GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

GREATER CAMBRIDGE PARTNERSHIP
JOINT ASSEMBLY

10:00 am
Thursday 30th January 2020
Council Chamber
South Cambridgeshire Hall
CAMBOURNE

AGENDA

PART ONE: 10:00 a.m. – 12:30 p.m.

PART TWO: 1:30 p.m. onwards *

- 2:00 pm Thursday 4th June 2020 at the Guildhall, Cambridge

* **Should Part One of the meeting finish later than 12:30 p.m. the start time for Part Two may be later than scheduled. Discussion on Part Two items will not start any earlier than 1:30 p.m.**

MEMBERSHIP

The Joint Assembly comprises the following members:

Councillor Tim Wotherspoon (Chairperson)	-	Cambridgeshire County Council
Councillor Tim Bick (Vice-Chairperson)	-	Cambridge City Council
Councillor Mike Davey	-	Cambridge City Council
Councillor Nicky Massey	-	Cambridge City Council
Councillor Noel Kavanagh	-	Cambridgeshire County Council
Councillor John Williams	-	Cambridgeshire County Council
Councillor Ian Sollom	-	South Cambridgeshire District Council
Councillor Heather Williams	-	South Cambridgeshire District Council
Councillor Eileen Wilson	-	South Cambridgeshire District Council
Heather Richards	-	Business Representative
Dr Andy Williams	-	Business Representative
Christopher Walkinshaw	-	Business Representative
Jo Sainsbury	-	University Representative
Helen Valentine	-	University Representative
Dr John Wells	-	University Representative

The Greater Cambridge Partnership is committed to open government and members of the public are welcome to attend Joint Assembly meetings. Meetings are live streamed and can be accessed from the GCP Facebook page: www.facebook.com/GreaterCam. We support the principle of transparency and encourage filming, recording and taking photographs at meetings that are open to the public. We also welcome the use of social networking and micro-blogging websites (such as Twitter and Facebook) to communicate with people about what's happening, as it happens.

For more information about this meeting, please contact Nicholas Mills (Cambridgeshire County Council Democratic Services) on 01223 699763 or via e-mail at Nicholas.Mills@cambridgeshire.gov.uk.

GREATER CAMBRIDGE PARTNERSHIP

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GREATER CAMBRIDGE PARTNERSHIP JOINT ASSEMBLY

Minutes of the Greater Cambridge Partnership Joint Assembly
Thursday 12th September 2019
2:00 p.m. – 4:45 p.m.

PRESENT:

Members of the Greater Cambridge Partnership Joint Assembly

Councillor Tim Wotherspoon (Chairperson)	Cambridgeshire County Council
Councillor Tim Bick (Vice-Chairperson)	Cambridge City Council
Councillor Mike Davey	Cambridge City Council
Councillor Nicky Massey	Cambridge City Council
Councillor Noel Kavanagh	Cambridgeshire County Council
Councillor John Williams	Cambridgeshire County Council
Councillor Ian Sollom	South Cambridgeshire District Council
Councillor Peter Topping	South Cambridgeshire District Council
Councillor Eileen Wilson	South Cambridgeshire District Council
Heather Richards	Business Representative
Christopher Walkinshaw	Business Representative
Dr Andy Williams	Business Representative
Dr John Wells	University Representative

Members of the Greater Cambridge Partnership Executive Board in attendance

Councillor Ian Bates	GCP Portfolio Holder for Transport

Officers

Peter Blake	Director of Transport (GCP)
Niamh Matthews	Head of Strategy and Programme (GCP)
Nick Mills	Democratic Services
Rachel Stopard	Chief Executive (GCP)
Isobel Wade	Head of Transport Strategy (GCP)
Wilma Wilkie	Governance and Relationship Manager (GCP)

1. APOLOGIES FOR ABSENCE

Apologies for absence were received from Jo Sainsbury and Helen Valentine.

2. DECLARATIONS OF INTEREST

Councillor Davey declared a non-statutory disclosable interest in relation to the Quarterly Progress Report (item 6), as he was formerly the Chief Executive of the Connections service and his wife was currently the Assistant Director of Housing, Communities and Youth at the County Council.

Christopher Walkinshaw declared a non-statutory disclosable interest in relation to a number of matters referred to in the Quarterly Progress Report (item 6), including careers advice, apprenticeships, electric car sales and Project Spring as a result of his involvement in either Cambridge Ahead and/or Marshalls Limited.

Dr Andy Williams declared a non-statutory disclosable interest in relation to the Quarterly Progress Report (item 6) due to AstraZeneca's involvement in Project Spring and Form the Future.

3. MINUTES

The minutes of the previous meeting, held on 6th June 2019, were agreed as a correct record, subject to the following correction (removal in strikethrough, addition in bold):

- "The Director of Transport recognised the concerns and noted that it would be hard to justify the cost ~~if the park and ride site was only intended as a temporary project~~ **of tunnels**."
  (second sentence of third bullet point in Minute 9: Cambridge South West Travel Hub)

The Chief Executive provided the Joint Assembly with an update on the Citizens Assembly referred to in Minute 8, noting that the first of two sessions had been hosted the previous weekend. 56 of the 60 participants attended the debates, of which videos had been livestreamed and uploaded to YouTube. The experimental new form of democratic engagement was so far judged to have been a success and the next session, to be held over the second weekend of October, would go into greater detail and attempt to find possible solutions to the area's transport problems.

4. PUBLIC QUESTIONS

The Chairperson informed the Joint Assembly that six public questions had been submitted and accepted. It was agreed that five of the questioners would be called to address the Joint Assembly at the start of agenda item 7 (Histon Road Bus, Cycling and Walking Improvements: Final Design), with the remaining questioner to be called at the start of agenda item 8 (Madingley Road Cycle and Walking Project).

5. PETITIONS

The Chairperson notified the Joint Assembly that no petitions had been received.

6. QUARTERLY PROGRESS REPORT

The Head of Strategy and Programme presented a report to the Joint Assembly which provided an update on progress across the GCP programme. Attention was drawn to the request for funding made by Cambridge Ahead, as laid out in section 6 of the report, as well as the allocation process for Section 106 contributions, which had previously been requested by the Joint Assembly and was detailed in section 15 of the report.

While discussing the report, the Joint Assembly:

- Expressed concern that the report showed that only 13 people had started apprenticeships since March 2019, which suggested that it would be difficult to obtain the target of 420 apprentices by March 2021. The Head of Strategy and Programme informed members that the data in the report only contained numbers that had been verified by the Department of Education and that the target of 420 apprenticeships had in fact potentially already been passed. The Chief Executive also noted that the Joint Assembly had agreed to move towards a more focussed contract and deliberative intervention, and this was not represented by the numbers in the report. A further update would be provided once verification of the numbers had been received, while steps would be taken to make this clear in future reports.

- Welcomed the research that had been proposed by RAND Europe and given the fact that local authorities no longer provided careers advice in schools, it was considered beneficial for the GCP to discover where it should focus attention in the future. It was suggested that the issue of careers advice should be discussed with actual providers of careers advice and not just school head teachers and that the results of the research should be considered by the GCP one it had been completed.

- Requested greater clarity on the scope of the RAND research, drawing attention to the use of the word 'schools' in the first bullet point of section 6.2 and its lack of clarification overs the type of schools involved. The Head of Strategy and Programme committed to obtaining further information from RAND regarding the scope of the research. It was also established that a timetable for the research project could not be finalised until funding had been obtained, although it was hoped to begin during autumn. At that point, consideration could be given to undertaking further work focussing on the quality of the service being provided.

- Sought clarification on the age group of the students that had engaged in the apprenticeship activities detailed in section 5.5 of the report. Members were advised that they would be provided with the information as long as it did not breach General Data Protection Regulation rules.

- Noted the companies listed in the report that had pledged to recruit apprentices within the coming year and queried whether other companies, such as pharmacies, had been approached. The Head of Strategy and Programme agreed to encourage providers to seek as many placements as possible.

- Discussed how the wayfinding solutions had been received at Cambridge central train station. Members were informed that the simpler elements, such as real time data being read from a screen, had been used more frequently than the more complex elements, such as those involving buttons. Evaluation was ongoing and would inform the next steps. Further hotspots were being identified for wayfinding technology across the city, including at the biomedical campus.

- Noted that a detailed analysis of the data collected during the Mill Road bridge closure would be carried out over the following six months, although members were informed that the situation had been complicated by unplanned incidents in the area and this had affected the data. It was also acknowledged that there was widespread support for expanding the methodology in to further areas of city planning. The Chief Executive confirmed that residents' calls for part of the road to be pedestrianised would be considered in the context of work on City Access and Spaces and Movement Planning Guidance.

- Clarified that the data and analysis produced by Geospock, as outlined in section 13, would be made available to the public in the future.

- Remarked on the green 'RAG' status of the Fulbourn / Cherry Hinton Eastern Access project, noting that work had been suspended until summer in 2020 and that it was to be incorporated into another project that was already a number of years behind schedule. It was argued that the current status should therefore be reclassified as red and the Director of Transport agreed to review the project's status.

- Requested an update on developments of the Oakington Travel Hub, following the Executive Board's agreement in March for an alternative location to be considered. The Director of Transport informed members that he had attended a meeting with the GCP Portfolio Holder for Transport and Oakington Parish Council, and that the results of the discussions would be reported to the Joint Assembly at a future meeting.

- Welcomed the clarification of the allocation process for section 106 contributions, given the complex division of responsibilities for transport across the different levels of local government, although it was noted that similar confusion also existed over highways advice. Members also reiterated the need for coherence in the travel strategies of the different bodies that the GPC worked with, such as the Combined Authority and England's Economic Heartland, and asked to be informed of any opposing plans or strategies.

- Suggested that the anticipated £30k overspend on the Greenways Development this financial year was due to mistakes when initially setting the budget. The Director of Transport observed that additional work had been required and that it was preferable to ensure the project was completed properly rather than sticking to an exact budget line.

- Established that the Cambridge South train station was in the second stage of the Network Rail's Guide to Rail Investment Process, with the intention being to reach the third stage within the following 12 months. While development funding of just under £11m was already in place, the development process would establish further funding options, including accurate assessments of how the funding would be used not only in the immediate short-term, but also in the years ahead.

- Requested that the money saved from the projected £120k underspend on Residential Parking Schemes be reserved for the unsuccessful schemes being potentially reconsidered in the future.

- Suggested that it was the responsibility of UK Power Networks, as opposed to the GCP, to fund research into how it could fulfil its duty of delivering Grid capacity faced by the new developments in and around Cambridge. The Chief Executive acknowledged the concern and informed the Joint Assembly that it was a question of timing, as the developers were unable to provide the upfront costs of increasing the network capacity and to not increase the capacity would hold up progress of the new developments. Members argued that providing temporary funding to increase infrastructure capacity was different to carrying out a study on where such infrastructure was needed, but the Joint Assembly was reminded that members had previously agreed to the expense on the basis that it would develop the understanding of growth and its needs. It was also noted that utility companies operated on different planning cycles to local authorities and were not under any obligation to consider planned new developments until they had received planning permission.

- Established that interviews for the Gateway Review had been completed by Government consultants and a report was expected by early 2020.

The Chairperson welcomed Councillor Ian Manning, County Councillor Champion for Evidence informed Policy who, following a brief introduction, invited two PhD students from the University of Cambridge's Department of Engineering to introduce the findings of the Cambridge University Science and Policy Exchange (CUSPE) study on reducing air pollution and congestion across Cambridgeshire, as detailed in section 17 of the report. The Joint Assembly was informed that carbon dioxide levels across Cambridgeshire could be expected to drop by around 27% by 2050, largely due to technological improvements and governance, but it was suggested that this was not an ambitious target given climate change. Attention was drawn to the findings that an average vehicle produced emissions between 200% and 300% higher than those declared and that levels of air pollution on the roads in the city centre had been repeatedly recorded above the legal limit. After mirroring case studies that had been carried out across the world, the study's findings had led to the recommendations laid out in the report, although it was stressed that the recommendations should be considered as minimum targets and accompany other projects and objectives as part of an over-riding agenda.

While discussing the findings of the CUSPE study, the Joint Assembly:

- The findings of the report would be considered in further detail by the Joint Assembly and Executive Board in November and December, as part of the forthcoming item on City Access.

- Welcomed the study and its findings, recommending that it be submitted for consideration by any local authorities involved in developing transport strategies.

- Observed that the statistics regarding the percentage of journeys being made by bus, cycling or walking, as set out in paragraph 17.3, would be more useful with a differentiation between the alternative modes of transport, rather than being combined in to one figure.

- Commented that the prioritised modes of travel mentioned in paragraph 17.4 should include practical, affordable and reliable modes of transport, as well as sustainable ones.

- Argued that vehicles were not tested under road conditions and that discrepancies in emission levels were not necessarily down to impropriety, although it was acknowledged that the test cycles had been found to be unrepresentative.

- Suggested that different transports could have been categorised by technology, such as diesel or electric, rather than just characteristics, as that would promote innovation. It was considered unlikely that a superior alternative to electric vehicles would be discovered and produced widely before 2030, and therefore current policies and strategies should be focussed on that technology. It was suggested that such focus should include new homes having fast electric charging points, the grid's capacity being increased and buses across the county being replaced by electric vehicles.

- Queried why trains had not been included in the list of sustainable modes of transport and it was noted that while trains were a major form of transport on a regional level and in many other urban areas around the country, this was not the case on a county level across Cambridgeshire.

- Considered that the 60% targets included in the recommendations would be based largely on transport within and around the city, as opposed to more rural areas, and this implied that the target within the city would be significantly higher in order to achieve an overall 60% target across the County.

- Requested further assistance from the research team in the future, including on issues such as considering whether the variables for reducing emissions and improving air quality could be separated or were too intrinsically linked to be treated as separate issues. It was suggested that although the two problems often shared the same solutions, considering them as separate issues attracted a broader range of interest, discussion and action.

- Sought clarification on whether the recommendations could be compared to the GPC's current targets, given the difference in variables and goals, and if so whether they could be incorporated to the overall strategy in any way. It was acknowledged that the study had been based on research from across Cambridgeshire, whereas the GCP's remit was a smaller area around the city of Cambridge. The Director of Transport suggested that the targets outlined in the findings broadly coincided with those of the GCP, although he also observed that the promotion of electric vehicles would be beneficial in an environmental sense, but would have little impact on congestion.

- Enquired whether the figures mentioned in paragraph 17.4 of the report included total carbon dioxide emissions or only those related to transport and given that the national target was to be net zero by 2050, what would need to be done in the intervening years between 2030 and 2050 to achieve such a goal. It was suggested that carbon sequestration would be necessary to reach net zero levels and members were informed that this was considered in a further CUSPE study.

