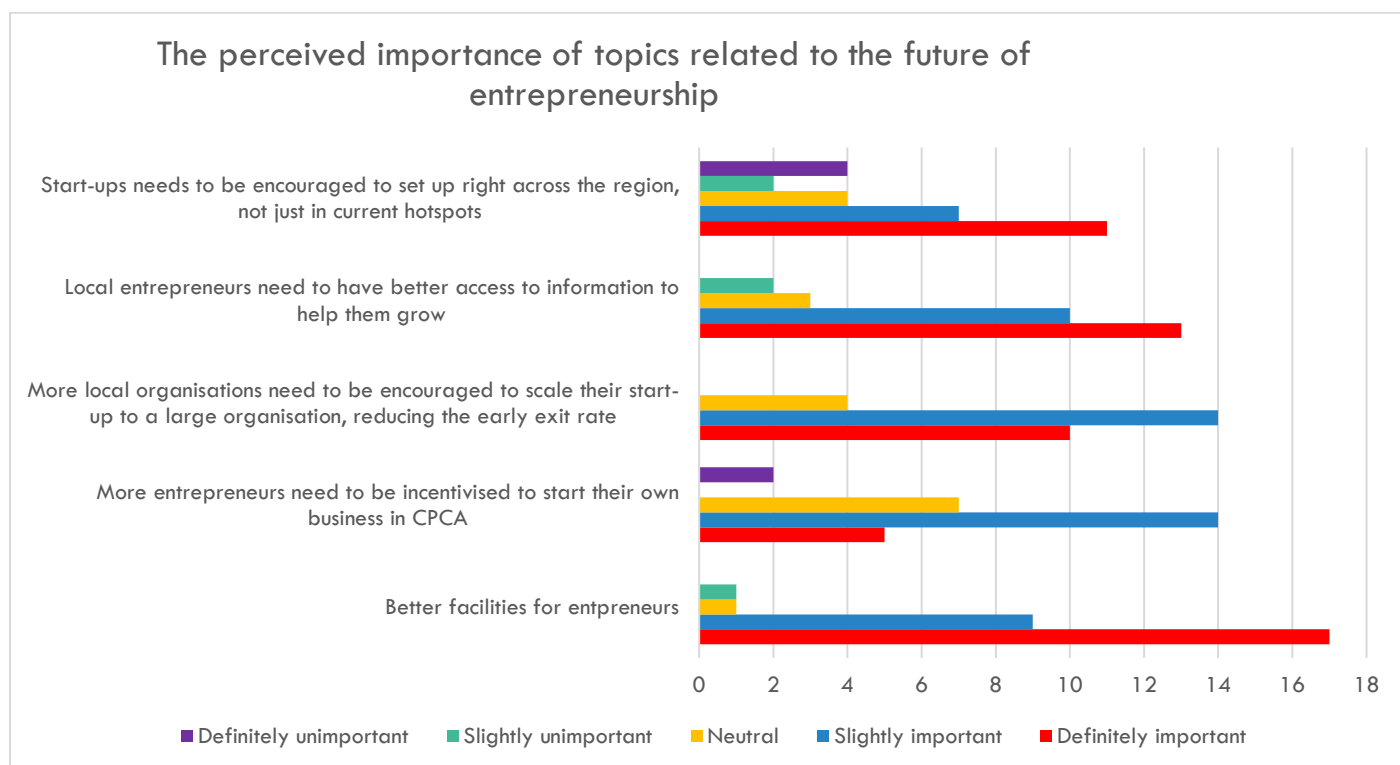


Similarly to the previous domains, the respondents not connected to the technology sector expressed the strongest needs, focussing in particular on **More inter-sector networking opportunities need to be available** and **on different formats of networking need to be deployed**



QUANTITATIVE INPUT ON ENTREPRENEURSHIP

Considering the perceived importance of topics related to the future of entrepreneurship, one can see that Better facilities for entrepreneurs was definitively important for a relevant number of respondents



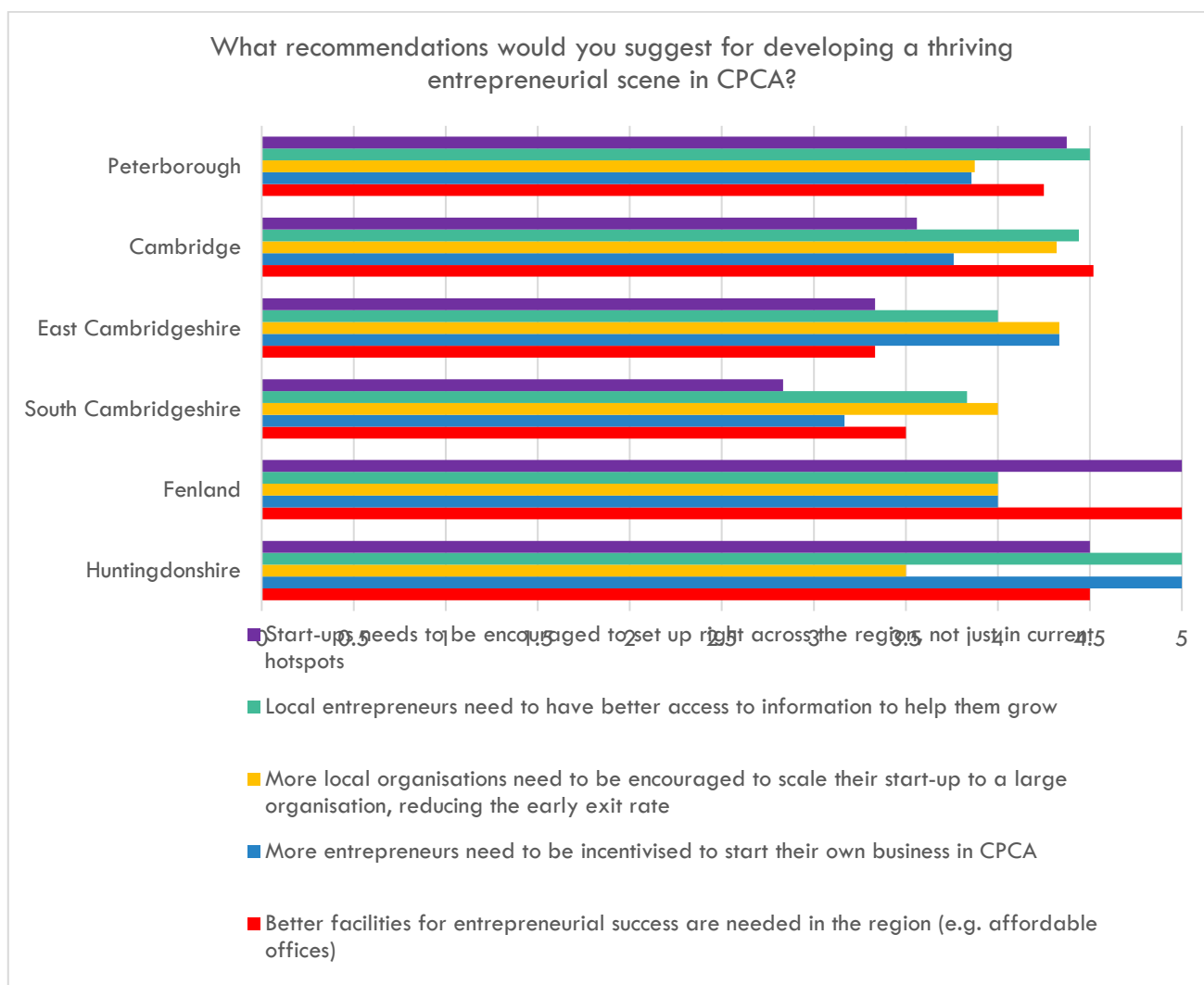
The Graphs below shows the geographic distribution of priorities for developing a thriving entrepreneurial scene in CPCA across areas. The Fenland's answers prioritise

- **Start-ups needs to be encouraged to set up right across the region, not just in current hotspots** and
- **Better facilities for entrepreneurial success are needed in the region** (e.g.affordable offices)

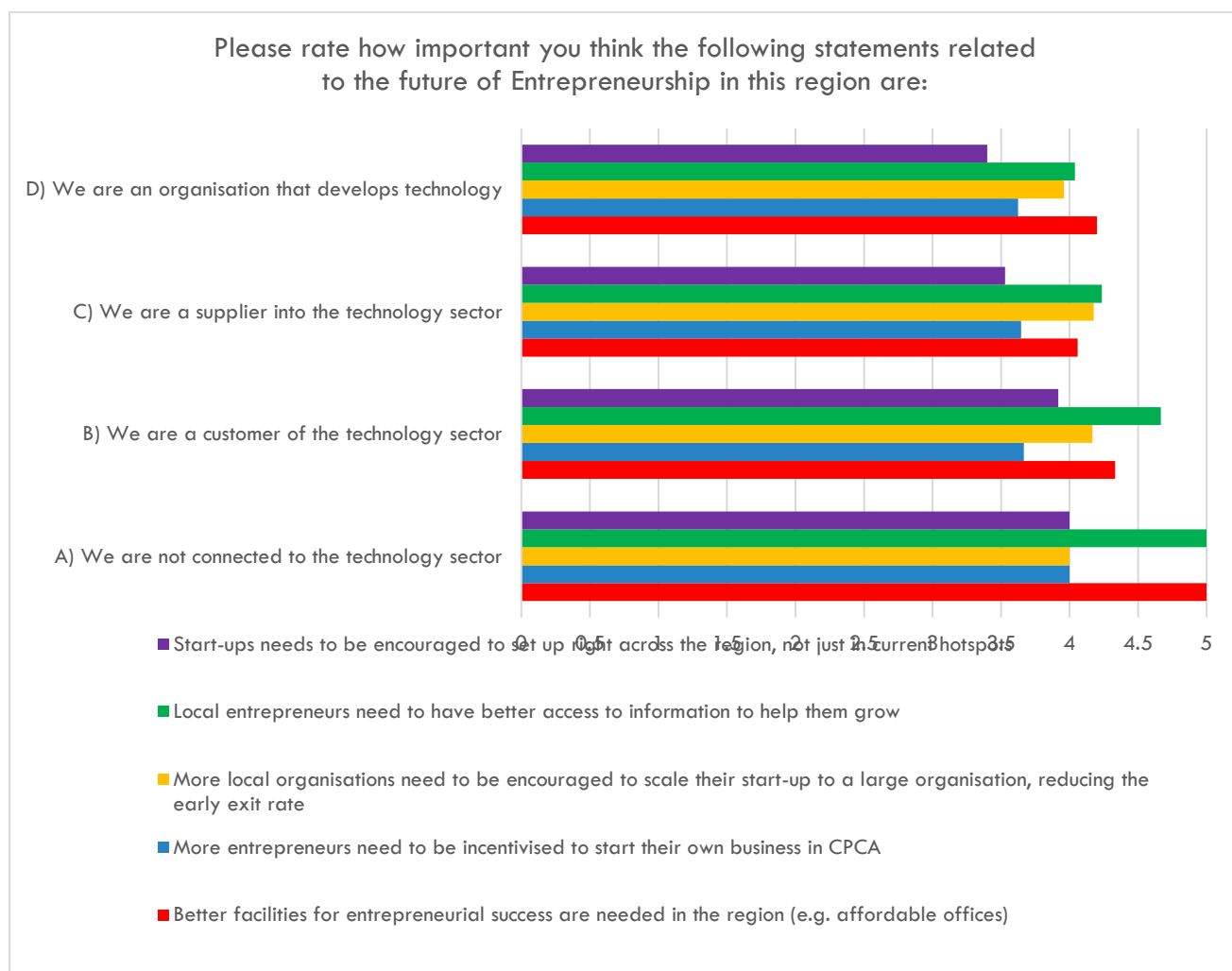
While Huntingdonshire prioritised

- **More entrepreneurs need to be incentivised to start their own business in CPCA** and
- **Local entrepreneurs need to have better access to information to help them grow**