- Established that the study looked at public transport and not freight transport, noting that HGV's were estimated to produce 58% of emissions by the latter group.

7. HISTON ROAD BUS, CYCLING AND WALKING IMPROVEMENTS: FINAL DESIGN

Lilian Runblad, the Vice Chair of the Histon Road Local Liaison Forum (LLF) attended the meeting to report on the outcome of the LLF meeting held on 22nd July 2019.

Public questions were invited from Anna Williams, Lilian Runblad, Judith Perry and Anna Crutchley. The questions and a summary of the responses are provided at **Appendix A** to the minutes.

The Director of Transport presented the report, which contained details of the final design for Histon Road and the recommendations that would be presented to the Executive Board on 3rd October 2019. Attention was drawn to paragraph 3.18, and members were informed that alternative arrangements were still being discussed with Stagecoach and further information would be provided at the Executive Board meeting. It was noted that the Histon Road LLF had supported the option of a shorter closure over a longer one and members were also informed that minor adjustments would potentially be made to the landscaping aspect of the design.

While discussing the report, the Joint Assembly:

- Observed that it was not only Histon Road residents that would be affected by the diversion of the local bus, as users from the entire length of the bus route would be affected. Members expressed concern that there had not been wider consultation with this community, including Cottenham, specifically noting the extra time and cost burden placed on students who already had to cross the city to reach schools and colleges. It was acknowledged that County Councillors for the affected wards had been included in consultations and that there was also a limit to the extent of the consultations that were possible. The Chairperson added that as local County Councillor he had raised this at a recent meeting with the Parish Council.

- Questioned why road markings for cyclists at the north approach to the Gilbert Road/Warwick Road junction were different for cyclists approaching from the south. It was also suggested that there was an error on the detailed plans, which did not show any of the new, 'proposed trees' in blue outline. Members also sought clarification of the status of the trees shown on the penultimate page of the designs, going out towards the A14, which were shown as scheduled for removal for no apparent reason. Officers undertook to look into these matters and provide a detailed response.

- Argued that the proposed double yellow lines (DYL) in the southern part of Histon Road would unfairly affect local residents, given that other short-term visitors to the area were liable to ignore the parking restrictions and not be punished, whereas those who lived in the area would be forced to find alternative locations for parking. Members sought clarification on how the DYL restrictions would be enforced and the Director of Transport confirmed that it was an issue for the County Council to consider.

- Proposed the imposition of a 20mph speed limit, given that the new layout would establish a straight and uncluttered road. It was also suggested that a speed indicator device, potentially solar-powered, could also assist in reducing the speed of traffic flow.

- Expressed concern over the impacts that the works and traffic diversions would have on the surrounding neighbourhoods and other major traffic routes, especially by HGVs. It

was noted that residents in these areas had been suffering from the effects of other major works over recent months and years and that they might appreciate a period of calm before experiencing further disruptions. The Portfolio Holder for Transport also acknowledged the concerns about HGVs using alternative routes, but observed that stopping them from using one road would just force them down another and that there would always be residents somewhere who suffered as a result.

- Welcomed confirmation that the proposals would result in a net gain in natural capital, but stressed the need to secure commitment from the relevant authority to accept responsibility for ongoing maintenance.

- Enquired about the possibility of planting edible plants to create a roadside garden and the Director of Transport undertook to investigate.

The Chairperson concluded that the Joint Assembly had not voiced any strong objections to the proposed recommendations and therefore endorsed them with the Assembly's support.

The Joint Assembly noted that Lilian Runblad intended to step down as Vice Chairperson of the Histon Road LLF. The Chairperson on behalf of members thanked her for her support and contribution to the work of the LLF.

8. MADINGLEY ROAD CYCLE AND WALKING PROJECT

Karen Weimer, the Secretary of the Madingley Road Area Residents' Association was invited to ask her public question, the details of which are set out in **Appendix A** to the minutes, along with a summary of the response.

The Director of Transport presented the report, which included the results of local stakeholder engagement and proposals to commence a public consultation exercise on proposals for the scheme. It was noted that this stage of the process, which was effectively a pre-consultation, had been conceived following a review of the processes of previous schemes. Discussing the options with local stakeholders before the consultation stage would allow for a stronger, more informed and more participatory consultation.

While discussing the report, the Joint Assembly:

- Welcomed the early stage of local engagement and the benefits that it would potentially bring to the project and noted the positive feedback received. Members hoped this would be replicated for other similar schemes.

- Observed that it was not clear from the plans where bus stops would be located or how they would be accessed with regards to the bicycle lanes. The Director of Transport agreed that it would be clearer in future reports.

- Expressed frustration that the project was being forced into a compromise due to the narrow width of a bridge and suggested that it was unfortunate that all too often proposals were compromised rather than seeking to solve the underlying problem. The Director of Transport acknowledged the concerns but stressed that it in this instance was not possible to build a wider highway.

- Noted that Madingley Road provided a particularly green entrance to the city and that the design stage should bear this in mind and not detract from it.

- Suggested that university students would be a key demographic affected by the project, and that it would be important to proactively engage them in the consultations.

- Observed the proximity to the Adams Road bicycle route and the need to avoid excessive and unnecessary crossings.

- Sought clarification on the final budget given the very broad estimate covered in the report. The Director of Transport acknowledged that it was a broad figure but informed the Joint Assembly that it was only intended as a guide at this stage and the final budget would depend on the result of the proposed consultations.

The Chairperson surmised that there had been no challenges to the recommendations to be passed on to the Executive Board.

9. DATE OF NEXT MEETING

The Joint Assembly noted that the next meeting was due be held at 2:00 p.m. on Thursday 21st November 2019 at South Cambridgeshire Hall, Cambourne. However, given the fact that the agenda contained an extensive number of items for consideration, it was proposed that the meeting be rearranged to 10:00 a.m. with a morning and afternoon session separated by a lunch break. The general consensus was in favour of adopting such a change and it was agreed that final confirmation of the meeting time would be circulated to members.

Chairperson
30th January 2020

12th September 2019 Greater Cambridge Partnership Joint Assembly – Public Questions

No	Questioner	Question	Recommendation Rationale Chair's response
1.	Anna Williams on behalf of Camcycle	**Agenda Item No. 7: Histon Road Bus, Cycling and Walking Improvements** Camcycle welcomes the upcoming improvements to Histon Road. We thank officers for including a protected junction at Gilbert Road and strongly support effective continuous footway designs at side roads. Along with the removal of parked cars, the changes to this road will improve safety for those cycling or walking. However, we seek reassurance that this scheme is being built and considered in the context of a comprehensive cycle network that will connect all areas of the city, and reach out to surrounding villages. We seek reassurance that the current levels of investment in cycling will continue after the end of this year. We seek reassurance that all cycle schemes are being planned with the aim of encouraging cycling for all, including unaccompanied child cyclists, those with larger cycles, those with disabilities and those travelling to destinations other than work. We note that the CUSPE Study on Reducing Air Pollution and Congestion recommends that walking, cycling and public transport make up a minimum of 60% of travel in Cambridgeshire in 2030. Evidence shows that to rapidly increase modal shift, isolated sections of high-quality cycle facilities will not be enough. The Greater Cambridge Partnership must: • **Continue to build high-quality cycling infrastructure**, connecting it up to create a network suitable for all. • **Tackle dangerous junctions** (75% of collisions involving a cycle occur at junctions. The changes at King's Hedges Road and Victoria Road do not go far	The comments regarding the Histon Road scheme are welcomed. The GCP is committed to putting in place a comprehensive network of safe, attractive and direct cycling routes over the coming years. The Greenways Project is aimed at creating links out from Cambridge to surrounding villages. Other schemes such as Madingley Road cycling improvements are also in the early stages of development. Major schemes such as the South East Transport link, Cambourne to Cambridge, and the A10 corridor improvements will all contain significant cycling and walking elements.

		enough to improve actual and perceived safety for cyclists). • **Implement bold demand-management schemes** to encourage people to switch away from driving. ***Camcycle would like to ask the Joint Assembly to confirm that Histon Road is being considered as part of a comprehensive cycle network and that investment in cycling will continue at or above existing levels into the second tranche of City Deal funding.***	
2.	Lilian Rundblad on behalf of the Histon Road Residents Association	**Agenda Item No. 7: Histon Road Bus, Cycling and Walking Improvements** *Air Quality Histon Road* A representation from HRARA was noted in the TRO Consultation without a reply (page 79 of 183 in the Agenda for GCP Joint Assembly 12th September 2019). It was a follow up of the Executive Board decision on March 20, 2019, to introduce Air Pollution controls before, under and after the construction phase for the Histon Road Project. The data should be displayed and easily available to the public. With only a month to go before the construction of the road starts it seems logical that data and analysis should already be available. **HRARA requests that the "BEFORE" analysis be available regularly from NOW and on. And that information regarding the display of the data and where to find it is given to the public.**	Air Quality monitoring is currently undertaken by Cambridge City Council who publish an annual monitoring report at: https://www.cambridge.gov.uk/media/6048/air-quality-annual-status-report-2018.pdf. As well as publishing data on air quality in the City, the report also sets out a lot of detail about either the measures already in place or that are proposed to be implemented with aim of improving air quality and reducing traffic related pollution. This monitoring includes two locations on Histon Road where diffusion tubes are used to monitor nitrogen dioxide (NO_2) levels: https://www.cambridge.gov.uk/media/3448/air-pollution-diffusion-tubes-map.pdf In order to provide further detail on the contribution of vehicles to air quality on Histon Road, traffic/vehicle monitoring cameras have recently been installed in two locations on Histon Road and are in the process of being calibrated. These cameras will also be able to differentiate between types of vehicles including cycles. Once the cameras are up and running and data starts to be collected the GCP will start looking at ways in which the data can be effectively shared with the public, most likely via an online portal.

			The cameras are scheduled to operate over a period of 5 years and will therefore be used for post scheme monitoring.
3.	Lilian Rundblad on behalf of the Histon Road Residents Association	**Agenda Item No. 7: Histon Road Bus, Cycling and Walking Improvements** *Construction Management Plan (pages 131-155) Appendix D* HRARA is well aware that a project like Histon Road will cause severe air and noise pollution during the construction period. On page 136 in the Construction Management Plan hours of work: Monday-Friday day working 7:30 to 18:00 Saturday working 7:30 to 16:00 Monday-Sunday Night Works 20:00 to 6:00 at time of carriageway surfacing GCP promises on page 42 - No Night Time HGVs from A14 on Histon Road during the Construction period. GCP has not proposed any TRO for speed limit, weight restrictions, ANPR but contrary states there will be no restrictions on the outbound lane Histon Road. During 1 ½ years, Histon Road residents have experienced just how little the HGV drivers care to follow any signage used by Highways. A14 diversion routes start at 21:00 to 6:00. It does not take much imagination to see that Histon Road residents will not have any longer periods for rest and sleep. This is a health issue that must be taken seriously. **HRARA request GCP to guarantee that there will be no diversion night time HGV traffic on Histon Road during the construction period and suggest that Automatic Number Plate Recognition ANPR be installed between Huntingdon road junction to Kings Hedges Road to discourage deviation from the designated diversion routes M11 and A505.**	Histon Road will be closed in the inbound direction for the duration of the works, it is logical that this in turn will block HGVs from accessing Histon Road from the A14. The GCP does not intend to put in place any restrictions on Histon Road in the outbound direction so this means that All vehicles will be able to leave the city centre via Histon Road at all times of the day. GCP will monitor the situation both before and during the works using the new cameras on Histon Road, and will be able to make further recommendation to the County Council as the highway authority with regard to addressing issues such as night time HGV traffic so that an appropriate course of action can be pursued.

12th September 2019 Greater Cambridge Partnership Joint Assembly – Public Questions

4.	Judith Perry on behalf of Benson Area Residents' Association	**Agenda Item No. 7: Histon Road Bus, Cycling and Walking Improvements** *Removal of Parking on Histon Road* Officers' comments to detailed objections (3, 5, 6, 7, 8, 9, 10, 11, and 12) to installation of double yellow lines along Histon Road – all identical – did not answer detailed points raised. No evidence was presented addressing off-peak traffic which is light and flows freely. The problems addressed are during morning and evening peak hours five days a week. Off-peak parking was not studied, nor the BenRA survey showing weekend parking problems, justifying the officers' claim of adequate parking to compensate parking removal. Removal of parking cannot reduce (non-existing) off-peak congestion, however it carries the danger of attracting more traffic changing Histon Road from a quiet residential B-road to a high-speed arterial road. Decreasing travel time for buses is only achievable during peak hours, – parked cars do not increase off-peak travel time. Difficulties for residents needing work done on their houses, physical damage to houses from increased vibration, carers needing to park for an hour at a time, not only be 'dropped off', all were not addressed by officers. Possible danger to cyclists detailed in several objections cited above was also not addressed. Restricting parking only during peak times is amply demonstrated all over London and on Queens' Road (the Backs) where parking is restricted only in the morning rush hour despite its far heavier off-peak traffic Histon Road's.	One of the key priorities of the Histon Road scheme in to encourage a shift towards more sustainable modes of transport which include walking, cycling and public transport. Over time, such a shift aims to reduce the growth in traffic and congestion on Histon Road. Making the road safer for cyclists is a big part of making cycling a more attractive method of transport along this route therefore encouraging more people to use their cycle as their main mode of transport along this route. Histon Road as it is currently configured is particularly un-attractive to cyclists. This has been stated by member of the public at numerous engagement and consultation events. At the southern end of Histon Road the main issue is caused by the parking which forces cyclists to mix with the traffic in this area. This is a problem both at peak time and at non peak time. The scheme aims to provide a safe route for cycling at all times of the day, in both directions by providing continuous cycle lanes along the whole length of Histon Road.