Fenland/Peterborough/Huntingdon do place more importance in start-ups being encouraged around the region than East/South/Cam while the need for start-up facilities is highest in Fenland, followed by Cambridge

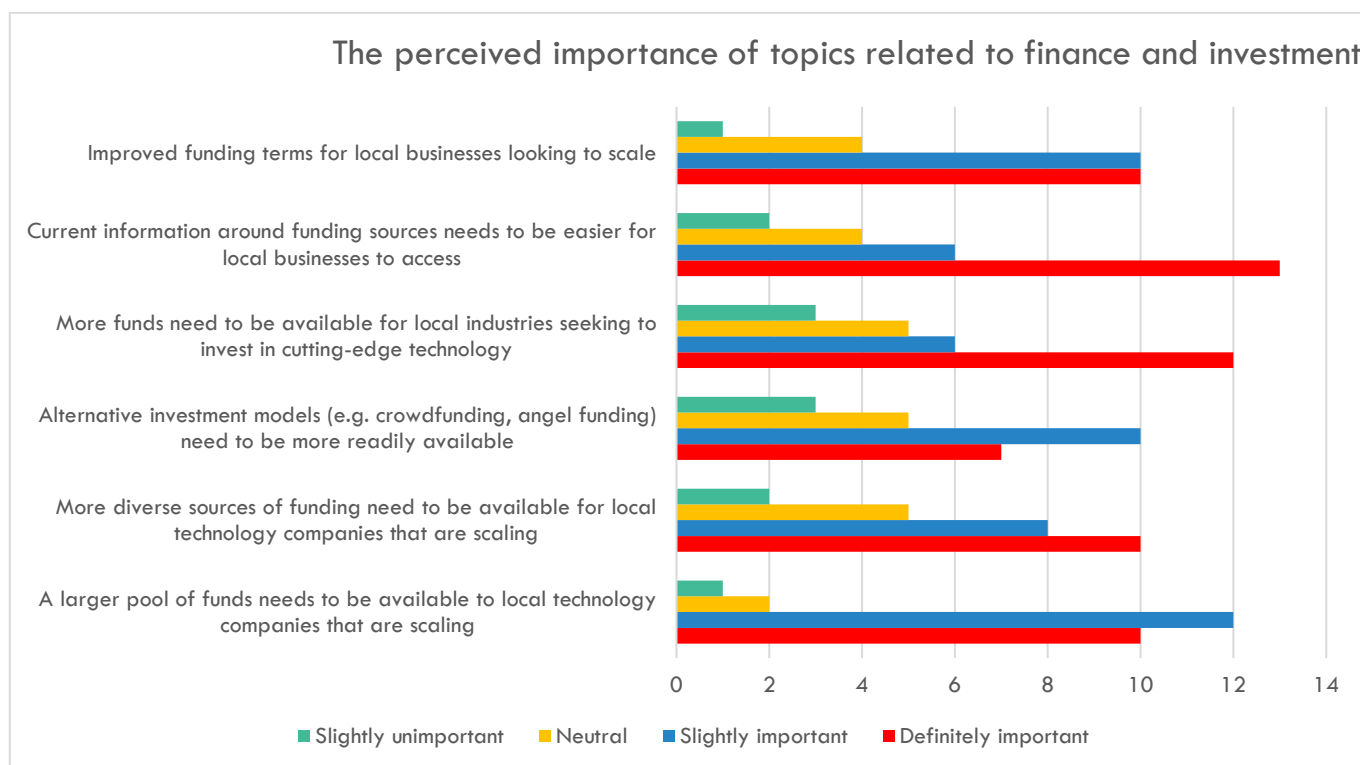


- Also when considering the priorities on entrepreneurship, the respondents non connected to the technology sector indicated the higher priorities as **Better facilities for entrepreneurial success are needed in the region** (e.g.affordable offices) and **Local entrepreneurs need to have better access to information to help them grow**.

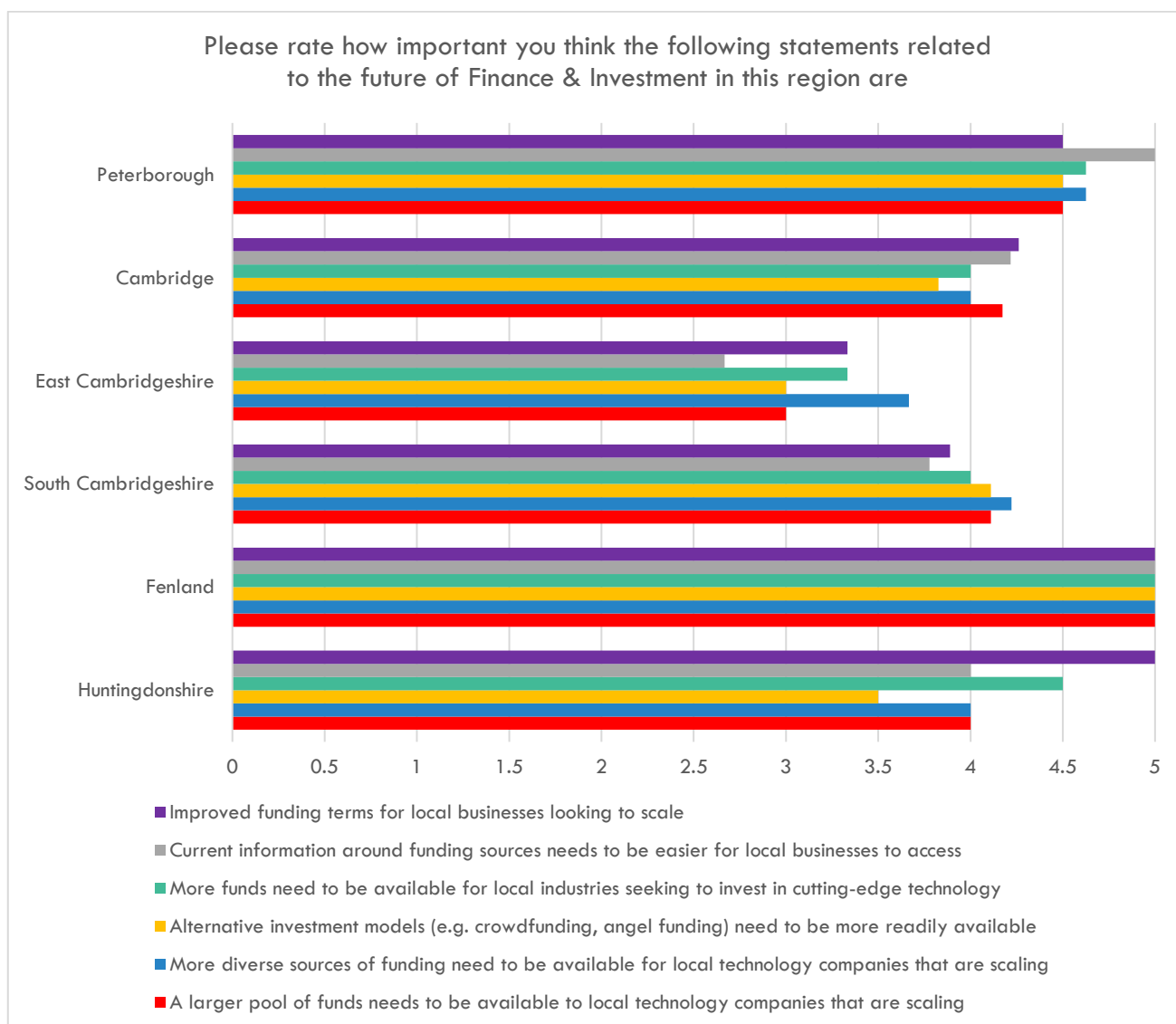


QUANTITATIVE INPUT ON INVESTMENT AND FINANCE

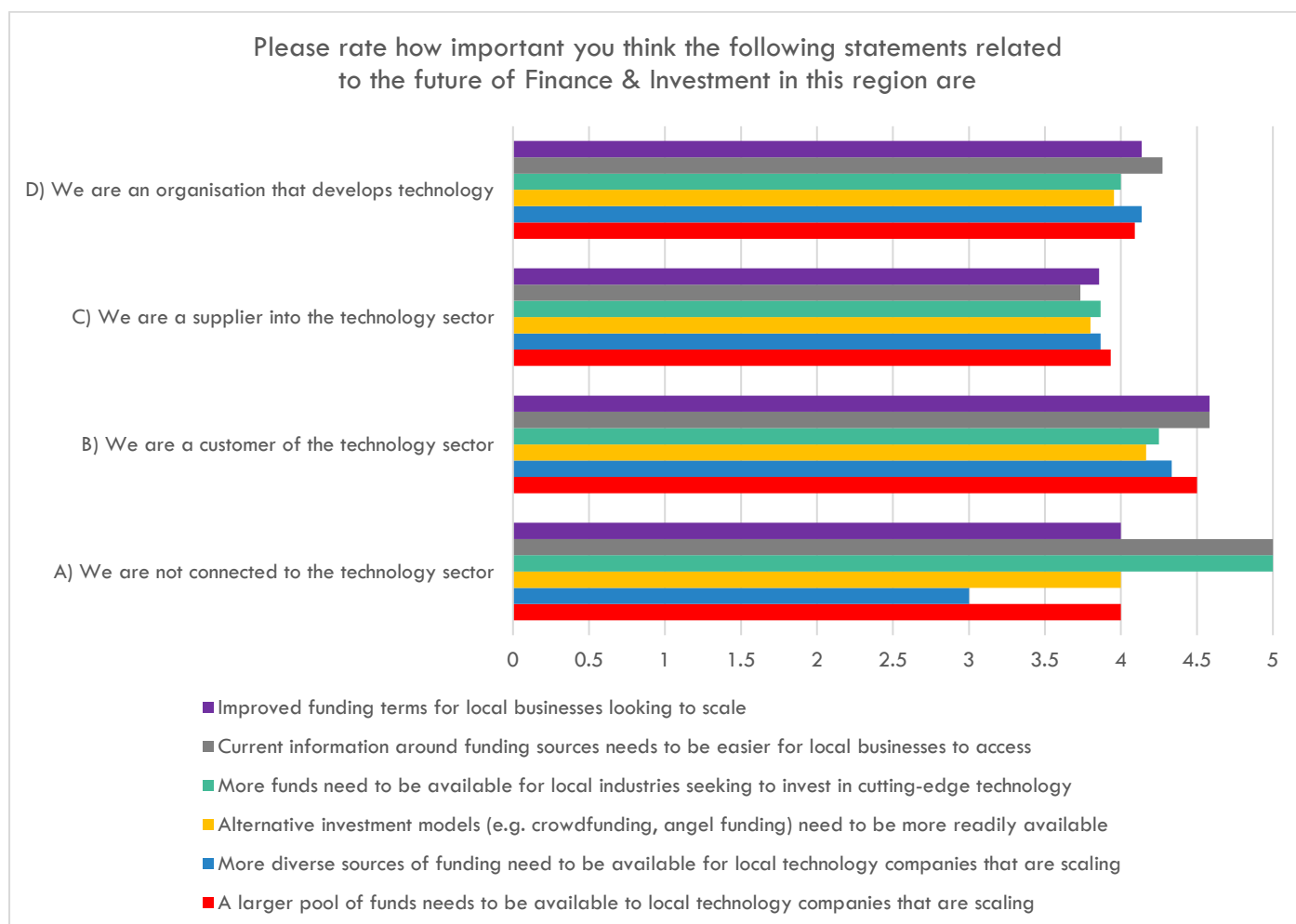
Moving to the answers on the perceived importance of topics related to finance and investment, once can see that the priorities at aggregate level are: **current information around funding sources needs to be easier local business to access** and **more funds need to be available for local industries seeking to invest in cutting edge technology**



When considering the disaggregated answers, at district level, one can see that, The Fenlands identify all these as top priorities, showing a very wide set of needs around finance and investment, while Huntingdonshire identifies the need for **Improved funding terms for local businesses looking to scale** as the key priority indicating the willingness to scale

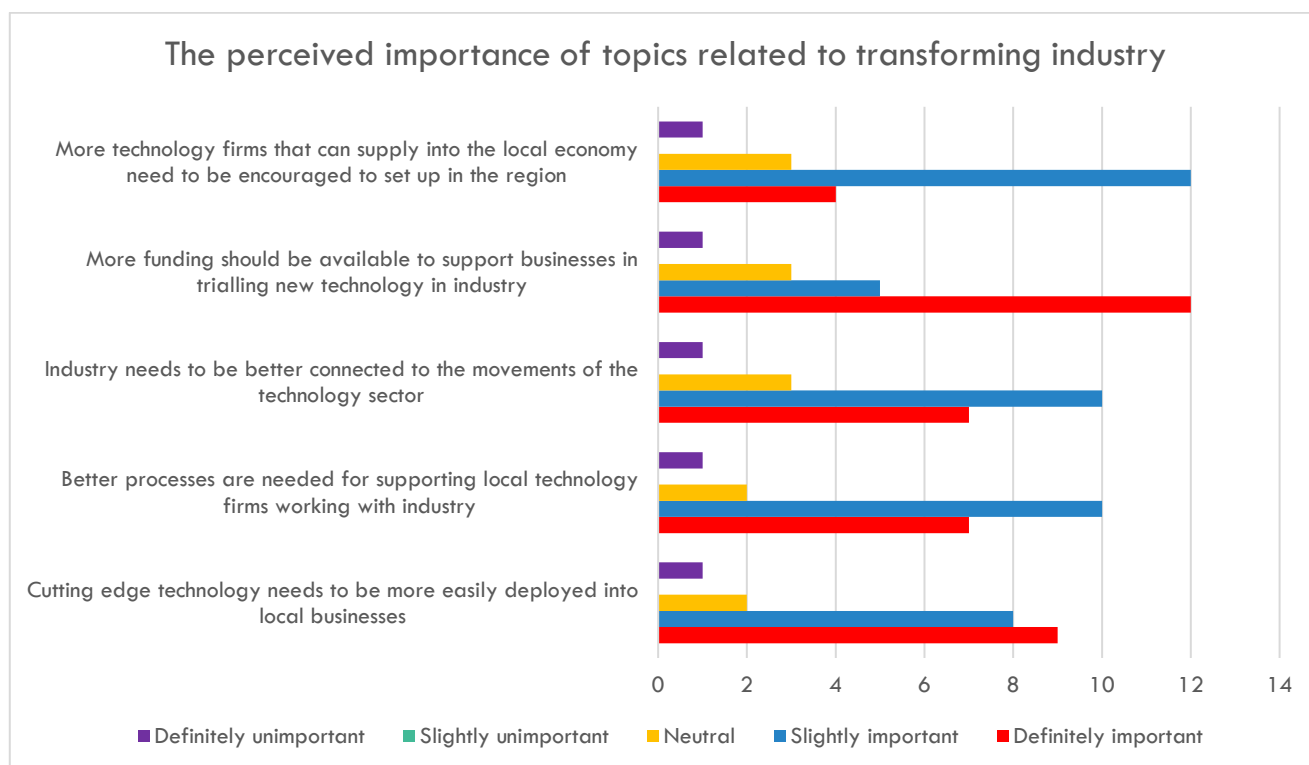


Again, focussing on the role in the supply chain, the respondents non connected to the technology sector indicated the higher priorities, a those on the **current information around funding sources needs to be easier local business to access** and **more funds need to be available for local industries seeking to invest in cutting edge technology**.



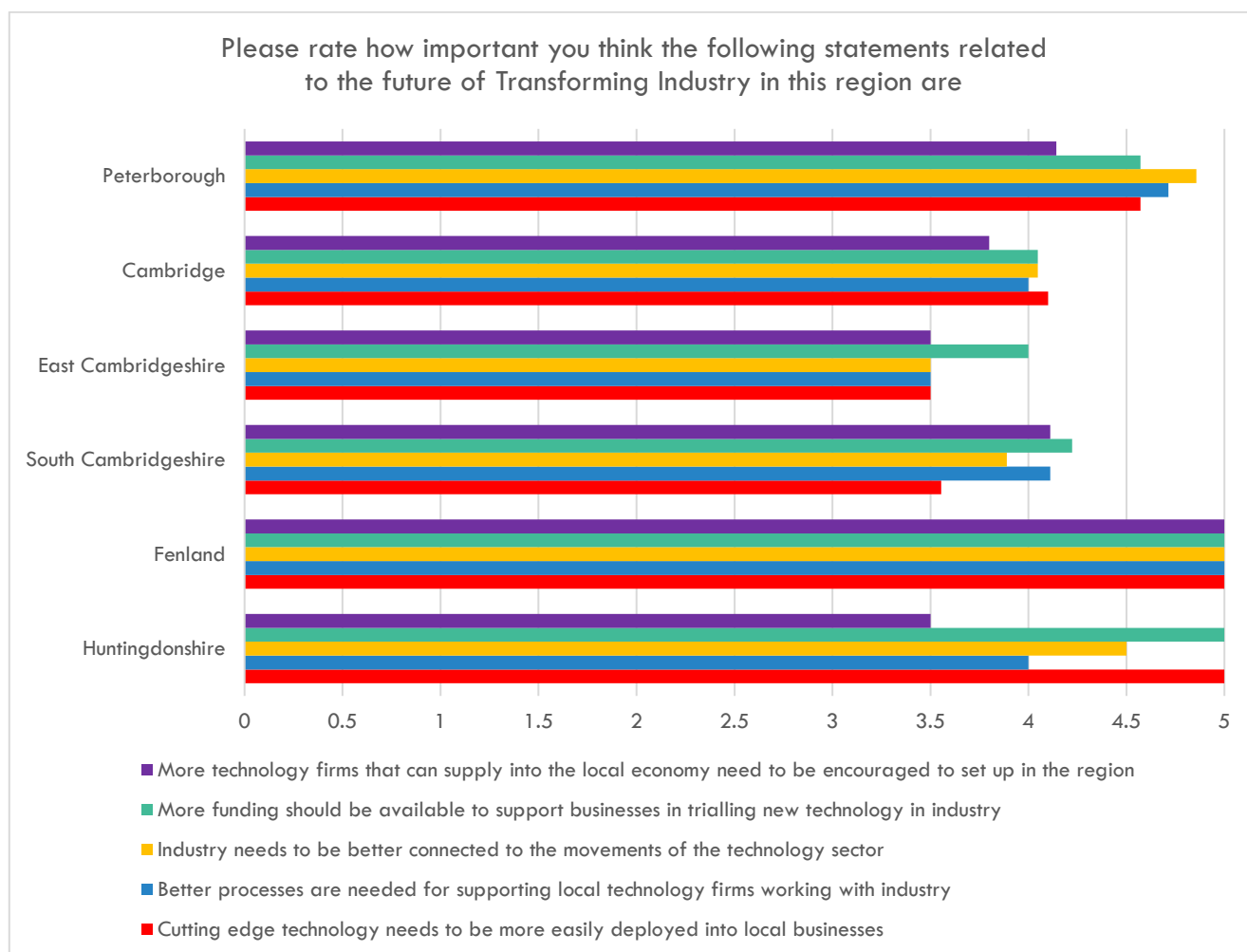
QUANTITATIVE INPUT ON APPLICATION IN INDUSTRY

Moving to the relevance importance of topics related to transforming industry, this question addressed a more active propositive stance, asking to look at the critical elements needed to transform the future. At aggregate level, the key identified issue is **More funding should be available to support businesses in trialling new technology in industry**, followed by **More technology firms that can supply into the local economy need to be encouraged to set up in the region**.