		We object to blanket unnecessary off-peak parking removal and ask for a proper study of off-peak traffic including detrimental effects of parking removal. No adequate justification for applying solutions designed for the rush hour to the area 24/7 has been presented. **Q1. Do you have any evidence that there is problem that needs to be addressed in off-peak hours?** **Q2. What is the justification for removal of parking in off-peak hours?**	
5.	Anna Crutchley on behalf of Benson Area Residents' Association	**Agenda Item No. 7: Histon Road Bus, Cycling and Walking Improvements** *Air Quality, Noise and Vibration* Referring specifically to BenRA objections to the TRO as on page 61 of this meeting's agenda. We left the last Histon Road LLF meeting in July with an unclear picture of how the environmental monitoring on Histon Road would be carried out and we would like to follow up on this project and ask the GCP to provide us with more detailed information than in their stock response found in the agenda papers. We are particularly concerned about air quality, noise and vibration at the south end of Histon Road, within the Benson Area parking zone, and whether the GCP so called 'improvements' will indeed make life better for residents and businesses. Without any monitoring before the work is started, any 'improvements' cannot ever be demonstrated and monitoring later will not be able to be used to evaluate the benefit or detriment of the exercise. Q1. Could GCP provide BenRA with details of:	As set out in the answer to Public Question 2: Air Quality monitoring is currently undertaken by Cambridge City Council who publish an annual monitoring report at https://www.cambridge.gov.uk/media/6048/air-quality-annual-status-report-2018.pdf As well as publishing data on air quality in the City, the report also sets out a lot of detail about either the measures already in place or that are proposed to be implemented with aim of improving air quality and reducing traffic related pollution. This monitoring includes two locations on Histon Road where diffusion tubes are used to monitor nitrogen dioxide (NO_2) levels. https://www.cambridge.gov.uk/media/3448/air-pollution-diffusion-tubes-map.pdf In order to provide further detail on the contribution of vehicles to air quality on Histon Road, traffic/vehicle monitoring cameras have recently been installed in two locations on Histon Road and are in the process of being calibrated. These cameras will also be able to differentiate

		a. the start and end dates of the monitoring, i.e. before and after the rebuilding of Histon Road? b. the methodology that is/will be employed? c. what the system will be for remedying any decrease in air quality or increase in noise and vibration? and following on from that: Q2. What is the future of the GCP after the Histon Road project is completed – i.e. who will be accountable for any failures in the GCP claims that the Histon Road project will improve the environment?	between types of vehicles including cycles, and will also be able to calculate journey time between the two points. Once the camera are up and running and data starts to be collected the GCP will start looking at ways in which the data can be effectively shared with the public, most likely via an online portal. The cameras are scheduled to operate over a period of 5 years and will therefore be used for post scheme monitoring. When the scheme is complete, it will be handed over to, and be maintained by the Local Highways Authority, Cambridgeshire County Council
6.	Karen Wiemer (Secretary, Madingley Road Area Residents Association)	**Agenda Item No. 8: Madingley Road Cycle and Walking Project** I'd like to thank the Officers and Paul Rawlinson and the team working on this project for how much they have included residents along Madingley Road and listened to our comments during the pre-consultation phase and the speed at which the project seems to be progressing. My question mainly relates to safety and functionality of the proposed cycle paths. Option 1 includes long sections of cycle path adjacent the roadway with separation by a Cambridge kerb. How will vehicles be kept from using the cycle lane as a loading bay or waiting area? For both options, is there scope for adding another crossing in the section between Astronomy and Grange Road? For Option 1, there are no crossings between Madingley Rise and Storey's way and for Option 2 nothing between Astronomy and Storey's Way. A lot of people live along this area and will need to cross Madingley Road to access the cycle path in the right direction for their journey. An additional crossing would also help pedestrians get to the two bus stops along this section. For both options, is there any scope to improve the design at the very east end of the road? It remains pretty much unchanged and	Thank you for your words about the scheme. Cambridge Kerb is used in a number of areas in the City including Huntingdon Road. The differentiation in the kerb from the road, coupled with the colour of the cycle lane discourages people from driving onto these lanes for deliveries or waiting, there is no evidence of it being an issue elsewhere. If it were to become a problem, we could raise a Traffic Regulation Order (TRO) to prevent unloading and waiting along the route. There are crossing areas on the options drawings at Grange Road, Storeys Way and Madingley Rise. The options are still being developed, We are looking at areas where crossings will be of benefit. The area East of Madingley Road near the Northampton Street roundabout is a narrow stretch that does not support opportunity for widening or segregation. We are in discussion with local landowners to

		seems a missed opportunity given the level of foot and cycle traffic in this area. Will the design be future proofing for electric bikes? The establishment of a consistent 30mph speed limit along the length of Madingley Road is very welcome. Especially for Option1, would there be any scope to lower the speed limit given that the cycle path is mainly adjacent the roadway?	assess if a small area of land would be available along this stretch. If this is possible then we would look at further improvements along this area. In design terms electric bikes are treated in the same way as non-electric bikes. For future proofing we need to design infrastructure that will support a significant increase in cycling, including electric bikes. It was reported in the Environment Journal on 10 July 2019 that **tens of thousands of e-bikes could be sold in the UK each year as improvements to bicycles and better cycling routes make cycling more popular.** **Road speed will continue to be monitored, the options will seek a 30mph limit along the road from Eddington into the city, and this recognises the expected growth in the use of cycles along this route.**

Greater Cambridge Partnership Joint Assembly
Public Questions Protocol

At the discretion of the Chairperson, members of the public may ask questions at meetings of the Joint Assembly. This standard protocol is to be observed by public speakers:

- Notice of the question should be sent to the Greater Cambridge Partnership Public Questions inbox [**public.questions@greatercambridge.org.uk**] no later than 10 a.m. three working days before the meeting.

- Questions should be limited to a maximum of 300 words.

- Questioners will not be permitted to raise the competence or performance of a member, officer or representative of any partner on the Joint Assembly, nor any matter involving exempt information (normally considered as 'confidential').

- Questioners cannot make any abusive or defamatory comments.

- If any clarification of what the questioner has said is required, the Chairperson will have the discretion to allow other Joint Assembly members to ask questions.

- The questioner will not be permitted to participate in any subsequent discussion and will not be entitled to vote.

- The Chairperson will decide when and what time will be set aside for questions depending on the amount of business on the agenda for the meeting.

- Individual questioners will be permitted to speak for a maximum of three minutes.

- In the event of questions considered by the Chairperson as duplicating one another, it may be necessary for a spokesperson to be nominated to put forward the question on behalf of other questioners. If a spokesperson cannot be nominated or agreed, the questioner of the first such question received will be entitled to put forward their question.

- Questions should relate to items that are on the agenda for discussion at the meeting in question. The Chairperson will have the discretion to allow questions to be asked on other issues.

PLEASE NOTE FROM 1st MAY 2019 THE NEW E-MAIL ADDRESS FOR SUBMISSION OF PUBLIC QUESTIONS IS 'public.questions@greatercambridge.org.uk'

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Isobel Wade – Head of Transport Strategy

REPORT AND RECOMMENDATIONS OF THE GREATER CAMBRIDGE CITIZENS' ASSEMBLY: HOW DO WE REDUCE CONGESTION, IMPROVE AIR QUALITY AND PROVIDE BETTER PUBLIC TRANSPORT IN GREATER CAMBRIDGE?

1. Purpose

1.1. In September and October 2019, the Greater Cambridge Partnership (GCP) held a Citizens' Assembly to consider the question: How do we reduce congestion, improve air quality and provide better public transport in Greater Cambridge? This brought together a 'mini public' from across the travel to work area to hear evidence about these issues, discuss and deliberate, before voting and delivering key messages. It was part of the Government's Innovation in Democracy programme which aims to trial the involvement of citizens in decision-making at local government level through innovative models of deliberative democracy. The full report of the Citizens' Assembly is available alongside this paper for consideration, and participants will attend the meeting to outline their experiences.

1.2. As part of undertaking the Citizens' Assembly, the GCP Executive Board agreed to respond in full to all its recommendations. This response will be informed by the technical work on public transport improvements and city access set out in the paper covering this work presented at item 7. As well as identifying any early action, it is suggested that the Executive Board responds in full by summer 2020 and agrees to the Citizens' Assembly's request for regular reviews of progress in the medium-longer term. The Joint Assembly is invited to comment on the process and outcomes of the Citizens' Assembly and how the findings should be incorporated into future decision-making, including through the material set out in item 7 and in particular the list of short-term measures which could form an immediate response to the Citizens' Assembly's call for action.

2. Background

2.1. In September and October 2019, the GCP held a Citizens' Assembly to consider the question: how do we reduce congestion, improve air quality, and provide better public transport in Greater Cambridge? The Citizens' Assembly was delivered as part of the Government's Innovation in Democracy Programme[1] and was run independently of the GCP – it was designed and facilitated by Involve, and the recruitment of Assembly participants was undertaken by the Sortition Foundation.

2.2. The Citizens' Assembly brought together 53 randomly selected residents from Cambridge City, South Cambridgeshire District Council and the wider travel to work area. Participants were recruited through a civic lottery sent to 10,000 addresses across this area. Households which received the invitation were able to register their interest in participating. The Sortition Foundation then randomly selected individuals from this pool to be broadly representative of the Greater

[1] https://www.gov.uk/government/publications/innovation-in-democracy-programme-launch

Cambridge population in terms of gender, age, ethnicity, geography, and socio-economic group. Given the Assembly topic, the selection also considered how people travelled, which area they were from, and whether they were 'regular travellers'. The selection criteria were published[2], and the final report contains a comparison of the stratification criteria with Assembly members.

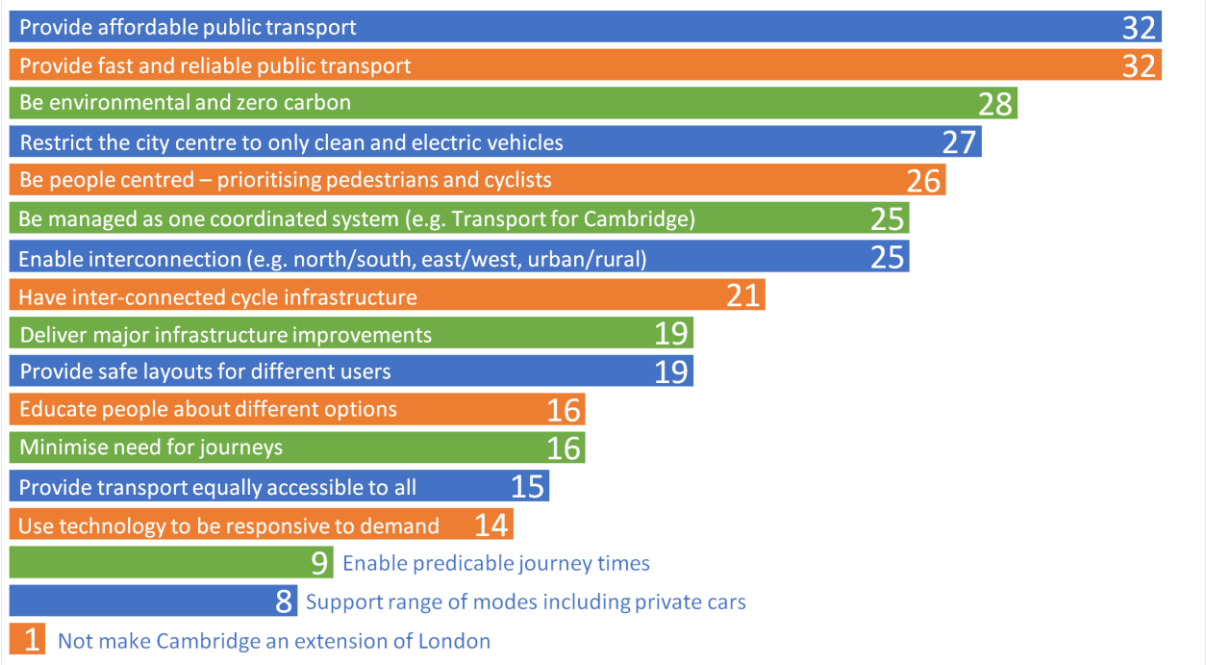
2.3. The Citizens' Assembly built on previous public engagement to understand the challenges facing people living and working in our area, their priorities for the future, including in relation to improving public transport, and their feedback on options for delivering change. This included Our Big Conversation held in autumn 2017 and Choices for Better Journeys held in early 2019. More details are set out in the *Public Transport Improvements and City Access* paper also presented at this Joint Assembly meeting (Item 7).

3. Recommendations of the Citizens' Assembly

3.1. The Citizens' Assembly met over two weekends, hearing a range of evidence outlining the situation in Greater Cambridge, the impacts of this, visions for the future and measures to address the issues and deliver the vision. The full report of the Citizens' Assembly was written by Involve and was published by them in November 2019.[3] The Executive Summary of this report summarised the key findings, which are included here.

3.2. Assembly members developed and prioritised their vision for transport in Greater Cambridge, with the outcomes summarised in figure 1.

Figure 1: Vision outcomes



3.3. The Citizens' Assembly voted on a series of measures to reduce congestion, improve air quality and public transport. Of the measures they considered, Assembly members voted most strongly in favour of road closures, followed by a series of road charging options (clean air zone, pollution charge and flexible charge).

[2] https://consultcambs.uk.engagementhq.com/2305/documents/2660

[3] https://www.involve.org.uk/sites/default/files/field/attachemnt/GCCA%20on%20Congestion%20Air%20Quality%20and%20Public%20Transport%20-%20Full%20Report%20_0.pdf

Figure 2: Vote 4 results – to what extent do you support or oppose the following measures being part of the solution to improving congestion, air quality and public transport in Greater Cambridge and across the wider area?

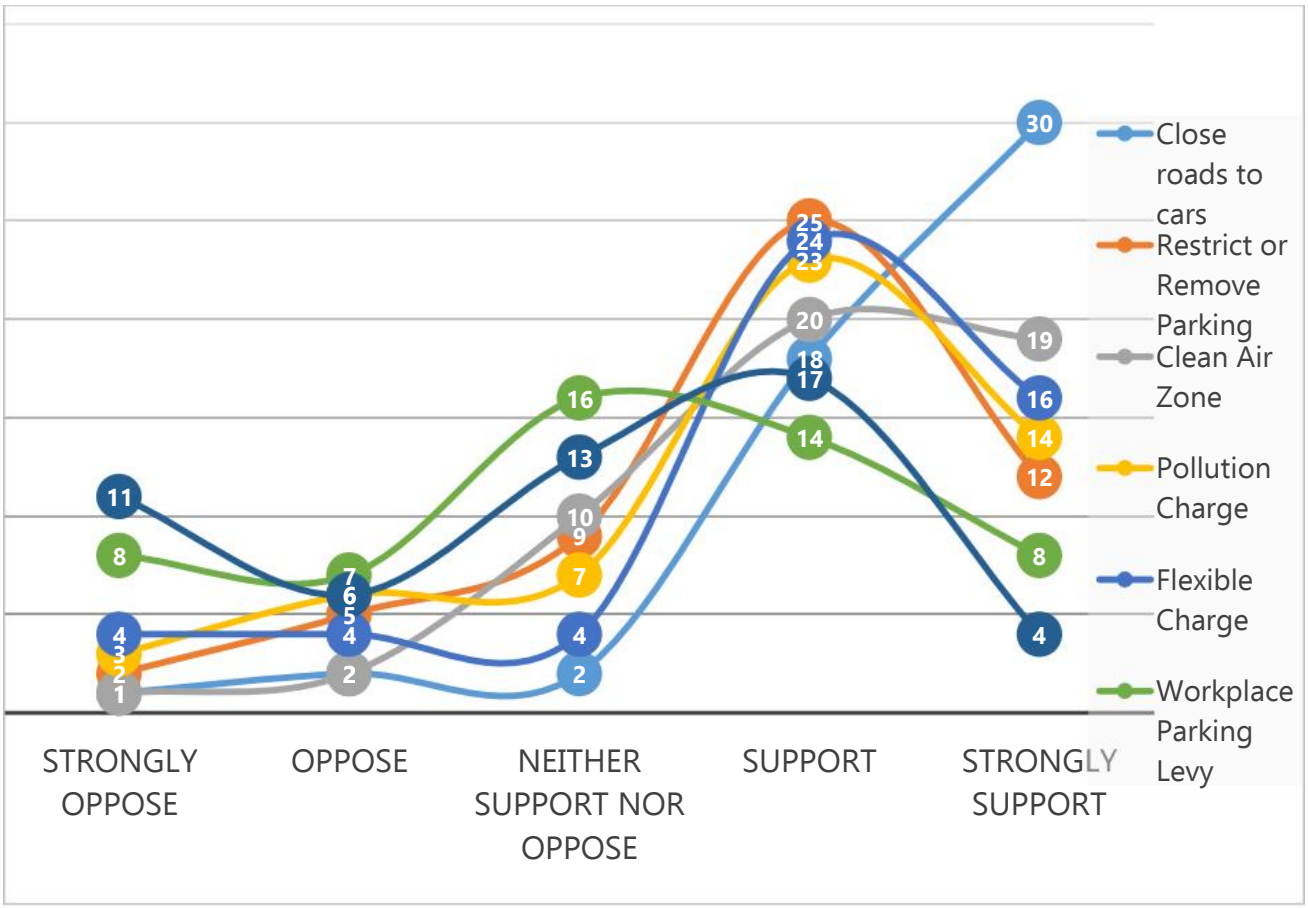
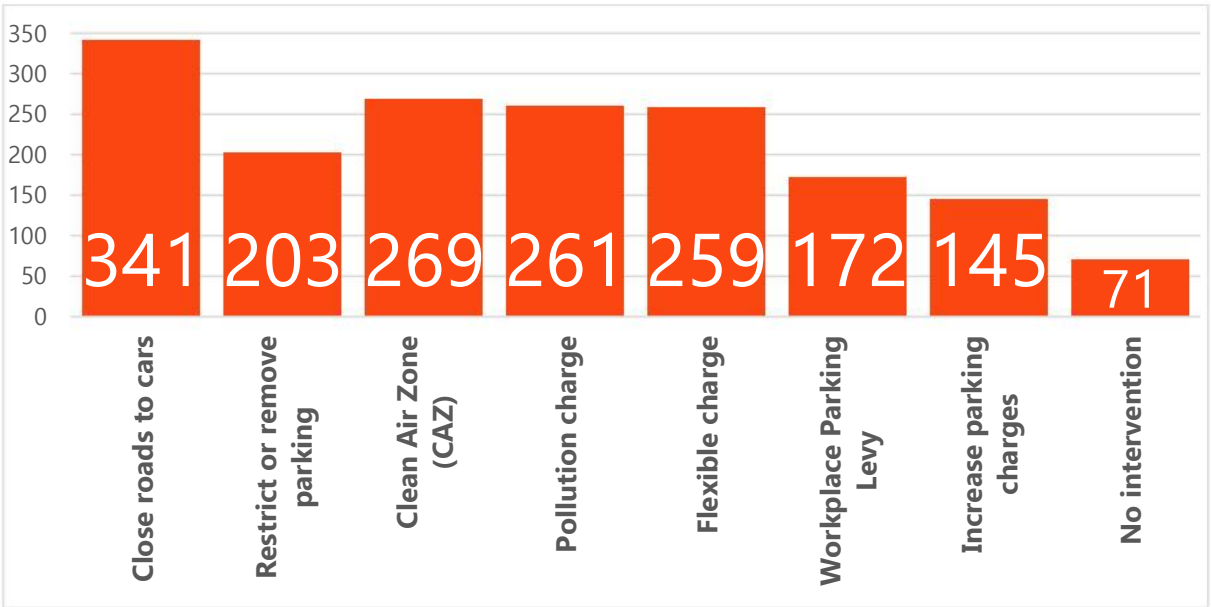
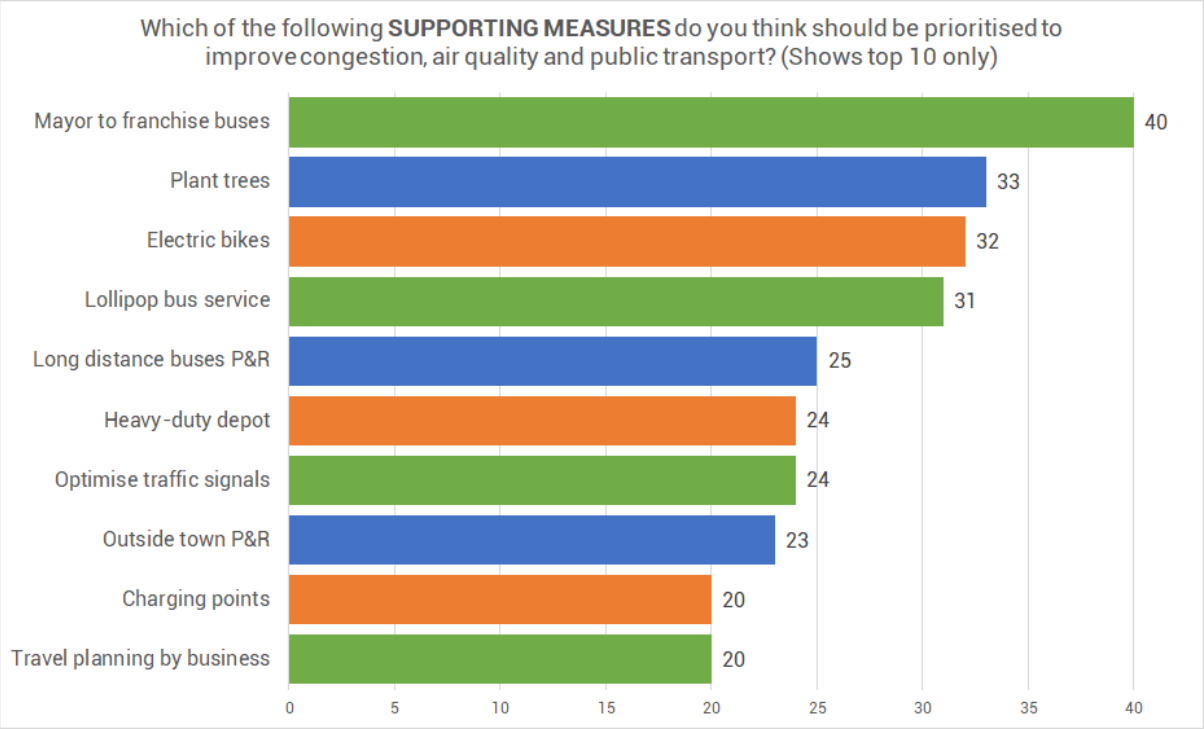


Figure 3: Vote 5 results – what would be your preferred ways, from the following demand management measures, to improve congestion, air quality and public transport in Greater Cambridge and across the wider area?



3.4. In addition to these measures, Assembly members developed and prioritised a number of other supporting measures.

Figure 4: Supporting Measures Prioritisation



3.5. There was a high level of support for action and ambition to address the Citizens' Assembly question. Across all votes "no intervention" received the least number of preferences, and 'be bold and brave' was a repeated comment.

3.6. Key messages developed by the Citizens' Assembly included:

- Be brave, be bold and take action
- Improvements in public transport need to come first
- Funding raised through charging needs to be ring-fenced for transport in Greater Cambridge and the wider area
- Better integration and co-ordination of transport across Greater Cambridge
- Fairness is a key principle
- Exemptions: Provide access for essential services/users
- Be the best and make Cambridge no.1
- Progress immediate actions and those improving the Greater Cambridge environment
- Transparency, monitoring and feedback
- Communication, education and behaviour change
- Consider trials/ pilots and phasing
- The question of growth and planning
- Don't forget to consider longer term measures.

4. Next Steps and Milestones

4.1. As part of our bid to the Innovation in Democracy Programme, the Executive Board committed to respond to each of the recommendations of a Citizens' Assembly publicly, with a presumption in favour of implementing and a clear explanation if a recommendation was not to be implemented.

4.2. The report of the Citizens' Assembly is a significant input to the work set out in the paper *Public Transport Improvements and City Access* also presented at this Joint Assembly meeting (Item 7). The recommendations will need to be considered, together with the weight of evidence, analytical and technical work, and findings from other engagement activities, in order to pull together a response and define any future package of measures. It is suggested that a response to the Citizens' Assembly be brought to the Joint Assembly and Executive Board for discussion and approval by summer 2020.

4.3. Over the longer-term, the Citizens' Assembly has also asked to be kept updated on progress with implementing the response to their recommendations. This could include an annual report to the Joint Assembly and Executive Board, offering the opportunity for Citizens' Assembly participants as well as members of the public to hold the GCP to account for actions agreed as a result of the recommendations.

Background Papers

Report and recommendations – Greater Cambridge Citizens' Assembly on congestion, air quality and public transport	https://www.involve.org.uk/sites/default/files/field/attachemnt/GCCA%20on%20Congestion%20Air%20Quality%20and%20Public%20Transport%20-%20Full%20Report%20_0.pdf
Our Big Conversation: Summary Report of Survey Findings	https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=lT89Qvi2wNJefHSXNA3sktDKOhbbfuaFCHA5pO4gXOVa%2f2ym848cdw%3d%3d&rUzwRPf%2bZ3zd4E7Ikn8Lyw%3d%3d=pwRE6AGJFLDNlh225F5QMaQWCtPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFfXsDGW9IXnlg%3d%3d=hFflUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFflUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=ctNJFf55vVA%3d&FgPlIEJYlotS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qjj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFf55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJFf55vVA%3d&WGewmoAfeNQ16B2MHuCpMRKZMwaG1PaO=ctNJFf55vVA%3d
Choices for Better Journeys: Summary report of engagement findings	https://consultcambs.uk.engagementhq.com/1836/documents/2464

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake – Director of Transport

PUBLIC TRANSPORT IMPROVEMENTS AND CITY ACCESS STRATEGY: UPDATE ON TECHNICAL WORK AND NEXT STEPS

1. Purpose

1.1. In June 2019, the Joint Assembly and Executive Board considered key analytical work on options to secure a step-change in public transport, reduce congestion and improve air quality, alongside an update on the findings from the Choices for Better Journeys engagement. A set of principles for future work were agreed.

1.2. This paper collates and summarises the weight of evidence, technical and analytical work undertaken to date to inform the emerging City Access strategy. It sets out evidence of the issues, options for addressing these and analysis of the scale of intervention required. It then considers how public transport could be improved to achieve change, and analyses the range of enabling measures that could achieve this. A series of reports are included or referenced (if previously published) providing greater detail on what is covered in this paper. Alongside this paper, item 6 reports the recommendations of the Citizens' Assembly which considered how to improve public transport, reduce congestion and improve air quality.

1.3. Taking together the evidence set out in this paper, the Citizens' Assembly recommendations and findings from other public engagement, alongside the principles agreed at the June 2019 meeting, there is potential to develop packages of measures for further testing. An immediate set of interventions is suggested at para 10.4, which would offer some initial steps towards addressing issues around public transport, congestion, air quality and carbon emissions. The Joint Assembly is invited to comment on the work collated in this report and the suggested next steps.

2. Executive Summary

2.1. This paper collates and summarises the weight of evidence, technical and analytical work undertaken to date to inform the emerging City Access strategy. This includes:

- New evidence published for the first time:
  - options for the future bus network;
  - modelling work on the impact of parking and road pricing measures
  - evidence from the UK and internationally, on how other cities have approached congestion, air quality and public transport issues and the impacts.
- Evidence which has previously been brought to the Joint Assembly and the Executive Board, either in full or where the findings have been summarised in previous papers.

2.2. The purpose of summarising and (re)publishing all of the evidence gathered to date in the development of the City Access programme, is to support consideration of next steps.

2.3. The evidence demonstrates a clear case for change. Traffic conditions in, and on the approach to, Cambridge are bad, and worsening. This causes delay and misery for the people of Greater Cambridge and those who need to travel into Greater Cambridge to work from further afield. Poor air quality is a concern for many, and contributes to 106 deaths annually across Greater Cambridge. High levels of car use mean carbon emissions per capita in Cambridgeshire are 150% of the national average. A technical assessment shows these conditions would be likely to worsen without significant intervention.

2.4. The evidence shows us that the scale of the problem is such that substantial change is required. To reduce congestion, improve air quality and reduce carbon emissions, we need significantly more people travelling by public transport, cycling and walking and significantly fewer people travelling by car. Analysis has shown that delivery of a world-class public transport system is key to this. Plans are already advanced to develop the CAM metro, including the phase 1 surface-level schemes delivered by the GCP by 2025. This will deliver a step change in public transport accessibility but it will need to be supported by a redesigned and enhanced bus network that can feed passengers into it from rural areas and new neighbourhoods around Cambridgeshire, and plug gaps that the CAM network will not serve.

2.5. The network proposals published with this paper build on prioritisation work reported to the board in 2018. This identified the most important commuter flows, and how public transport journeys need to improve to make these journeys competitive with the comparable car journey so people can leave their cars behind. The bus network proposals translate that into a future bus network in terms of routing, service patterns and costs.

2.6. This network cannot be delivered to a standard that will enable commuters to leave their cars behind and switch to a more sustainable mode without (i) freeing up space on the roads to allow bus priority, and (ii) an ongoing funding source. City Deal funding offers the GCP a once-in-a-generation opportunity to 'front fund' new service provision that may not yet be commercially viable, but an ongoing revenue source will be needed to ensure those services can be sustained in the longer term. Publicly subsidised services might reasonably expect to recover some of their operating costs, but experience shows that ongoing subsidy is required to deliver a public transport network of the quality needed, including in rural areas where existing subsidies are under significant pressure. To deliver substantial improvements in the medium to long term, a new funding source beyond the period must be identified.

2.7. The evidence demonstrates that delivering the road space and the funding for a transformed public transport network that is competitive with the car will require some form of demand management. This might take the form of road closures or road space reallocation, parking restrictions, parking pricing (including Workplace Parking Levy), or some form of road pricing. These measures could be targeted at the most polluting vehicles, or apply to all vehicles. Road space without funding, or funding without road space, will deliver some improvements compared with the expected future baseline but it is only by providing both road space and funding that transformational change can be achieved, and city deal objectives can be met.