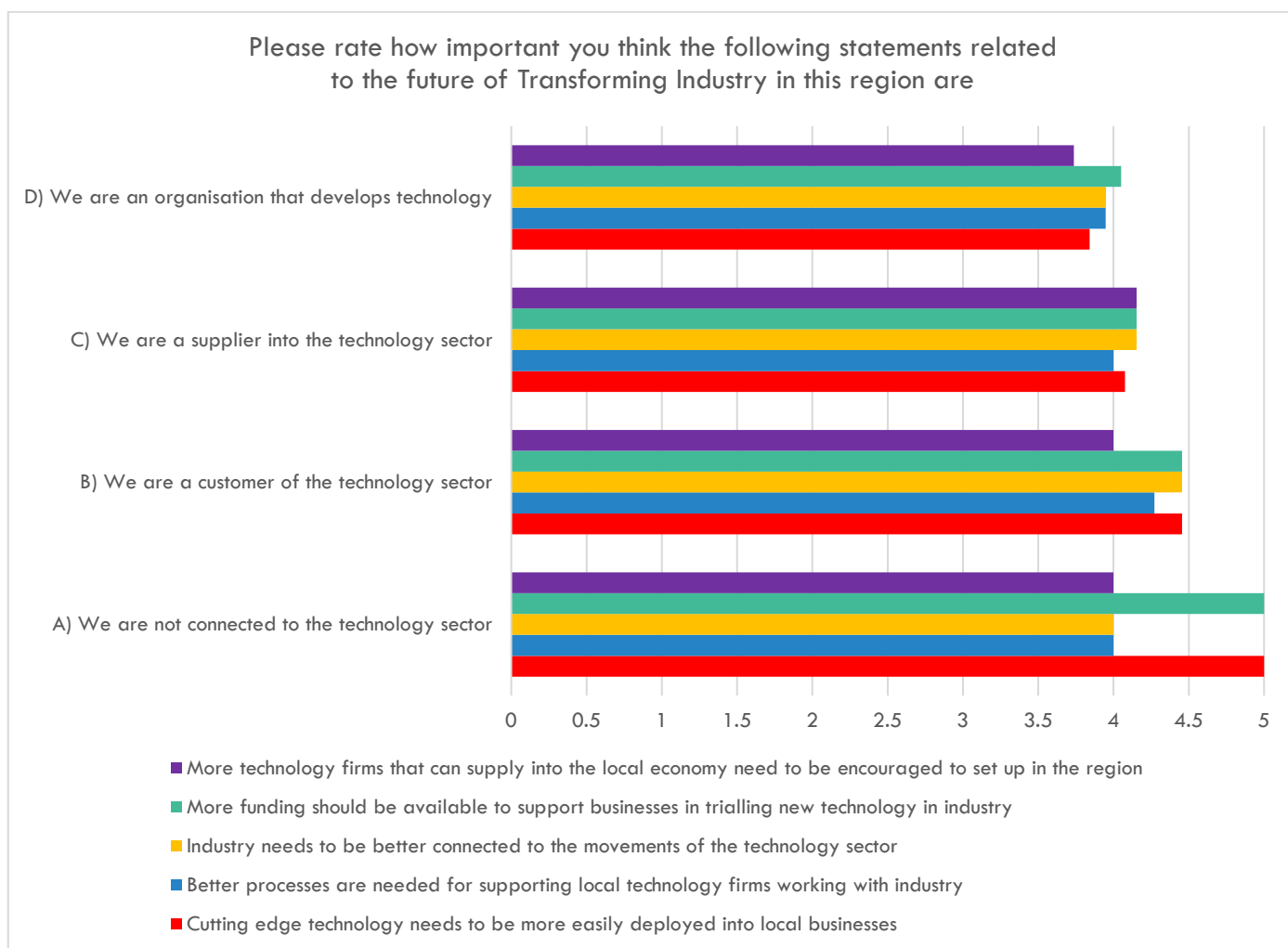


Shifting to focus on the district level, one can see that, again, the Fenlands considered all issues as being of critical importance as well as Peterborough and Hunts, though with slight less intensity. In detail, both

- **Industry needs to be better connected to the movements of the technology sector and**
- **Cutting edge technology needs to be more easily deployed into local businesses,** were of key relevance for the Fenlands Peterborough and Hunts as well as Cambridge
- **Better processes are needed for supporting local technology firms working with industry,** are critical for Fenlands Peterborough and Hunts, South Cambridgeshire as well as Cambridge
- **More funding should be available to support businesses in trialling new technology in industry** is, as expected, relevant for all areas, even though with some variation in intensity, while
- **More technology firms that can supply into the local economy need to be encouraged to set up in the region,** was relevant for Fenlands Peterborough and, South Cambridgeshire



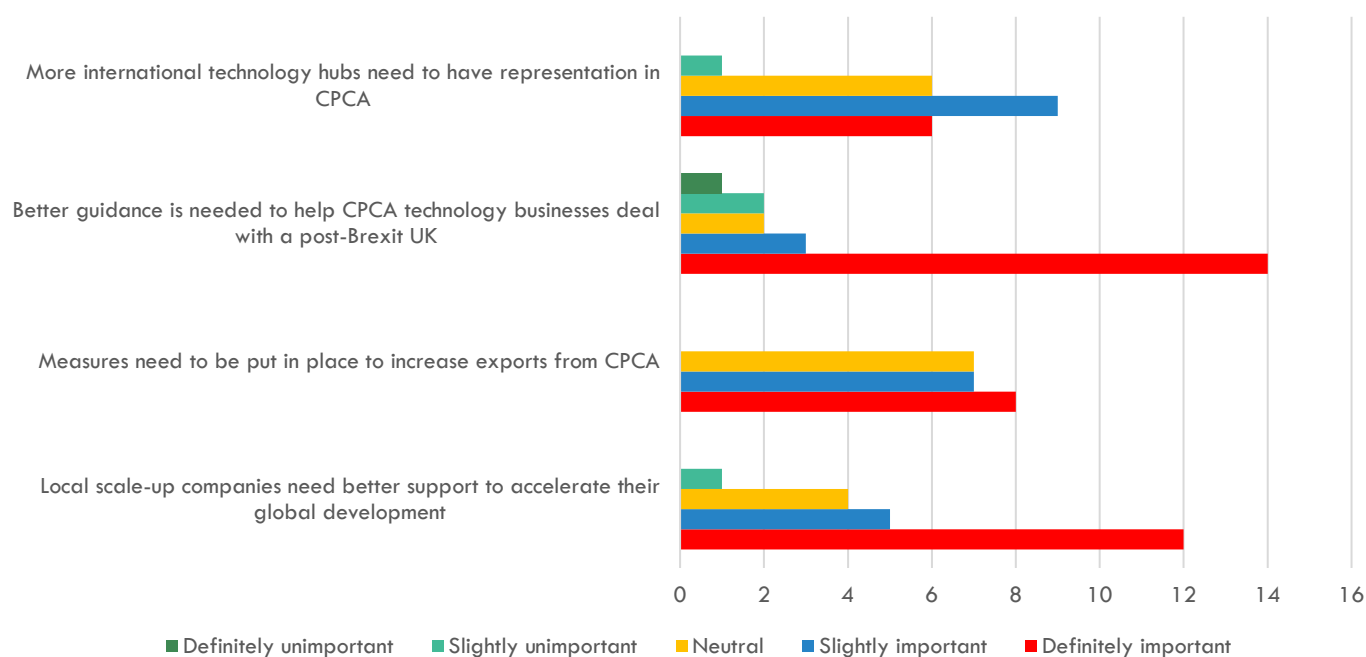
When focussing on the role in the supply chain, the respondents non connected to the technology sector indicated the higher priorities, are those prioritising the relevance of **More funding should be available to support businesses in trialling new technology in industry** and **Cutting edge technology needs to be more easily deployed into local businesses**



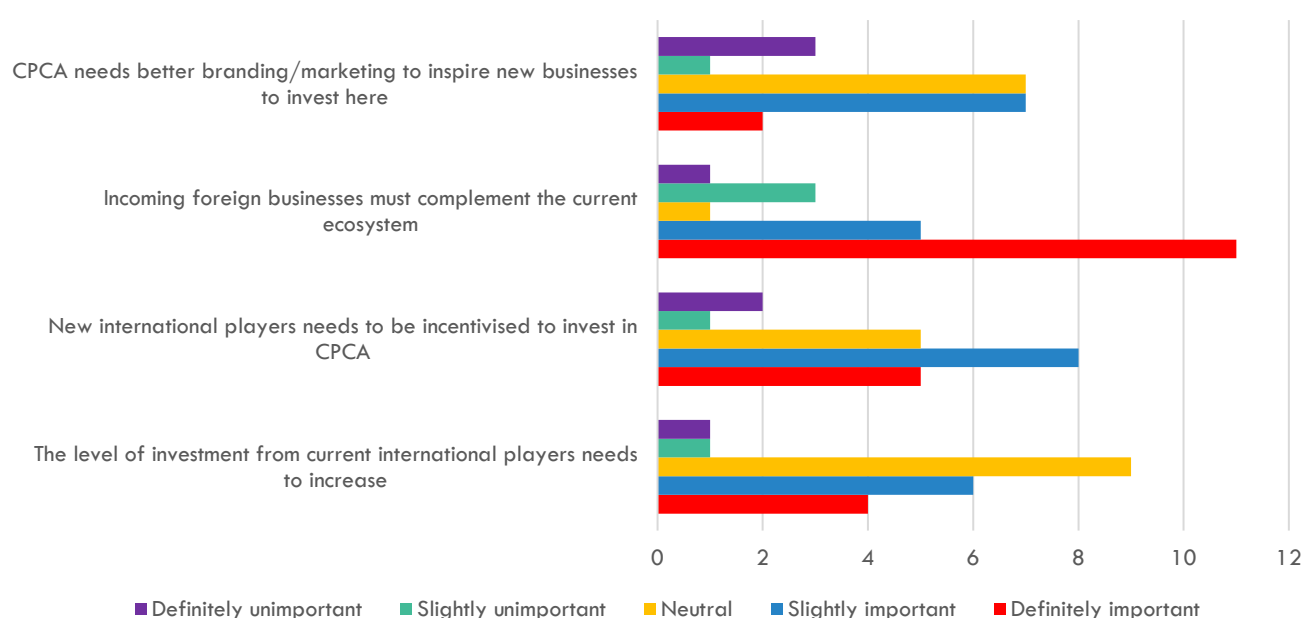
QUANTITATIVE INPUT ON INTERNATIONAL (TRADE AND FDI)

- Moving to the perceived importance of topics related to international trade and FDI the clear priority is **Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK**, followed by **Local scale-up companies need better support to accelerate their global development**. While concerning more specifically FDI the top identified priority was **Incoming foreign businesses must complement the current ecosystem**

The perceived importance of topics related to international trade



The perceived importance of topics related to the future of foreign direct investment



Moving to the district analysis of these factors, the Fenlands and Huntingdonshire showed two key areas of concerns, East Cambridgeshire and Peterborough one.

In detail

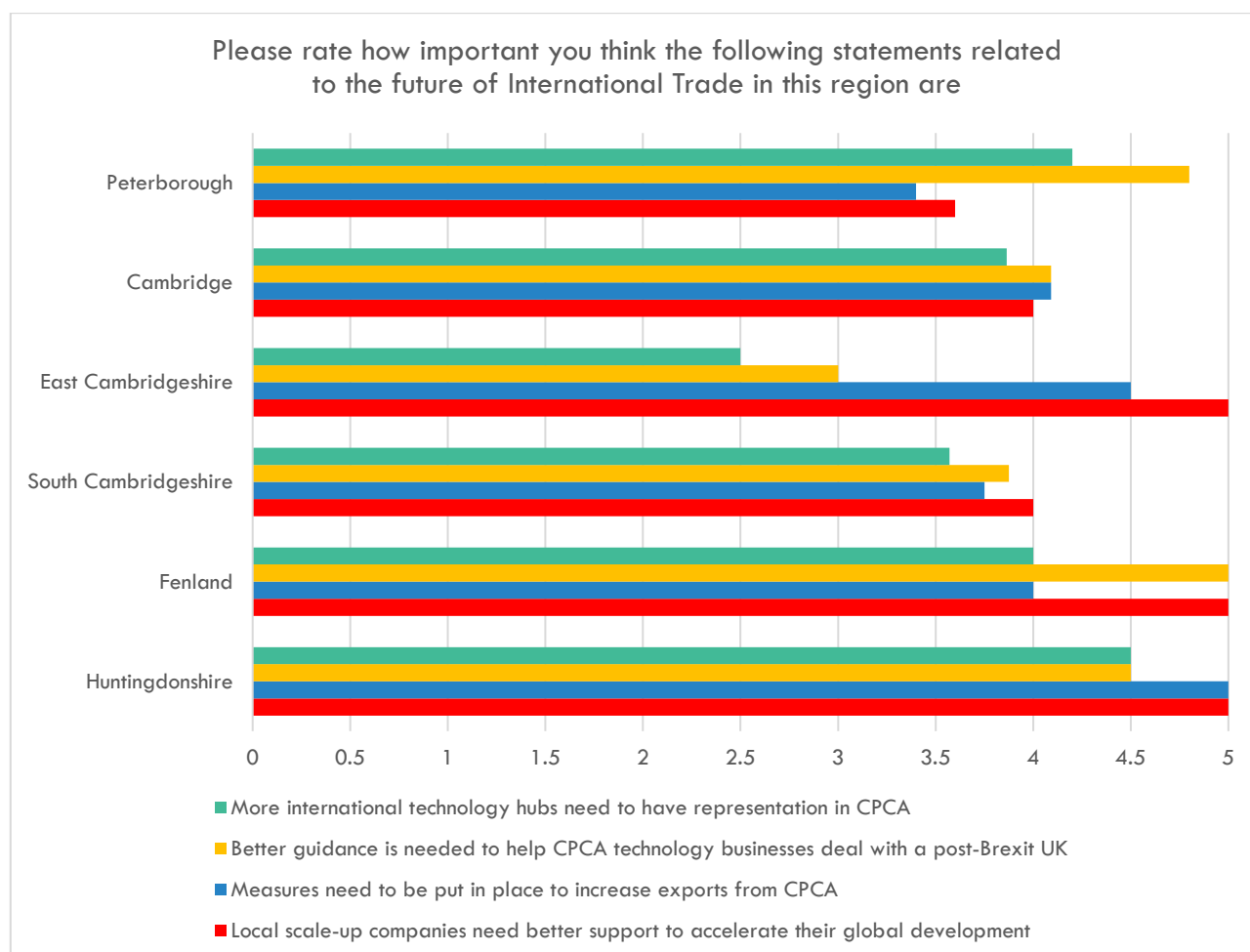
- **Local scale-up companies need better support to accelerate their global development** is top priority and shared between Fenlands Huntingdonshire and East Cambridgeshire, next comes
- **Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK**, as a top priority in the Fenlands and Peterborough
- **Measures need to be put in place to increase exports from CPCA**, is of top importance for Huntingdonshire

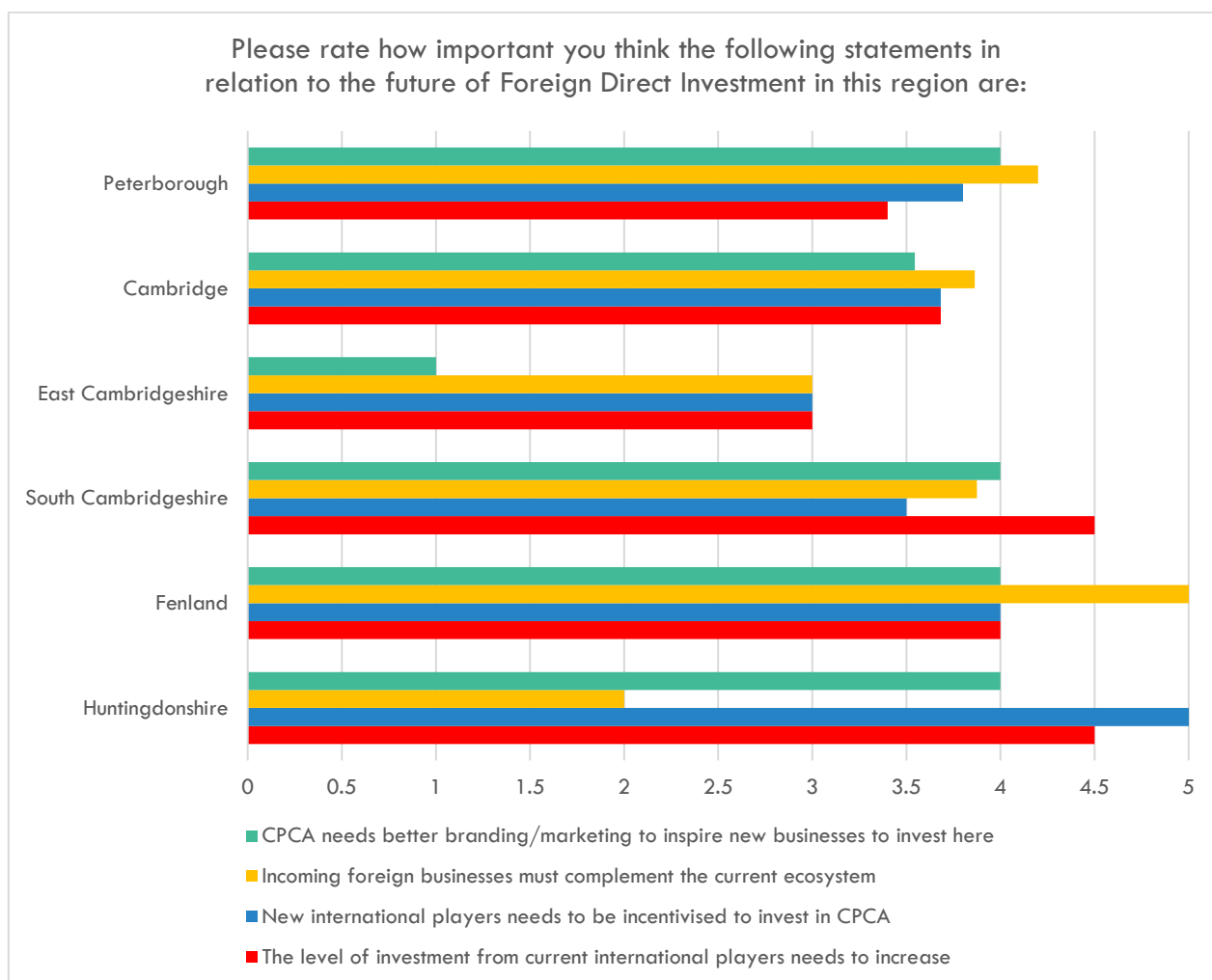
FDI presents three main areas of concern, perceived as highly relevant. In the Fenland, the key issue is that