2.8. The evidence shows that demand management measures work to reduce traffic, improve air quality and reduce carbon emissions. The What Works Centre for Local Economic Growth has reviewed the evaluation evidence from other demand management schemes around the world. A review of evidence from other cities across the UK has been undertaken to understand what they are doing to improve congestion and air quality, and how lessons from the UK and elsewhere may apply to the Greater Cambridge context.

2.9. Technical work has been undertaken to assess the relative positive and negative impacts of each of these measures. This is summarised in and (re)published alongside this paper, and

includes traffic modelling and a preliminary Integrated Impact Assessment which considers the environmental, equalities, health, safety and economic impacts of both the public transport improvements and the demand management measures that might enable them.

2.10. Wide ranging and detailed public engagement has evidence demonstrated clear public support for change. Over 80% of respondents to Choices for Better Journeys supported the vision for public transport, and over 80% chose a demand management measure as their first choice to reduce congestion and fund better public transport. The Citizens Assembly, held in autumn last year, voted in favour of introducing demand management measures and concluded that they wanted decision makers to 'be bold, and take action'.

2.11. Similarly, businesses are concerned by their ability to attract and retain staff and urge action on congestion. The Cambridgeshire & Peterborough Independent Economic Review reminds us that for many of these businesses their location choice may well be 'Cambridge or abroad', which makes the success of this area a matter of national economic significance.

2.12. All are agreed that if any package of measures were to include a form of pricing, these public transport improvements must already be in place before it was implemented, so that people have good alternative options on day one. A review of the evidence from other places backs this up: demand management proposals are more effective where there are credible non-car alternatives in place.

2.13. Technical work to date has mostly looked at these measures individually in order to understand their relative impact. In practice, a package of measures is required, with measures designed to complement one another and mitigate potential negative impacts for maximum impact. The Integrated Impact Assessment supports the identification of proposals that are beneficial overall but could have unintended consequences that can be offset by supporting measures.

2.14. The evidence set out in this paper, taken together with the principles agreed by the Executive Board in June 2019, the recommendations of the Citizens' Assembly and findings from wider public engagement, could be used to inform the development of different packages for consideration, and some immediate actions are suggested.

3. Key Issues and Considerations

3.1. The City Access project is designed to reduce congestion, deliver a step-change in public transport, cycling and walking, and significantly improve air quality in Greater Cambridge.

3.2. Greater Cambridge is a national economic success story, an important contributor to UK Plc and host to some of the most productive and innovative parts of the UK economy. The City Deal, signed with Government in 2014, recognised the positive benefits of this but also the issues, including poor connectivity, increasing congestion and high house prices, that would need to be tackled to ensure the continued success of the area. The role of the Greater Cambridge Partnership (GCP) is to support this by addressing these and other issues, and to ensure that everyone in Greater Cambridge and those with links across the wider area can access the opportunities offered by that growth.

3.3. The GCP has undertaken detailed work to understand these issues, alongside comprehensive public and stakeholder engagement activities, and to develop a vision for the future that would include:

- A world-class, sustainable transport system that makes it easy to get into, out of, and around Cambridge, giving people more choice about how they travel and better options for their journeys;

- A transformed public transport network that better serves employment and residential areas, and offers people from across the travel to work area a reliable, competitive and sustainable alternative to travelling by car;
- Significant enhancements to walking and cycling provision to develop and maintain a comprehensive network for the city and wider area;
- Delivery of the current infrastructure programme and continued investment to address further priorities identified through the GCP's Future Investment Strategy;
- Investment in new digital technology to support the transport system by providing seamless journeys and better managing road traffic.

3.4. The vision supports the realisation of a series of benefits identified through the City Deal and further work to develop the city access strategy, including:

- Securing the continued economic success of the area;
- Significant improvements to air quality, supporting a healthier population;
- Reducing carbon emissions in line with the partners' zero carbon commitments;
- Helping to address social inequalities where poor provision of transport is a contributing factor;
- Wellbeing and productivity benefits from improving people's journeys to and from employment.

3.5. Work to date has also considered delivery of the vision, in particular the need to create space for sustainable travel modes and to secure ongoing revenue funding for improvements, in order to secure the range of benefits identified above.

4. Background – evidence and analysis of current transport situation and impacts

Capacity and Growth Analysis

4.1. Congestion is a major problem that threatens the liveability and attractiveness of Cambridge to residents, employees and visitors alike. As set out in Joint Assembly and Executive Board papers in November and December 2018 and June 2019, economic analysis published in the Cambridgeshire & Peterborough Independent Economic Review (CPIER) suggests that at current rates of transport infrastructure investment, the ability to deliver planned growth is threatened[1]. This led the authors of the CPIER report to conclude that the Greater Cambridge area was the key investment priority in the short/medium term to deliver the region's growth aspirations. The GCP's business stakeholder engagement supports this.

4.2. People are spending too much of their time stuck in congestion – almost a quarter of people's commuting time in Cambridge is spent in traffic jams[2]. Since so little of the network is segregated for public transport this also affects bus users and delays are significant. Congestion has an impact on quality of life, the local environment and business productivity.

4.3. The GCP has a target of 10 to 15 per cent reduction in city centre traffic flows over 2011 levels, as part of the £500m devolution funding resulting from the City Deal negotiations. Traffic has grown considerably since 2011, this target now equates to a reduction of more than 20 per cent over today's levels or the equivalent of almost one in four cars off the road. By 2031 employment is forecast to rise by 30 per cent.

4.4. Without intervention it is very likely that the majority of the 44,000 new employees across Greater Cambridge will drive to work, which in the worst-case scenario could imply up to

[1] Recommendation #7, CPIER Final Report (p. 13).

[2] 2017 UNRIX International Traffic Scorecard. The Ranking analyses congestion in 1,360 cities worldwide using big datasets from connected cars and devices.

44,000 additional cars on the road: a 50 per cent increase in car-based commuter traffic on current traffic volumes. If all new workers adopted the same travel behaviours as today's workers, an additional 26,000 commuting trips would need to be accommodated on the road network. This would have significant implications for network performance, commuting times, as well as carbon emissions and air pollution.

4.5. Most of this employment growth will be located outside of the city centre in areas that are not currently well served by public transport. For most residents west of the M11 or north of the A14, Addenbrooke's/ Cambridge Biomedical Campus (CBC) and other employment locations to the south are an impractically long public transport commute. There are some 30,000 new homes planned to the north and west of Cambridge, and around 20,000 new jobs at CBC, Babraham Research Campus and Granta Park.

4.6. Furthermore, some parts of Greater Cambridge are being held back by a lack of any viable public transport at all. In some places, people are cut off from opportunities by poor public transport access or walk and cycle connections. Poor transport connections compromise economic fairness by limiting access to jobs, education and training. This can isolate people and communities, creating a less socially integrated area.

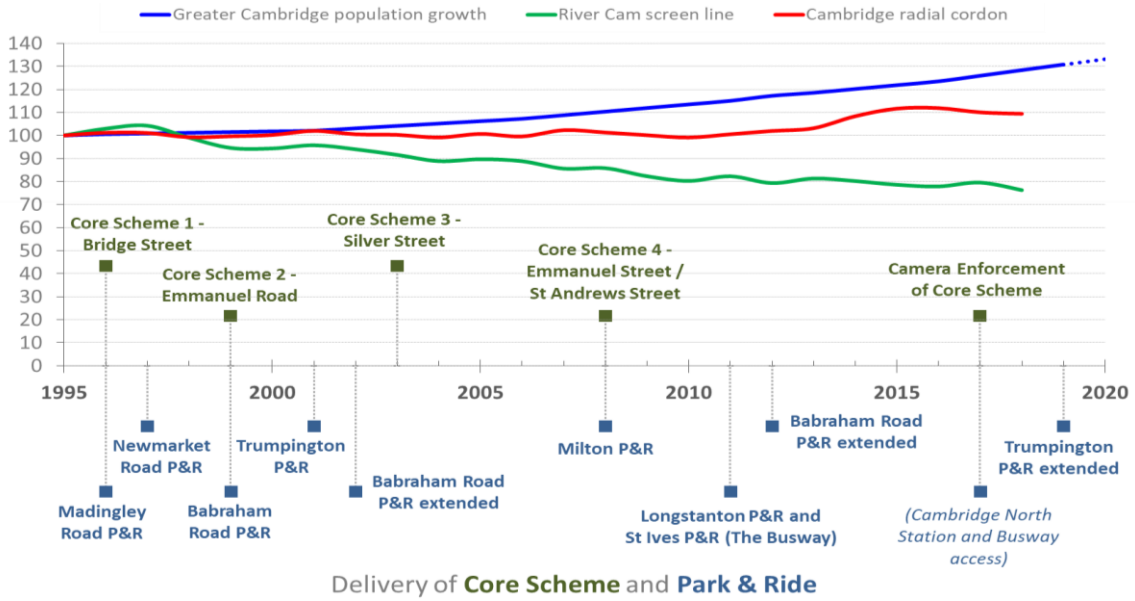
Current and future trends

4.7. The Greater Cambridge area has experienced significant economic and population growth for a number of decades, with increasing travel demand as a result. From the early 1990s, the Cambridge Transport Strategy introduced measures to provide additional non-car capacity into Cambridge, and to manage traffic in the city centre, alongside wider improvements to public transport provision.

4.8. While travel demand has grown significantly since the 1990s, the combined impact of all of these interventions was to keep traffic levels into and out of the city at a broadly constant level between 1996 and 2013, as a result of mode shift away from the private car to public transport, walking and cycling. Cambridge area vehicular traffic levels are shown in Figure 1.

Figure 1: Change in vehicular traffic into and within Cambridge* (base 100, 1995), referenced against the timeline of introduction of the Core Traffic Scheme and Park & Ride

* The River Cam screen line traffic counts are used as a proxy for city centre traffic volumes. The Cambridge radial cordon shows traffic flows into and out of the city.



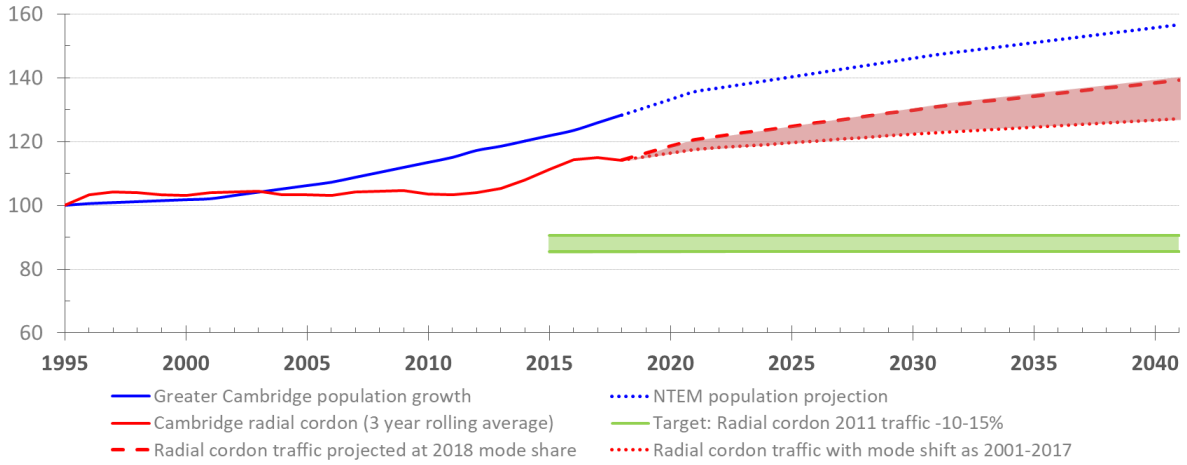
4.9. However, despite this general stability as a result of the policy interventions, from 2011 as shown in Figure 2, traffic levels into Cambridge have started to increase again and are now

around 10% higher than in 2011. This has resulted in both the morning and evening peak periods in Cambridge lengthening from 1½ to 2½ hours.

4.10. Over this period, there has been significant levels of mode shift away from the private car and this has resulted in the general stability in traffic flows up until 2011. Between 2001 and 2017, commuter car use increased at just over half the rate of jobs growth.

4.11. Figure 2 shows population growth and a range of projections for Cambridge radial cordon traffic to 2041 using the Government's National Trip End Model (NTEM) data. The two radial cordon forecasts are based on car mode share as seen in 2018 (high forecast) and the same level of mode shift away from the private car for work trips seen in 2001-2017, as a proxy for all traffic (low forecast). Historically, NTEM has underestimated population growth in the Cambridge area, so the population growth shown and therefore the radial cordon forecasts may be considered conservative (low).

Figure 2: Projected population growth in Greater Cambridge, Cambridge radial cordon traffic growth to 2041 (secenarios), and GCP traffic reduction target (Index 1995=100)



4.12. Putting these forecasts into numbers shows, based on the range of forecast outcomes, the required levels of traffic reduction on the radial cordon to meet the GCP targets.

Table 1: Base case radial cordon traffic growth to 2041 and GCP targets

Year	Radial cordon vehicular traffic levels			Traffic reduction needed to meet GCP target
	Actual	**GCP Target** (10-15% reduction in traffic from 2011 levels)	**Projection**	
2011	185,727	-	-	-
2018	202,156	-	-	**17% to 22%**
2021	-	157, 900 to 167,200	210,100 to 215,700	**20% to 27%**
2031	-		219,600 to 234,100	**24% to 33%**
2041	-		227,300 to 248,900	**26% to 37%**

Air Quality

4.13. Since the City Deal was signed air quality has become a more prominent issue. Air pollution, particularly from NO_2 and particulates, affects people's health throughout their lifetime especially those who are more vulnerable such as children, pregnant women, those with cardiovascular or respiratory diseases, those who live in particularly polluted areas and older people. Currently, there is no clear evidence of a safe level of exposure below which there is

no risk of adverse health effects. Therefore, further reduction of PM or NO_2 concentrations below air quality standards is likely to bring additional health benefits.