- **Incoming foreign businesses must complement the current ecosystem**

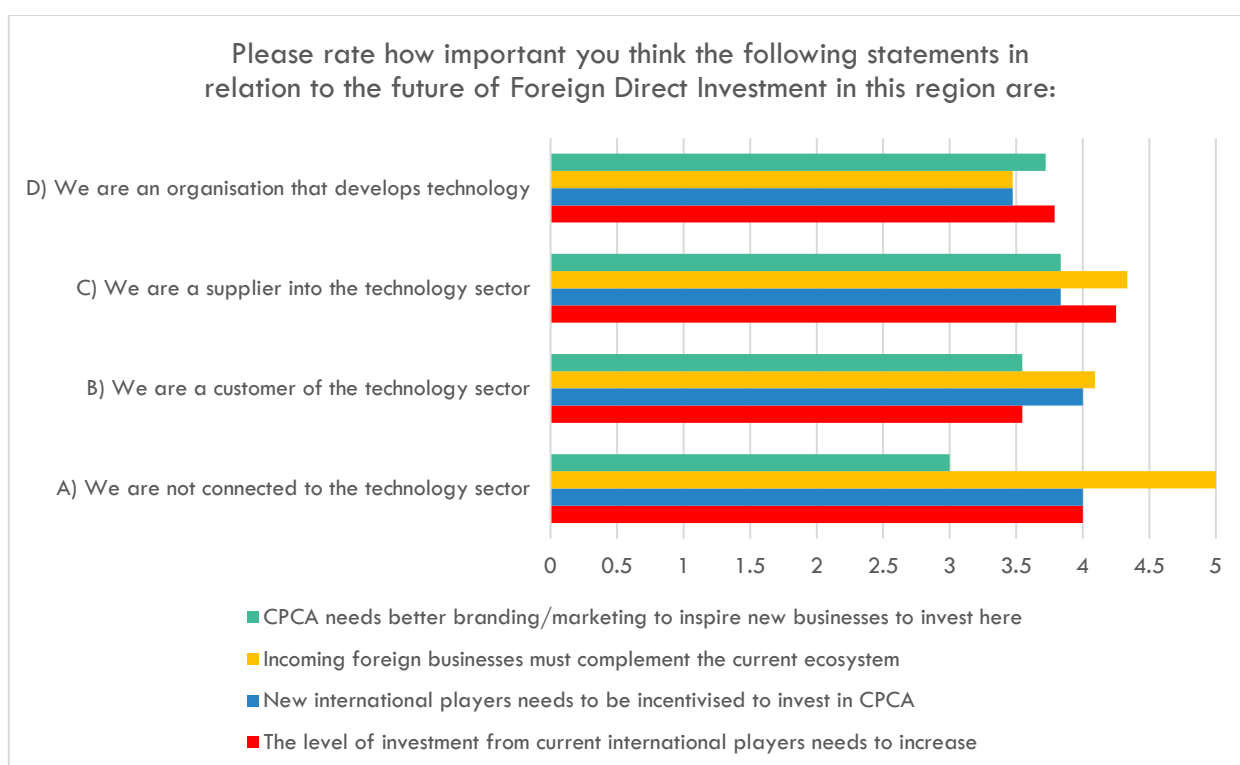
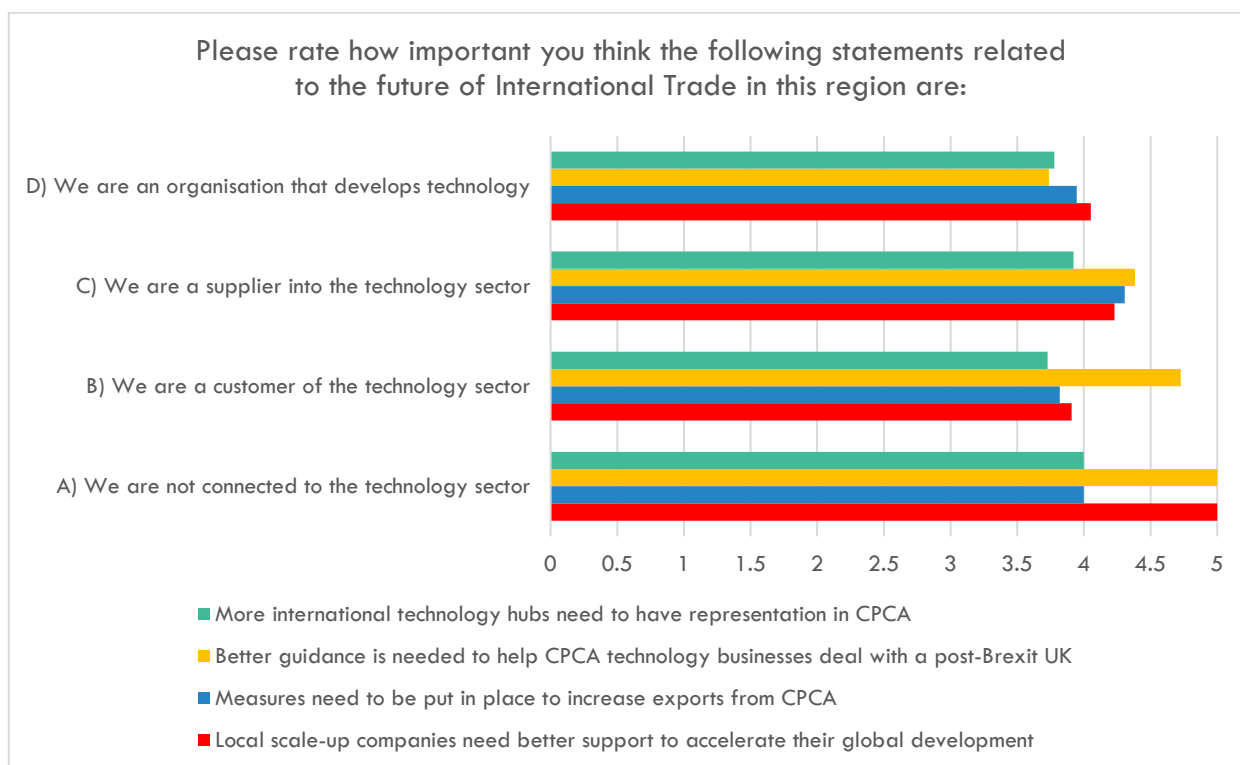
In Huntingdonshire is that

- **New international players need to be incentivised to invest in CPCA and**
 - **The level of investment from current international players needs to increase**
- An issue, this last one also of key relevance for East Cambridgeshire.





Finally, the relevance of international issues according to the position in the supply chain sees again the respondents not connected to the technology sector see **Local scale-up companies need better support to accelerate their global development** and **Measures need to be put in place to increase exports from CPCA** as key priorities concerning the future of International Trade in this region and **incoming foreign business must complement the current ecosystem**, as the key priority concerning FDI

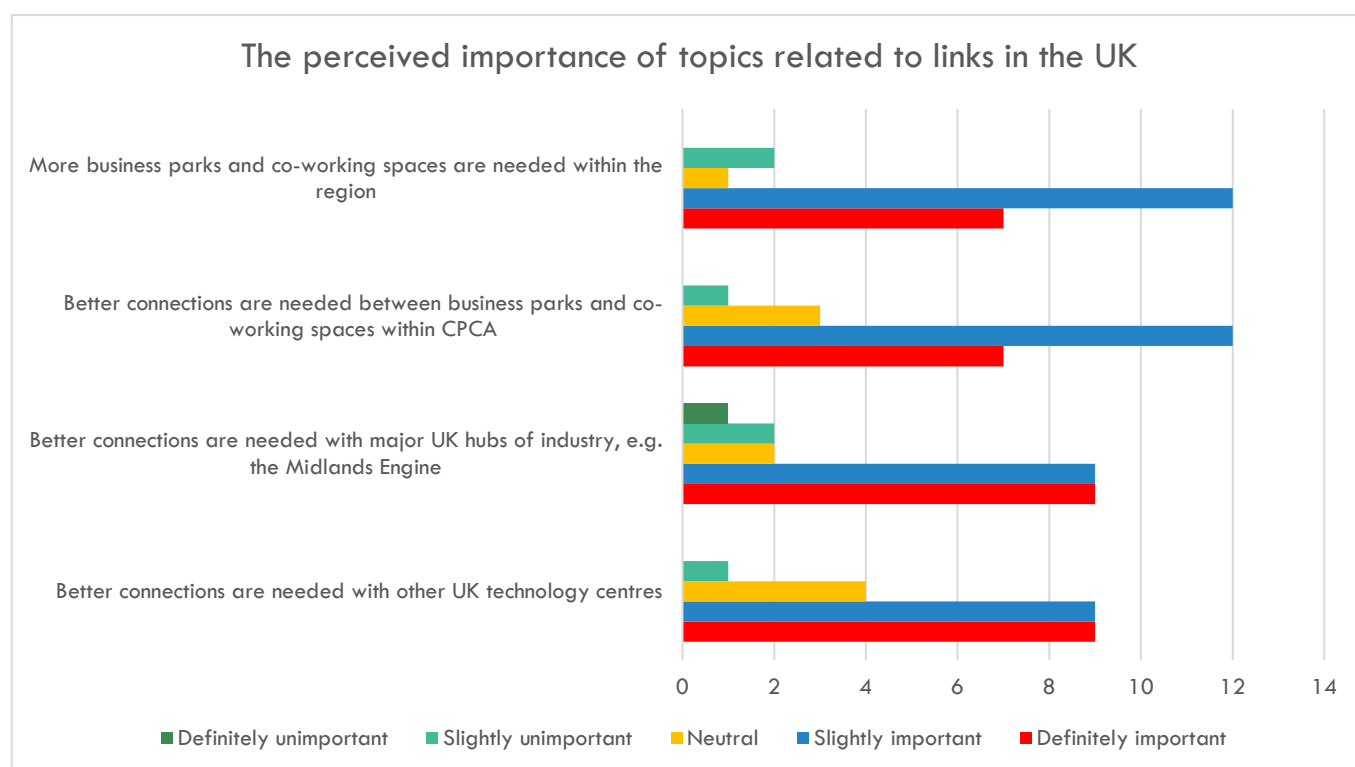


QUANTITATIVE INPUT ON KNOWLEDGE TRANSFER

The analysis concludes with the perceived importance of topics related to links in the UK. At aggregate level, one can see that **Better connections are needed with other UK**

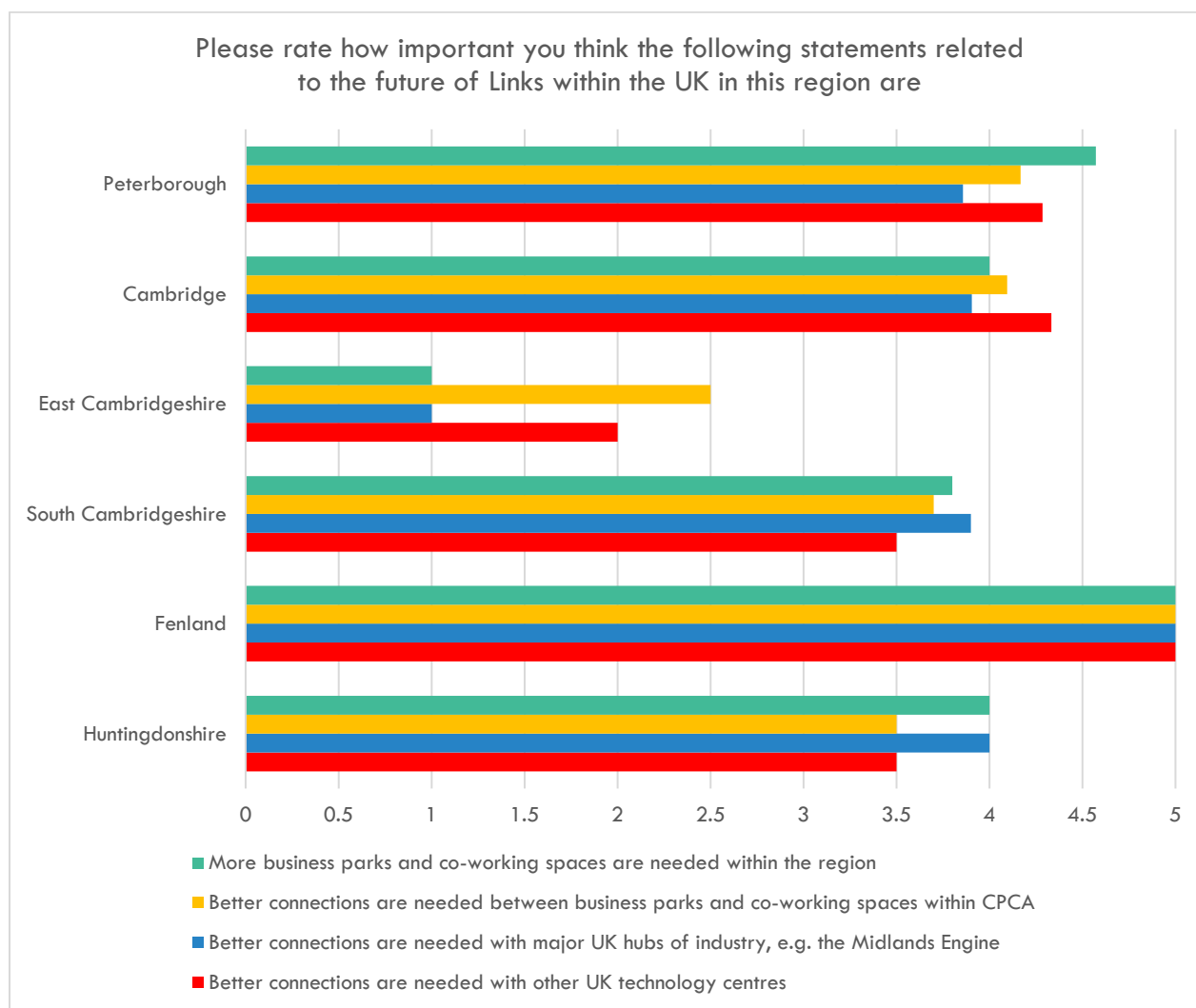
technology centres and **Better connections are needed with major UK Hubs of industry**, are perceived as definitively important by a majority of respondents

one can see that regarding the future of Knowledge Transfer in this region

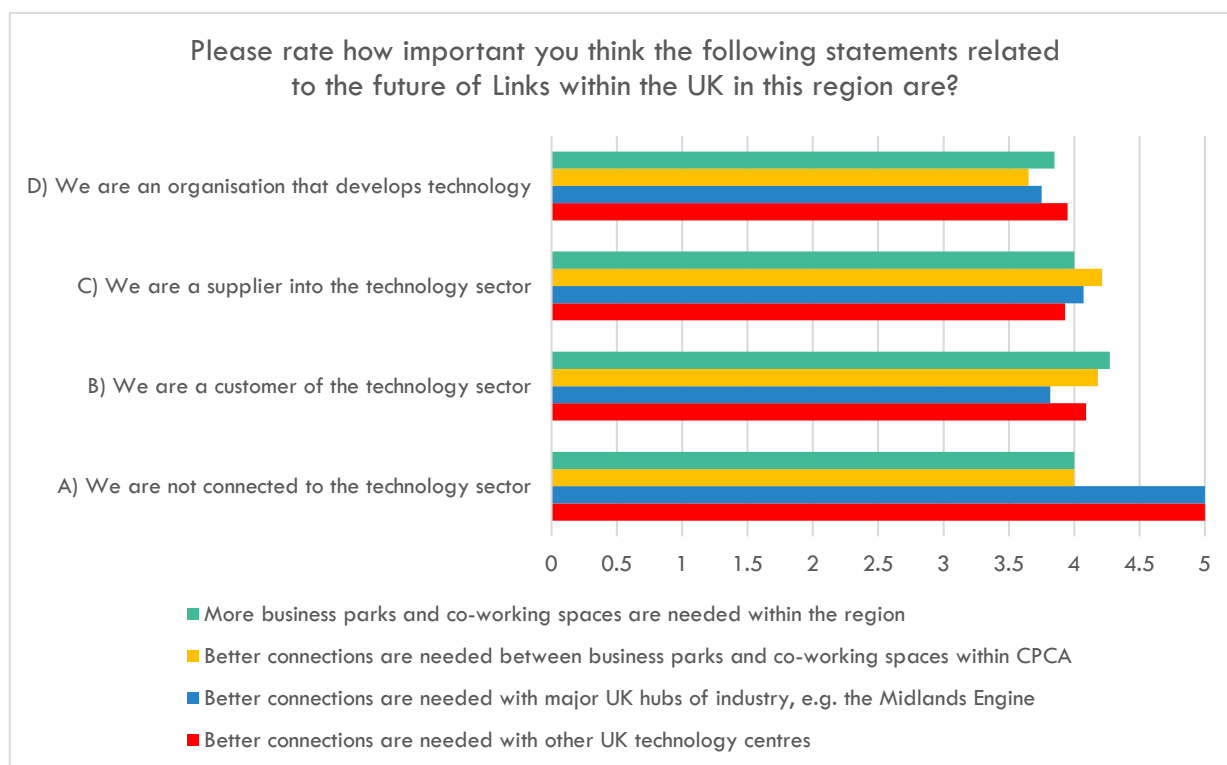


On a disaggregate level by district, the issue of Links within the UK is of particular relevance to the Fenlands, whose respondents selected all four issues as critically relevant, While Peterborough highlighted three areas and Cambridge two. In detail:

- **More business parks and co-working spaces are needed within the region,**
- **Better connections are needed between business parks and co-working spaces within CPCA**
- **Better connections are needed with other UK technology centres,** were all a key issues in the Fenlands in Cambridge and in Peterborough

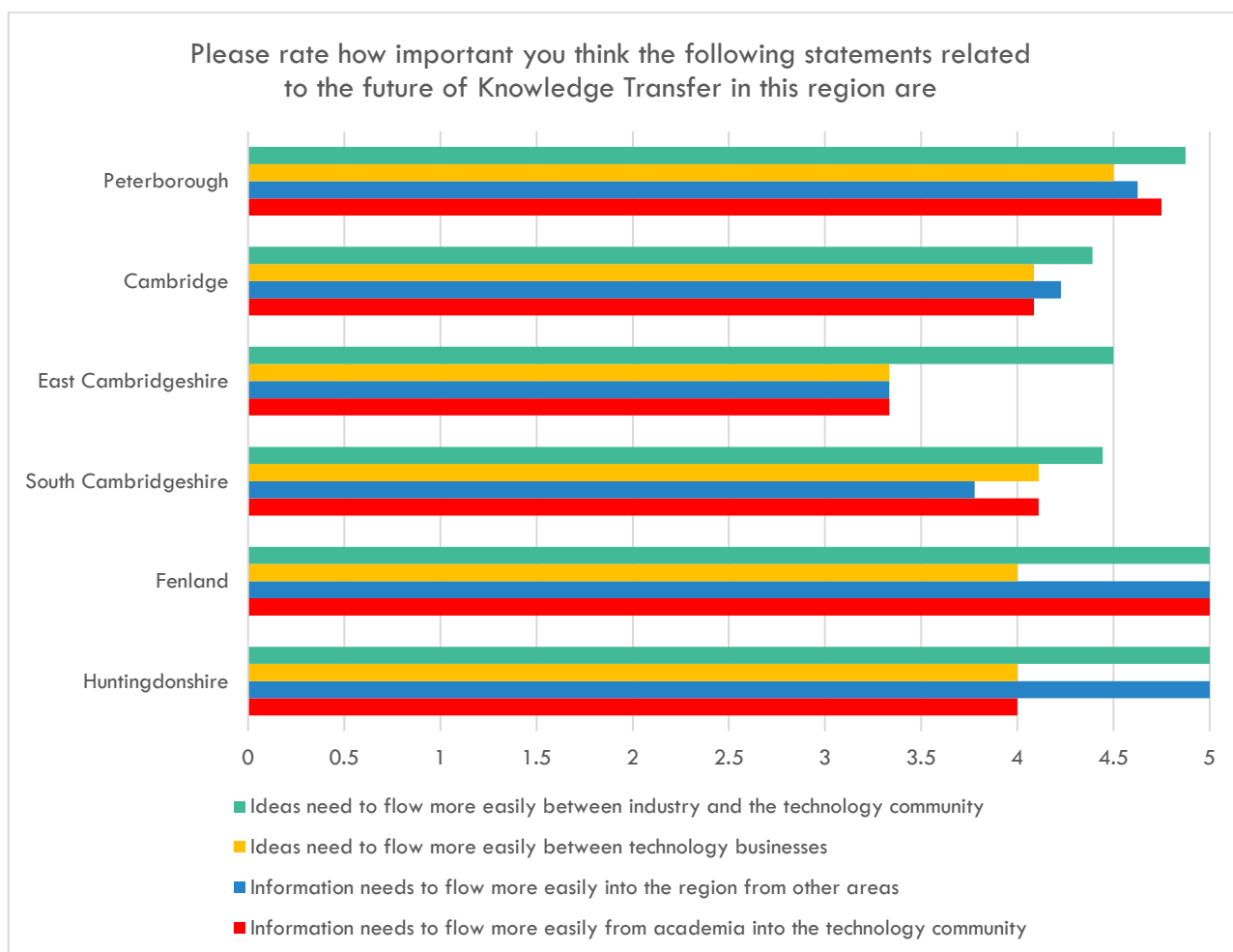


Concerning to the future of Links within the UK in this region, the respondents not connected to the technology sector identified again as top priorities **Better connections are needed with other UK technology centres** and **Better connections are needed with major UK Hubs of industry**,

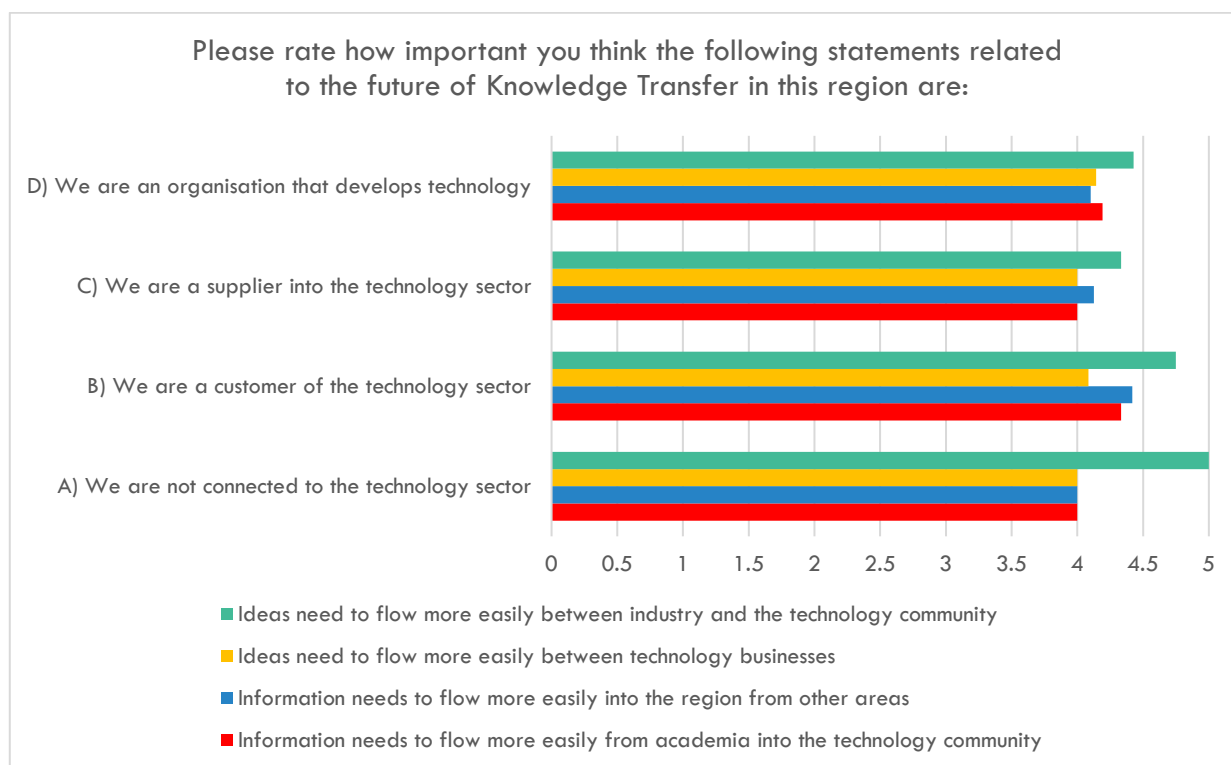


Moving to how important to the future of Knowledge Transfer in this region the following topics are, one can see that the Fenland have three key priorities