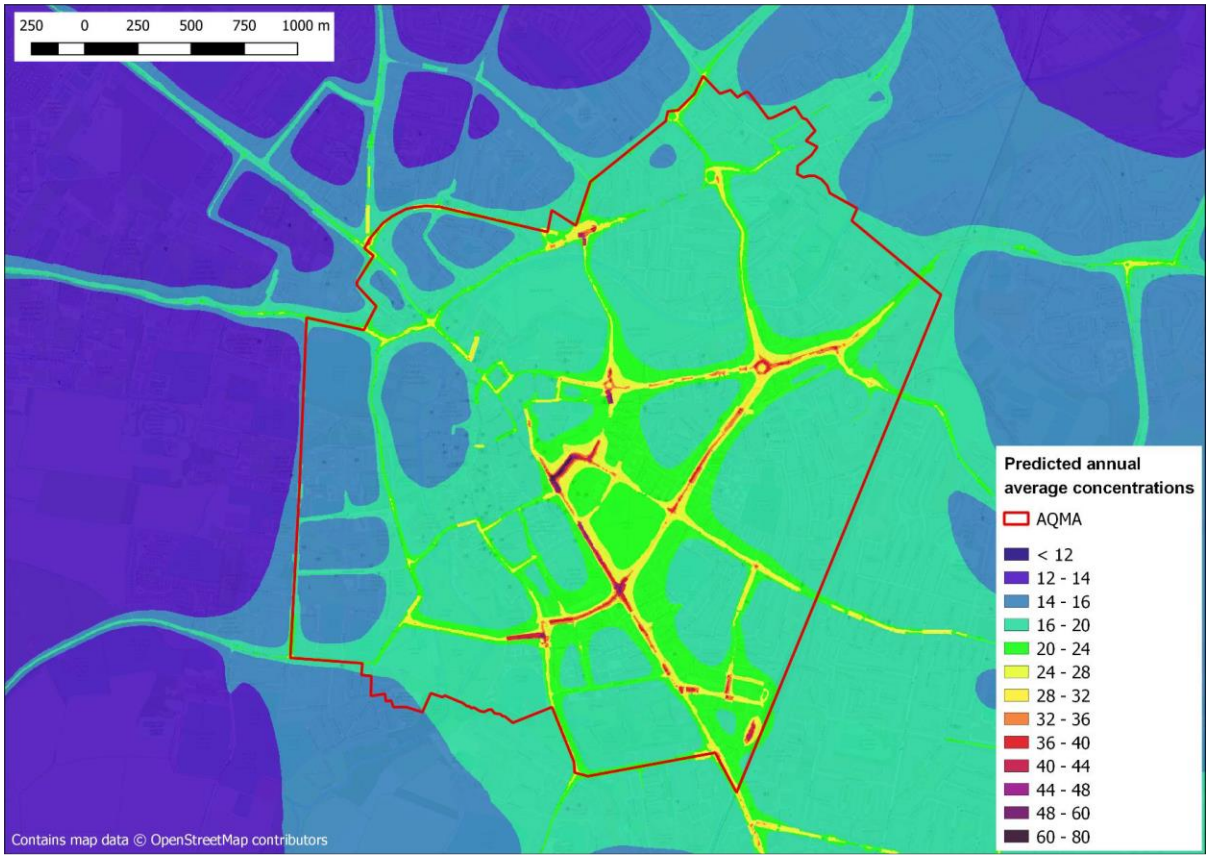
4.14. Measures that improve air quality can also offer wider public health and wellbeing co-benefits, including:

- an improvement in overall environmental quality;
- increased physical activity;
- noise reduction;
- greater road safety; and
- climate change mitigation

4.15. As set out in the June 2019 Joint Assembly and Executive Board papers, the GCP funded a Clean Air Zone Feasibility Study looking at how to improve air quality in the City Centre. The aims of the study were to look at how a range of interventions would affect air quality in Cambridge and consider feasibility of implementation. The findings of the study were published as part of the Choices for Better Journeys campaign.[3]

4.16. Whilst pollutant levels in most of the city are legally compliant or just above legal limits, growth of the City presents a significant challenge to long term compliance. The study found that 106 deaths per year in Greater Cambridge can be attributed to air pollution.

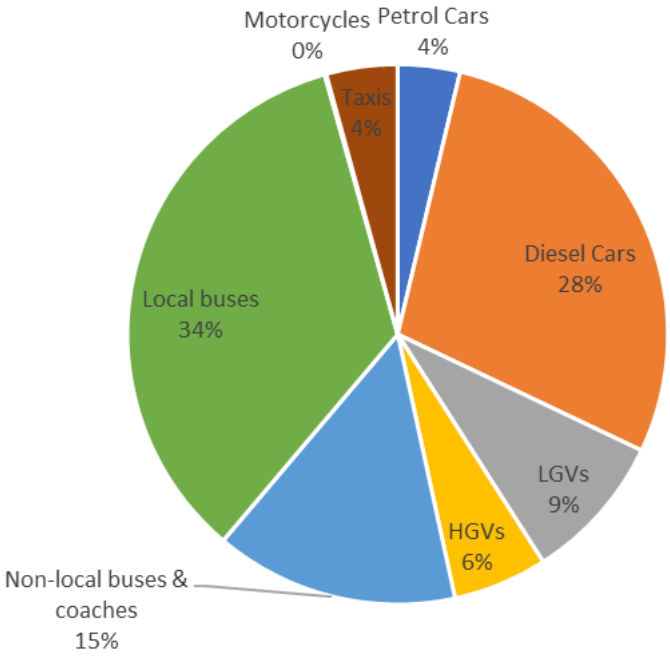
Figure 3: Annual average NO_2 concentrations, central Cambridge, 2017, µg.m-3



4.17. The main source of emissions is from road traffic, and the largest contributors are buses which account for 49% of NOx emissions within the city centre followed by diesel cars (28%).

[3] *Cambridge Clean Air Zone Feasibility Study, Ricardo 2018*

Figure 4: Source apportionment of road traffic NOx emissions in 2017 inside inner ring road



4.18. The Study found that, without some form of intervention, the continued growth in traffic in the Greater Cambridge area would result in a worsening of air quality over the next 10 years.

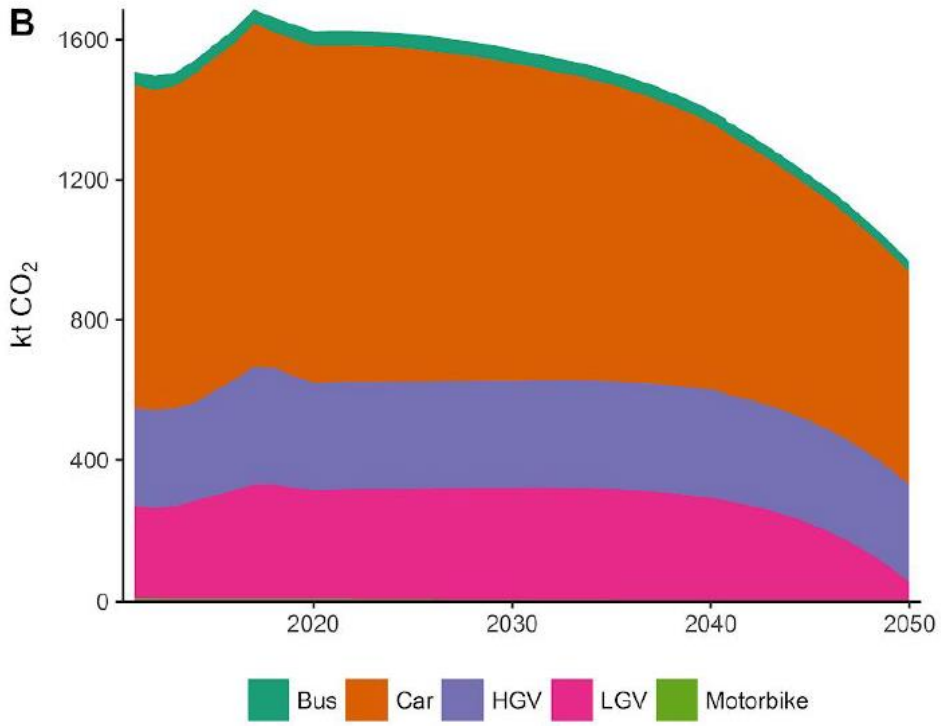
Carbon Emissions

4.19. A key threat to the future of our communities is climate change. High and increasing levels of greenhouse gas emissions are driving global warming, posing a significant risk to our health, our economy, our environment, and endangering the wellbeing of future generations.

4.20. The three partner councils of GCP have all declared climate emergencies and committed to achieving net zero carbon. The necessity of reaching net-zero was enshrined in UK law on 27th June 2019, with a target requiring the UK to bring all greenhouse gas emission to net zero by 2050.

4.21. Transport is the largest single contributor to carbon emissions in our area, accounting for 45% of carbon emissions across Cambridgeshire. High levels of car use, reflecting the increasing number of journeys and the length of these journeys, compounded by a lack of alternatives, mean transport emissions per capita in Cambridgeshire are around 150% of the national average. The majority of emissions are from private cars and – even with electrification – this is predicted to still be the case in 2050. With limited or no intervention, transport in Cambridgeshire would produce 65m tonnes of CO_2 2019-2050.

Figure 5: source of CO_2 emissions from transport (CUSPE report)



Quality of Place

4.22. Too often streets are designed for cars, not people. Much of the congestion in Cambridge can be attributed to the heavy reliance on private vehicles. Consistent feedback suggests this is affecting people's experience of the city. Cambridge's city centre streets should be for active travel, social interaction, and space-efficient modes that enable the efficient movement of people to where they want or need to be. Relying on cars, particularly those carrying only one passenger, will only continue to make Cambridge's streets even more congested, undermining the quality of the beautiful, unique historic environment.

5. Addressing the issues – scale of intervention, analysis of options and approach

5.1. As set out in December 2018 and June 2019, evidence of current and future issues shows that, to achieve both journey time/congestion and air quality improvements, a step change in provision and uptake of public transport, cycling and walking is required, alongside a significant reduction in car use. High quality public transport services that connect seamlessly to other forms of active, efficient and sustainable travel are required across the city to provide alternatives to car use.

5.2. Arup were commissioned to carry out high level prioritisation analysis for public transport investment.[4] Their work, summarised in the December 2018 City Access board paper[5], assessed the competitiveness of public transport for key journey to work flows in Greater Cambridge, relative to a car journey for the same flow. This found that three interventions are needed:

- Investment in infrastructure to improve services to communities around Cambridge
- Improvements to services to increase frequency, speed and reliability and possibly reduce costs

[4] Public transport prioritisation analysis (Arup, January 2019)
[5] December 2018 Executive Board paper on City Access (paras 7.7; 7.10 to 7.22; Appendices 2, 3 and 4).

- A lever to manage the demand for car travel down to free up road space to run improved services

5.3. Analysis has been undertaken looking at the level of intervention that is required to make public transport more competitive compared to the car, and to offer more people a better choice for their journeys into and around Greater Cambridge. Alongside this, a broad range of evidence has been used to identify possible measures, and analyse them in the Greater Cambridge context.

Technical assessment of measures proposed as an alternative to fiscal options to address future congestion in Greater Cambridge[6]

5.4. At the June Executive Board meeting, Cllr Bates proposed a list of alternative measures to address congestion.[7]

5.5. A technical assessment of the measures has been made by GCP and CCC officers, which concluded that:

- GCP traffic reduction targets of 10 to 15% on a 2011 base equate to something closer to a 25 to 30% reduction by 2025;
- Measures to increase capacity and optimise the use of existing capacity will lead to significant reductions in traffic but not sufficient to meet the GCP targets or to return to 2011 levels of traffic / congestion;
- Therefore to meet the GCP targets, more significant measures to manage demand are needed – this could either be physical or fiscal;
- A review of previous evidence suggests that both physical and fiscal demand management measures alongside measures to increase non-car capacity, could achieve the GCP targets;
- However, the negative implications of physical demand management measures on main roads into and across the city are likely to be much more severe for any given percentage reduction in traffic than for a congestion charge;
- A pollution charge could address the congestion issues but also focus on air quality improvement but would need to be reviewed as the vehicle fleet changes;
- Any form of charging has the benefit of raising revenue to allow widespread public transport improvement that will not be enabled other than in the immediate Cambridge area with physical demand management.

Lessons from Elsewhere[8]

5.6. Other places are facing similar issues with air quality, congestion and public transport to different degrees, affected by growth and geographic factors. Throughout the City Access Project we have drawn lessons from other places and this paper consolidates our research, including through two international studies: the European Platform on Sustainable Urban Mobility Plans paper on the economic benefits of sustainable urban mobility measures (the EVIDENCE project), and the CREATE (Congestion Reduction in Europe: Advancing Transport Efficiency) project on Urban Mobility: Preparing for the Future, Learning from the Past.

[6] Published alongside this report: https://greatercambs.filecamp.com/s/kLtJXgfboUIdzqnC/d
[7] Agenda papers including published amendments: https://cambridgeshire.cmis.uk.com/ccc_live/Meetings/tabid/70/ctl/ViewMeetingPublic/mid/397/Meeting/1242/Committee/26/SelectedTab/Documents/Default.aspx
[8] Published alongside this report: https://greatercambs.filecamp.com/s/R1havJ4AXniu9Byr/d

5.7. The most common measures taken to address these issues include public transport improvements, active travel and public realm improvements, fiscal and physical demand management measures, environmental zones and cleaner vehicles and fuels.

5.8. Packages of measures often combine demand management measures with public transport and active travel improvements to ensure that there is a genuinely viable alternative to the private car. Improvements to public transport often include measures to reduce emissions.

5.9. Many of the measures explored have had positive impacts on transport or environmental issues, but certain measures work better in different locations and as a package with different other measures.

Addressing poor air quality and reducing carbon emissions – identification and analysis of options

5.10. In June 2019, the Executive Board formally agreed that the City Access project should aim to improve air quality and reduce carbon emissions. Technical work to further understand the options for achieving this has been undertaken and previously published, and is summarised again here.