- Ideas need to flow more easily between industry and the technology community
- Information needs to flow more easily into the region from other areas, and
- Information needs to flow more easily from academia into the technology community
- Interestingly, two of these priorities are perceived are significantly important also in Huntingdonshire
- Ideas need to flow more easily between industry and the technology community
- Information needs to flow more easily into the region from other areas, and
- while also in Peterborough the perception that Ideas need to flow more easily between industry and the technology community, is highly important



While the role in the value chain identifies as key priority **Information needs to flow more easily from academia into the technology community** for the respondents not connected to the technology sector



---End of Annex 2---



CAMBRIDGESHIRE
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COMBINED AUTHORITY

Community Impact Assessment

Function		Combined Authority meeting date <i>If applicable</i>	
Name of Project or policy	Local Industrial Strategy		27 March 2019
Service area responsible	Business and Skills		
Name of officer undertaking assessment	Dan Thorp		
Approved by Director / Assistant Director	John T Hill		

What are the aims and objectives of the proposal?

Briefly describe the aims and objectives of the proposal and what is changing and why. Description of proposal should include the relevance of the proposal to the general equality duties and protected groups. Document your reasoning for deciding whether or not a full assessment is required.

The Local Industrial Strategy (LIS) is a new document that has been produced to support the delivery of the Cambridgeshire and Peterborough Growth Ambition Statement, the achievement of the Devolution Deal. It is part of national Government policy within the UK Industrial Strategy, to have a Local Industrial Strategy for each part of the country.

The purpose of the LIS in this context is to set out how the economy of Cambridgeshire and Peterborough can grow in a geographically and socially inclusive way, with the underlying aim of increasing the productivity of our entire economy. The LIS includes a range of priorities and proposed interventions which are intended to achieve this aim.

The LIS takes as its structure the five foundations of productivity set out in the UK Industrial Strategy, and sets out proposed priorities and actions to support the development of the following;

- People
- Places
- Ideas
- Business Environment
- Infrastructure

The LIS is not a statutory document. It has been developed by the Business Board in collaboration with the Combined Authority Board.

The LIS has been developed with the engagement and input of local authorities, public services, and local businesses. It is an implementation of the Cambridgeshire and Peterborough Independent Economic Review (CPIER) which was developed following two rounds of public consultation, as well as targeted stakeholder engagement.

Stage 3 –Who will be affected by this proposal?

Describe what is changing and why

The Local Industrial Strategy will positively impact people in Cambridgeshire and Peterborough, with its core focus on creating more and better job opportunities in the area, alongside skills and education provision which is more effective at helping people to access those opportunities.

The LIS uses the analysis of the Cambridgeshire and Peterborough Independent Economic Review (CPIER) and the Skills Strategy evidence base to understand these specific issues at a local level to Greater Cambridge, Greater Peterborough, and the Fens. With priorities and interventions tailored to the specific needs of the communities in those places.

The Local Industrial Strategy also makes reference to the strategic issues related to economic growth, which have an impact on our communities. Such as the pressures faced by public services. The LIS references the work being undertaken locally to understand and address such challenges, and notes the role that Government should play.

Stage 4 – Scoping Exercise -

Identify the main sources of the evidence, both quantitative and qualitative, that supports your analysis in stage 3. This could include for example, data on the Combined Authority's workforce, equalities profile, results of recent relevant consultations, and any other sources of relevant information, local, regional or national.

Data Source (include link where published)	What does this data include?
Cambridgeshire and Peterborough Independent Economic Review (CPIER); www.cpier.org.uk	Evidence and analysis of the economy of the region, including how this impacts and is impacted by people and communities
Cambridgeshire and Peterborough Skills Strategy Evidence Base	Detailed evidence and analysis of the nature of the skills and education system in the region, and its relationship to economic growth
East of England Science and Innovation Audit http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Business-Board/Archive/2017/EoE-SIA-REPORT-Final-14.09.17.pdf	Analysis of the major themes and sectors significant to the future growth of the high-productivity economy

UK Industrial Strategy https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future	Nationwide strategy detailing the Government's priorities for the growth of the economy
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Stage 5 – Considering the above information, what impact will this proposal have on community or protected groups
Positive and negative impacts identified will need to form part of your action plan.

	Positive Impact	Negative Impact	Neutral Impact	Please explain the impact
Protected Characteristics				
Sex	x			The LIS is intended to create job and skills opportunities in all parts of Cambridgeshire and Peterborough, responding to the needs of the sub-regions that make up the county
Gender Reassignment	x			
Age	x			
Disability	x			
Race & Ethnicity	x			
Sexual Orientation	x			
Religion or Belief (or No Belief)	x			
Pregnancy & Maternity	x			
Marriage and Civil Partnership (note this only applies in relation to eliminating unlawful discrimination (limb 1))	x			

Stage 8 - Final impact analysis

The LIS overall is intended to have a positive impact across the county, and by extension across all communities. It is specifically stated within the LIS that the growth of the Cambridgeshire and Peterborough economy must be socially and geographically inclusive. The Strategy also sets out the importance for harnessing the innovations achieved within this local economy for the benefit of sustainability and healthy living, in this area and across the country. The strategy therefore sets out the contribution business and research from this area will make towards national Grand Challenge priorities, including Clean Growth and the Ageing Society.

As such the Local Industrial Strategy it is assessed to have a positive impact across the protected characteristics.

The LIS does not contain specific actions or interventions that are targeted at protected characteristics, except to set out how the Adult Education Budget will be deployed through new devolution to support adults into employment and progress in employment.

Stage 9 – Community Impact Assessment Review Log

Review approved by Director / Assistant Director		Date of review	
Review approved by Director / Assistant Director		Date of review	

Stage 10 – Publication

Ensure the completed assessment is published in accordance with the Combined Authority’s policy.



**CAMBRIDGESHIRE
& PETERBOROUGH**
COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 5.3
27 MARCH 2019	PUBLIC REPORT

GROWTH PROGRAMME UPDATE

1. PURPOSE

1.1. The Greater Cambridge and Greater Peterborough Local Enterprise Partnership (GCGP LEP) negotiated three successive Growth Deals with Government between 2014 and 2017, securing £146.7m to deliver new homes, jobs and skills across the LEP area. This paper provides an update on the programme's performance since April 2015, a summary of the programme monitoring report to Government to end December 2018 and the current in-year position to end February 2019 for both the Growth Deal and Growing Places Funds combined.

1.2. Progress to 28 February 2018 shows;

- £67.51 million in Growth Deal payments made to date.
- An additional two projects approved by the Business Board in January 2019
- A further 4 projects being submitted to the Business Board in March 2019.
- forecast total contracted spend of £81.58 million.

1.3 The full Business Board report can be viewed at

<http://cambridgeshirepeterborough-ca.gov.uk/meetings/business-board-meeting-25th-march-2019/?date=2019-03-25>

<u>DECISION REQUIRED</u>	
Lead Member:	Chair of Business Board
Lead Officer:	John T Hill, Director, Business and Skills
Forward Plan Ref: n/a	Key Decision: No
<p>The Combined Authority is recommended to:</p> <p>(a) Note the accumulative and in-year programme position to 28 February 2019 for Growth Deal and Growing Places Fund.</p> <p>(b) Agree the submission of the Growth Deal monitoring report to Government to end Q3 2018/19.</p>	<p>Voting arrangements</p> <p>Simple majority of all Members</p>

<u>Source Documents</u>	<u>Location</u>
Business Board Local Assurance Framework	http://cambridgeshirepeterborough-ca.gov.uk/business-board/governance/
Business Board Growth Prospectus 2018/19	http://cambridgeshirepeterborough-ca.gov.uk/business-board/growth-funds/



**CAMBRIDGESHIRE
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COMBINED AUTHORITY

CAMBRIDGESHIRE AND PETERBOROUGH COMBINED AUTHORITY BOARD	AGENDA ITEM No: 5.4
27 MARCH 2019	PUBLIC REPORT

ASSURANCE FRAMEWORK

1. PURPOSE

- 1.1. The report asks the Business Board to approve a revised single Assurance Framework following the Ministry of Housing, Communities & Local Government's revised National Local Growth Assurance Framework for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships.
- 1.2. The full Business Board report can be viewed at
<http://cambridgeshirepeterborough-ca.gov.uk/meetings/business-board-meeting-25th-march-2019/?date=2019-03-25>

<u>DECISION REQUIRED</u>	
Lead Member:	Chair of Business Board
Lead Officer:	Kim Sawyer, Interim Chief Executive
Author:	Darren Edey, Assurance Manager
Forward Plan Ref: N/A	Key Decision: No
The Business Board is recommended to agree the revised single Assurance Framework which is in line with the Ministry of Housing, Communities & Local Government's revised National Local Growth Assurance Framework for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships. (Appendix 1 – to follow)	Voting arrangements Simple Majority of All Members

Source Documents	Location
<p>Business Board Assurance Framework - Business Board Meeting Minutes 24 September 2018</p> <p>Revised National Local Growth Assurance Framework - Guidelines for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships</p>	<p>http://cambridgeshirepeterborough-ca.gov.uk/business-board/meetings/business-board-meeting-24th-september-2018/?date=2018-09-24</p> <p>https://www.gov.uk/government/publications/national-local-growth-assurance-framework</p>

Agenda Item 6.1

Motion from Councillor Bridget Smith, seconded by Councillor Lewis Herbert

The Combined Authority Board welcomes the contribution of the Scrutiny and Overview Committee in adding value to the decision making of the CA Board. In order to optimise the work of the Scrutiny and Overview Committee we acknowledge the need for the committee's work to be well resourced through the provision of a dedicated Scrutiny and Overview officer. Additionally we accept the need for Scrutiny and Overview to have early, pre publication sight of CA Board papers in order to maximise their opportunities to work constructively to support the work of the Combined Authority.