Clean Air Zone Feasibility study (Ricardo, 2018)

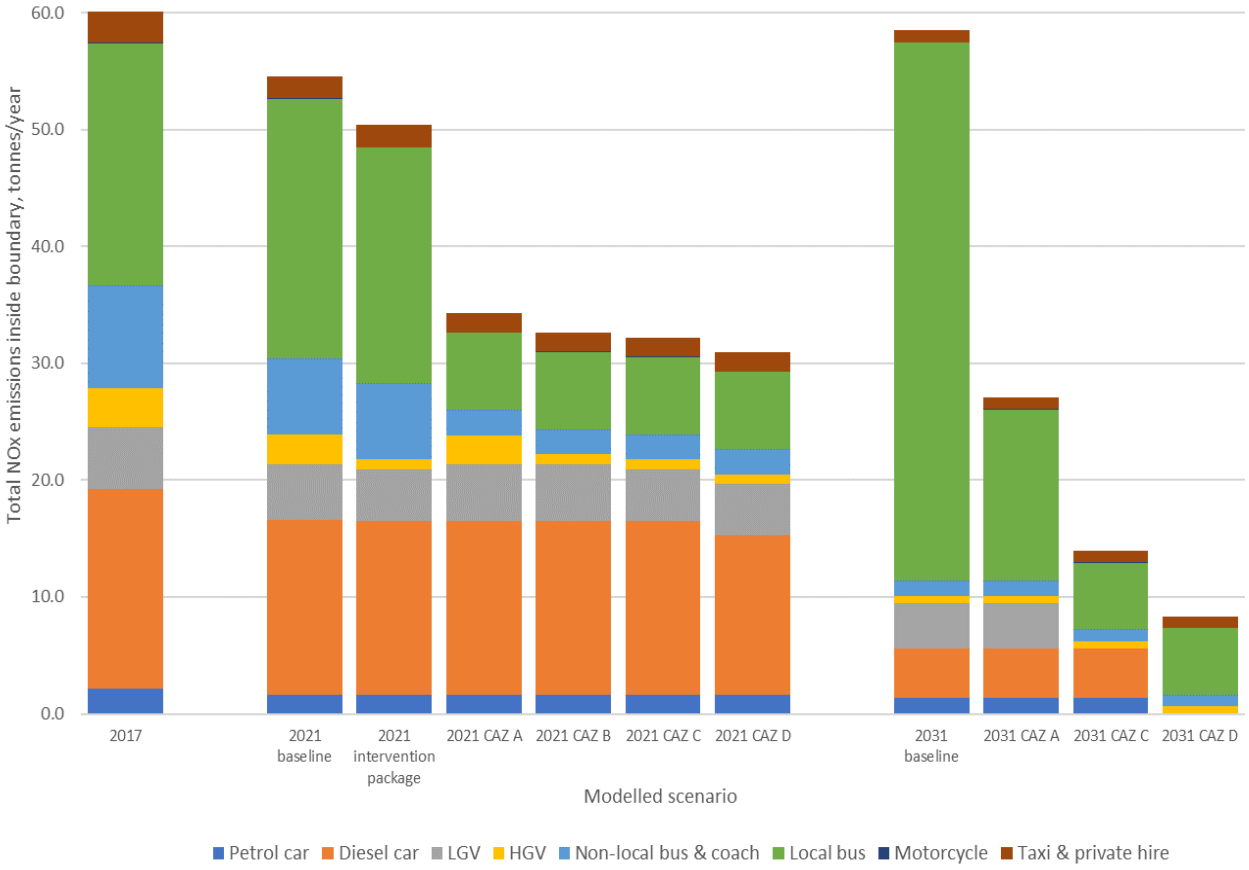
5.11. Section 4 above outlines the current air quality situation in Cambridge. The Clean Air Zone Study looked at what impact different classes of Clean Air Zone could have on emissions in both 2021 and 2031. A clean air zone is an area where targeted action is taken to improve air quality. This can deliver improved health benefits and support economic growth. Central government have published guidance setting out suggested fixed categories for CAZ interventions based around different vehicle classifications.[9]

5.12. In 2021, a Clean Air Zone Class A (all buses and coaches to be Euro 6, diesel taxis to be Euro 6 and petrol taxis to be Euro 4) would deliver compliance with the limit value for NO_2 across most of the city, although isolated hotspots may remain along Emmanuel Street and the Inner Ring Road. A Clean Air Zone Class D in 2021 (all diesel vehicles to be Euro 6 and all petrol vehicles to be Euro 4) operating around and within the Inner Ring Road is predicted to achieve compliance with the NO_2 limit value in 2021. This intervention would bring a 43% reduction in NO_X emissions in the city centre.

5.13. In 2031, the Study recommends a more ambitious intervention. The most effective intervention to improve air quality and protect public health is a charging Class D Clean Air Zone which includes all vehicles. The report also considers how a Class C Zone, but with higher requirements for vehicles to be zero or ultra-low emission, could be used to reduce NO_X emissions to 80% below the legal objective levels.

[9] 'Clean Air Zone Feasibility study' (Ricardo, 2018) Table 2, page 8.
https://consultcambs.uk.engagementhq.com/1836/documents/2050

Figure 6: Total calculated NO_x emissions for each scenario, tonnes/year



Carbon work (CUPSE, 2019)[10]

5.14. CUSPE is an organisation aiming to build stronger links between early career researchers and government policy makers. Their report explored policies with the highest capacity to reduce greenhouse gas emissions from transport, improve air quality and reduce congestion across **Cambridgeshire**.

5.15. The researchers modelled the effect of various policies, derived from case studies from cities around the world, on these factors in Cambridgeshire. Particularly, their modelling shows:

- In their baseline scenario, emissions remain at unsustainable levels by 2050.
- Acting quickly results in larger emissions savings.
- Policies that shift travel away from cars to walking, cycling and public transport yield emissions savings more quickly than vehicle electrification.
- Buses have a larger benefit when they are 'green' and busy.
- Air quality improves as diesel vehicles become less popular. This can be accelerated by promoting hybrid and electric vehicles.

5.16. In conclusion, the researchers recommend two targets:

- A minimum goal that 60% of travel in Cambridgeshire in 2030 ought to be on buses, cycling and walking – up from 40% in 2019.
- A target for 60% of new car sales in Cambridgeshire in 2030 to be electric – to be stimulated at a local policy level by providing incentives for electric vehicle owners

[10] 'Reducing air pollution, CO2 emissions and congestion in Cambridgeshire', (CUPSE 2019) www.greatercambridge.org/reducingairpollutionreport/

5.17. The research finds that if both of these targets were met, annual $C0_2$ emissions in 2050 would be 65% less than 2019 levels and that in order to meet these targets, policies need to prioritise sustainable modes of travel over private cars.

Approach to addressing the issues

5.18. As set out above, analysis shows that delivery of a world-class public and active transport system is key to addressing issues around connectivity, air quality and carbon emissions. Evidence demonstrates that interventions to invest in infrastructure, improve public transport services, and manage demand for car travel are needed to deliver this. The following sections break down the technical work to understand further:

a) The type and scale of public transport improvements required; and
b) The type and scale of measures that would enable delivery of improvements, by managing demand for car travel to free up road space, and identifying a long-term funding stream

5.19. To date, work has focused on testing illustrative measures in isolation, to inform consideration of the right mix of measures. As set out in previous papers, it is envisaged this would form a balanced package of improvements and measures to enable them.

5.20. The technical work should therefore all be considered indicative and is not intended to form proposals for consideration. However, it is expected that the work presented here provides sufficient preliminary evidence to enable the development of one or more packages of improvements and enablers for further testing and consideration. All of the measures can be varied with options available to 'dial up' or 'dial down' different elements. The work explores how this may affect the operation of each measure and its impacts without making proposals. Measures will require careful shaping, and consideration of impacts and mitigations – this would happen as part of the next phase of work.

6. Public transport, cycling and walking improvements

6.1. Key to addressing the issues set out in this paper is the provision of alternatives to the car that offer more people better journeys using sustainable modes of transport. A clear principle of the City Access programme has been that alternatives to the car must be in place first, before significant measures to discourage car use are introduced. Technical work has looked at what is needed to deliver more competitive journeys by public transport on key commuter routes, how a new bus network achieving those aims may look, and what further enhancements to cycling and walking networks may be required.

Infrastructure

6.2. Large scale investment in infrastructure is already underway. The GCP is working with the Cambridgeshire and Peterborough Combined Authority to develop the Cambridgeshire Autonomous Metro. New infrastructure will substantially enhance the current offer and form a cohesive network throughout the Greater Cambridge area and provide links further afield. It will deliver a significant improvement in public transport accessibility to the major out of centre employment sites that are currently very poorly served. It will also offer the ability for those commuting from further afield to park and continue their journey in on rapid public transport or, in future, to get an on demand autonomous vehicle to the station or transport interchange. The network is summarised at figure 7, and includes:

- **Mass rapid transit, delivering a transformational core network, using 50 miles of new, high quality public transport routes**. CAM Phase 1 schemes deliver significant transport improvements on key arterial corridors into Cambridge. As well as offering dedicated, rapid, high quality public transport routes, schemes will enhance active travel infrastructure and improve road safety. GCP is working in partnership with the Combined Authority to deliver the full Cambridge Autonomous Metro.

- **Over 10,000 additional park and ride spaces** – enabling people from across the area to easily access the new core network.

- **Complemented by a wider step-change in public transport services across the area:** investment in existing key public transport routes, with packages of works to improve the frequency, reliability, practicality and attractiveness of the local public transport offer.

- **A comprehensive cycle network:** building on the existing base of cycle routes in Greater Cambridge, GCP is investing to enhance and upgrade individual routes and better integrate a coherent network of cycle, walking and active travel routes – including delivery of **150 miles of new segregated greenway cycleways**.

Figure 7: Greater Cambridge Future Network Map

Public Transport Prioritisation Analysis (Arup, 2019)[11]

6.3. As set out in section 5, this work identified that, in addition to infrastructure improvements, a step-change in public transport service provision is needed to provide a competitive alternative to the car. The work also assessed the competitiveness of public transport for key journey to work flows in Greater Cambridge, relative to a car journey for the same flow.

6.4. The flows considered were the commuting origin-destination pairs with the highest number of people travelling that route, based on Census 2011 travel to work data, plus movements between the major employment and housing growth locations which would not necessarily be represented in that Census data but which will be important origins and/or destinations over the current local plan growth period.

6.5. The best way to quickly reduce congestion in the city centre is to focus investment where there are the biggest flows of people travelling to and from work. Commuter trips may be the easiest trips for travellers to change their behaviour because they are regular and

[11] 'Technical Note – Public Transport Investment Analysis', Arup 2019
https://greatercambs.filecamp.com/s/vkcSQOwBi6wkfbhC/d

frequently repeated. For individuals they are usually the most frequent trip made, and the majority of cars on the road at peak congestion times are commuters.

6.6. The purpose of the analysis was to give an overview of:

- The likely scale of intervention required to deliver a public transport system that is genuinely better than car;
- The priorities for public transport investment (which improvements have the potential to shift the most people out of cars onto public transport?);
- Where public transport is not competitive with car for a journey from A to B, the factors underpinning the lack of competitiveness. The analysis allows a disaggregation of the impact of access to/from the bus stop or rail station; journey time; price; and service frequency on overall competitiveness, for each 'A to B' (origin-destination) pair.

6.7. Key findings about the current competitiveness of public transport compared with private car were:

- For trips going into the city centre from elsewhere within Cambridge, public transport is relatively competitive, particularly from areas on high frequency bus corridors.
- For the majority of areas outside of Cambridge, and for those areas within the city not located on high frequency bus corridors such as Cherry Hinton, public transport is not competitive with car.
- The exception to this is for some locations along the existing guided busway where public transport is competitive with the equivalent car journey. This shows how rapid transit infrastructure can increase public transport competitiveness even in areas a significant distance away from the city.

6.8. The technical work identified how GCP public transport schemes, bus service improvements and demand management charges might (cumulatively) change the relative competitiveness of public transport. It also identified a list of priority interventions – over and above planned infrastructure – that would deliver a step change in the public transport offer. Those recommendations have fed into the bus network options report undertaken by Systra.

Future Bus Network Concept (Systra Ltd, January 2020)[12]

6.9. Drawing on the Arup prioritisation work, Systra Ltd were commissioned to undertake a high level bus network planning exercise for the Cambridge travel to work area, with a focus on enhancing the network in and connecting to Cambridge. This uses the findings from the Cambridgeshire and Peterborough Combined Authority's *Cambridgeshire and Peterborough Strategic Bus Review,* and previous Executive Board papers, which both highlighted a need for investment in public transport. Additionally, Choices for Better Journeys demonstrated strong public support for the vision for public transport.

6.10. The report identifies a number of challenges that are then considered in the development of the future bus network proposals in the study. These include:

- Ensure as fast and reliable a service as possible, and maximise opportunities for segregated running;
- Maximise the potential of current and proposed public transport infrastructure, such as the first phase of CAM, railway stations and P&R sites;
- Consider improvements to operating hours, to make public transport a viable option for more people;

[12] 'Cambridge Bus Network Planning Final Report', Systra, 2020
https://greatercambs.filecamp.com/s/8waVgal1mMlYNfJ9/d

- Ensure the bus network better serves key employment and residential areas at both existing and future sites;
- Consideration of bus operations in the city centre, including routing and interchange. This is in the context of proposals to increase the number of buses operating on the local bus network. This is interlinked with the work underway on the *Making Space for People SPD*;
- Contribute to social inclusion through enhanced connectivity and greater equity of service;
- Ensure that rural areas are better served in the future, providing users with greater consistency of service as well as integration with the core network; and
- Recognise the challenges around air quality and GHG emissions, and the role that an increasing size of bus fleet will play in that. This will include the need to quickly move towards cleaner vehicle technologies

6.11. The report outlines three categories of improvements that could be considered, which build up to a full bus network:

- Standardisation of the existing network, and consideration of operating hours;
- Enhancements to existing routes and the provision of additional routes to form a core network; and
- Enhancement of the rural bus network through both changes to existing services and the addition of new routes.

6.12. The following figures show what the bus network could look like based on each of the three scenarios outlined above:

Figure 8: Existing bus network

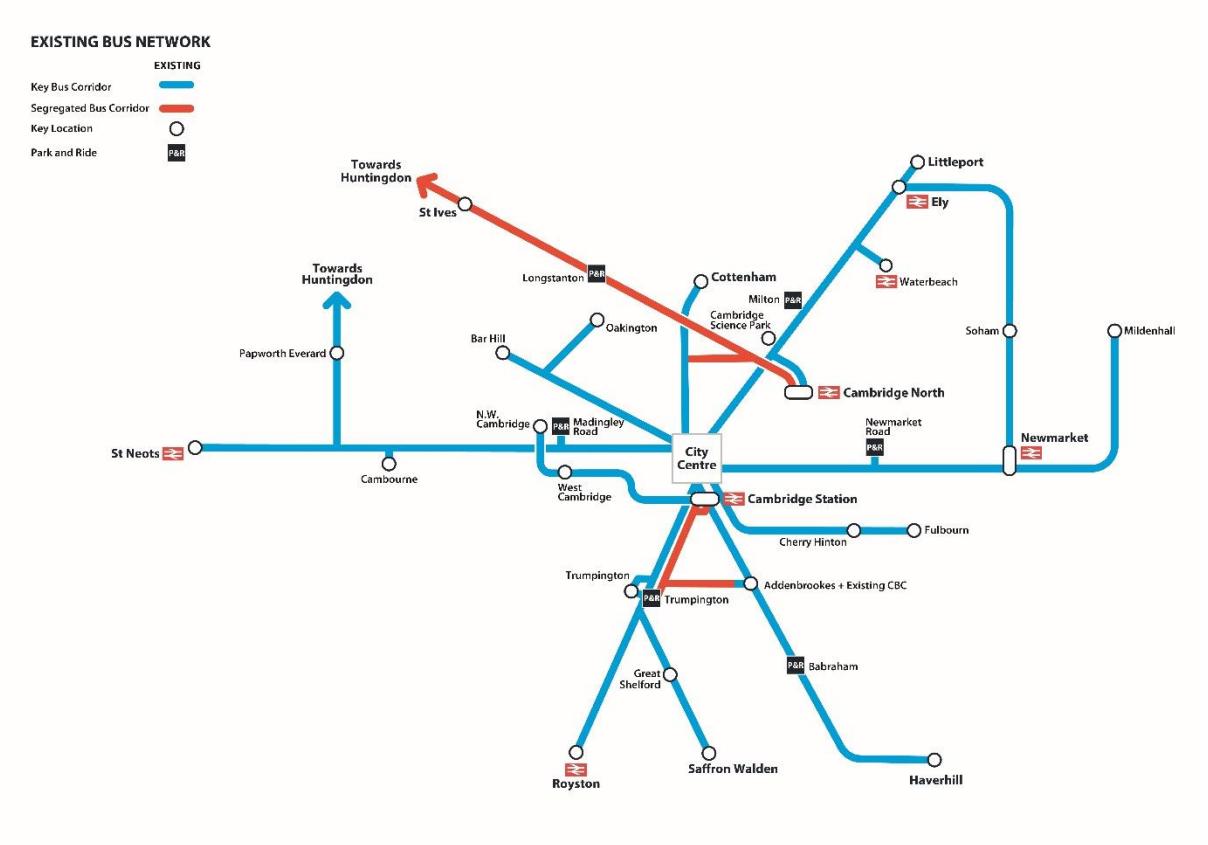


Figure 9: Future core network

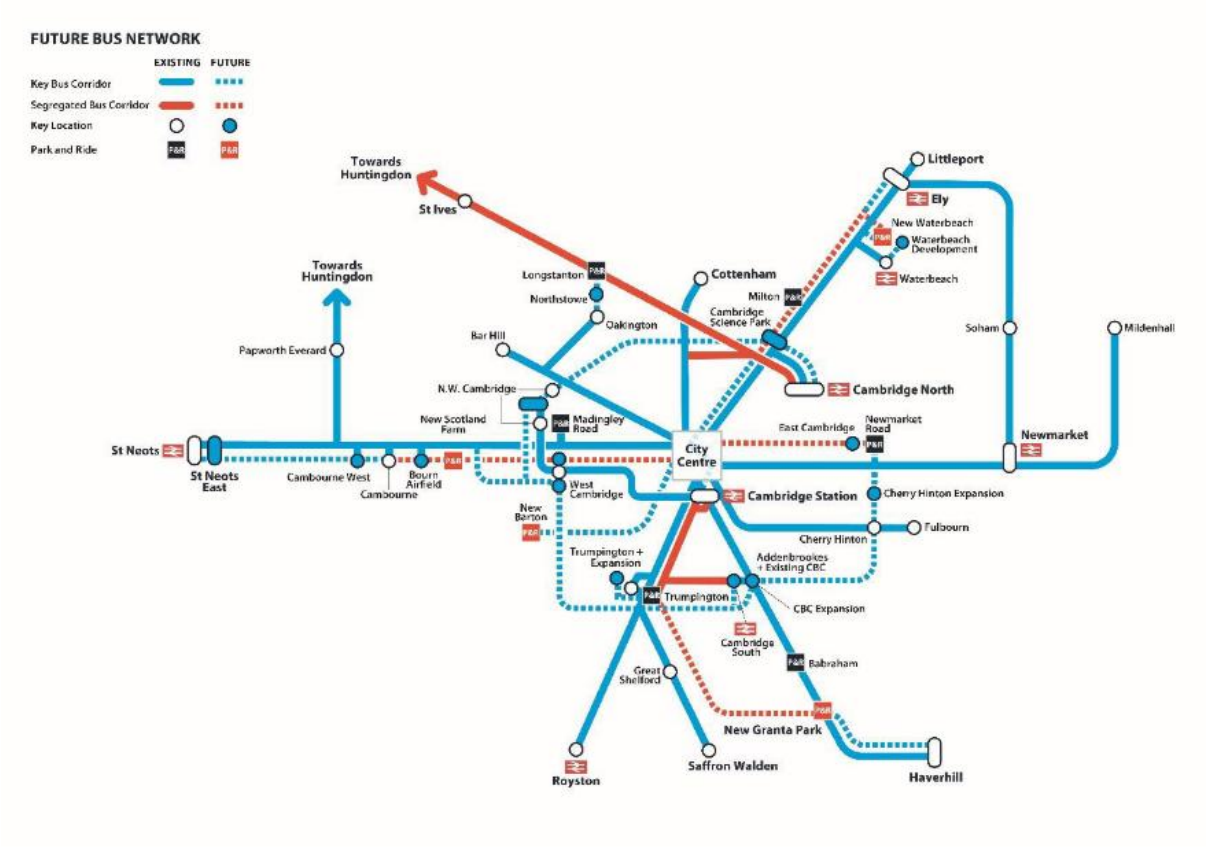
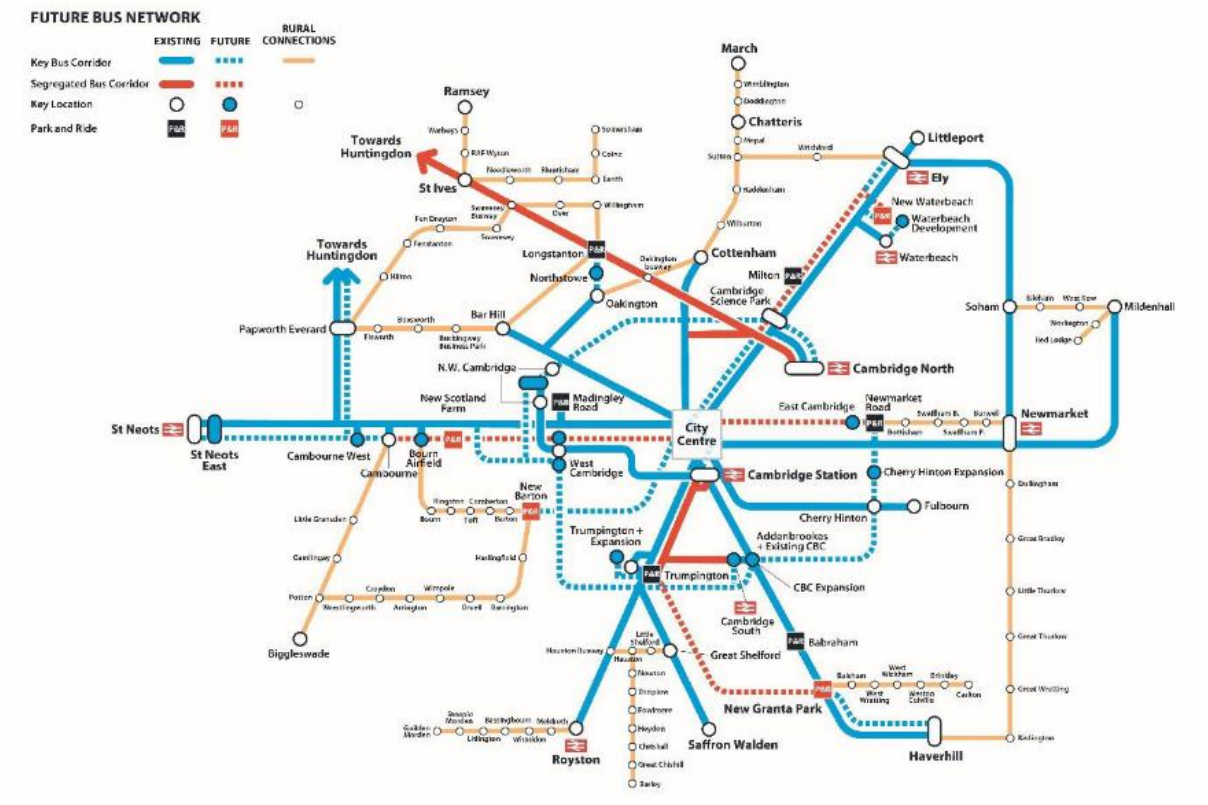


Figure 10: Future network including rural enhancements



6.13. If these recommendations were implemented, by 2026 there could be 417,000 people living within a 5 minute walk of the new bus network (a 16% increase) and 752,000 within a 10 minute cycle (an 18% increase), and those routes will have substantial journey time and frequency improvements as well. An additional 55,000 people will live within a 10 minute drive of a park and ride site.

6.14. Quantifying the journey time improvements in terms of population, the proposals would see around 480,000 people living within an hour bus journey of at least one of the key employment destinations, using 2026 population estimates. This is an increase of over 56,000 who would be within an hour of at least one of the sites under the existing network. While this is a large increase in catchment population, even greater step changes are seen when looking at access to the key destinations individually, as can be seen in the table below.

Table 2: Access to key employment sites

DESTINATION	NETWORK	2026 POPULATION WITH ACCESS TO DESTINATION BY JOURNEY TIME BANDINGS			
		≤ 15 mins	≤ 30 mins	≤ 45 mins	≤ 60 mins
City Centre	Existing	82,494	192,477	263,617	352,642
	Proposed	83,818	193,606	270,402	403,836
	Change	*+1,324*	*+1,129*	*+6,786*	*+51,195*
Biomedical Campus	Existing	17,167	100,357	199,267	274,655
	Proposed	36,479	145,279	256,627	333,223
	Change	*+19,313*	*+44,922*	*+57,359*	*+58,568*
West Cambridge	Existing	22,217	104,683	218,585	299,440
	Proposed	32,665	146,867	262,022	363,624
	Change	*+10,447*	*+42,184*	*+43,437*	*+64,184*
Main Station	Existing	46,857	157,930	229,815	304,173
	Proposed	49,412	175,143	256,457	356,883
	Change	*+2,554*	*+17,212*	*+26,642*	*+52,710*
Science Park	Existing	19,147	86,282	194,366	280,138
	Proposed	29,731	107,615	233,197	336,552
	Change	*+10,584*	*+21,333*	*+38,832*	*+56,414*
Nearest Key Destination	Existing	126,188	227,187	315,187	423,655
	Proposed	143,320	235,872	357,613	479,795
	Change	*+17,133*	*+8,685*	*+42,426*	*+56,141*

6.15. The report provides high level cost estimates of delivering these enhancements to the bus network, using Department for Transport operational cost data, and set out in table 3 below.

Table 3: approximate gross operational cost increase of bus network enhancements

ELEMENT OF SERVICE CHANGE	APPROXIMATE OPERATIONAL COST INCREASE (PER ANNUM)		
	based on £2.25/km	based on £2.01/km	based on £2.48/km
Standardise the Existing Network (included within changes below)	**£2.2**	£2.0	£2.4
Improve Existing Core Services	**£6.1**	£5.4	£6.7
New Core Services	**£22.6**	£20.2	£24.9
Rural Upgrades & New Services	**£10.3**	£9.2	£11.4
Total	**£39.0**	£34.8	£43.0

6.16. The cost figures are gross, i.e. before any revenue is recovered from fares. The net cost of additional services will be influenced by several factors, in particular the fare pricing strategy. In a situation where 65% of the cost of delivering the new services is recovered through fares, this would mean subsidy of c.£17m would be required. The network as a whole (existing and new services) would operate with a recovery rate of 82%, comparable to the rate in London. Further work to understand the impact of different fare interventions could be undertaken through more detailed patronage modelling of the new network.

Table 4: High level cost recovery assessment

	APPROXIMATE TOTAL PER ANNUM	COMPRISING
Existing	£58.5m	£75m Network Revenue Across the CPCA Area as per our Strategic Review report - £16.5m Network Revenue outside of Cambridgeshire
Existing Cost Estimate	£53.5m	£58.5m Existing Revenue for Cambridgeshire - 10% assumed profit margin
Future Revenue of the Proposed Network	£83.5m	£58.5m Existing Revenue + £25m New Revenue, based on a lower bound example of only 65% cost recovery on £39m costs
Future Costs of the Proposed Network	£102m	£53.5m Existing Cost + £39m New Cost + Assumed Profit Margin of 10%
Total Additional Subsidy Required[59]	£17m	£102m Future Costs - £83.5m Future Revenue - £1.5m Existing Target Subsidy Spend
Cost Recovery Rate	82%	£102m Future Costs / £83.5m Future Revenue

6.17. Several delivery considerations are outlined in the report, including:

- Delivering these enhancements would mean more buses coming into the city, where high traffic levels mean space is already constrained. A broad calculation suggests that, from a road space perspective, accommodating the additional buses would require a reduction in the number of cars accessing the city centre

of 17.5% (at current traffic levels). The report outlines several options for dealing with space constraints in the city centre.

- Considerations in moving to cleaner bus fleet, including quickly identifying operational requirements for different routes, and network-wide charging infrastructure needs.

6.18. The work has been shared with the Cambridgeshire and Peterborough Combined Authority and will feed into the work of the Bus Reform Taskforce. The Combined Authority has also commissioned Systra to undertake a similar exercise to the above for the whole CPCA area.

Cycling and walking improvements – forthcoming Local Cycling and Walking Infrastructure Plan

6.19. Enhancing our active travel networks is key to providing our communities with a competitive alternative to the car, for those who are able to walk or cycle for their journeys. Already, Cambridge City has the highest levels of cycling in the country, with high levels also seen in South Cambridgeshire. The forthcoming Cambridgeshire and Peterborough Local Transport Plan recognises the importance of active travel and of continuing to invest in the network to encourage more people to walk and cycle, both for shorter journeys and, increasingly, for longer journeys as electric bikes become more prevalent. Provision of a network of high quality routes is needed to build on these strong foundations.

6.20. Cambridgeshire County Council are working to produce a Local Cycling and Walking Infrastructure Plan (LCWIP) for the area, following a Department for Transport process to consider the planning of networks of walking and cycling routes. Considering interventions at a district level, the LCWIP will look at propensity to cycle along different routes using origin and destination data from the 2011 census, the existing infrastructure, and suggest priorities for improvements to create a more comprehensive network. The document is being prepared for consultation in 2020, and can be used to inform the delivery of cycling and walking improvements as part of the City Access project.

7. Enabling Measures

7.1. In order to deliver a new sustainable transport network to the level required to enable commuters to leave their cars behind, the evidence demonstrates that enabling measures are required to (i) free up space on the road for sustainable transport table, and (ii) deliver an ongoing funding stream. There are a range of options available to do this, which can broadly be classified as either physical or price-based interventions. A table summarising key features of demand management options – first published as part of the December 2018 Joint Assembly paper – has been updated at Appendix 1.

Enabling Measures: physical and network interventions

7.2. As identified by technical work, creating space for sustainable travel modes will help to increase their competitiveness and can also deliver benefits to air quality and public realm. Currently, buses get stuck in traffic leading to unreliable and lengthy journey times. Constrained roads, particularly in the city, have limited space to add bus lanes or cycling infrastructure, and in some areas modal conflict between cars, cyclists, buses and pedestrians leads to an unpleasant and sometimes unsafe environment. Work has been done to look at how the city centre could function in the future, and to understand how road closures on different scales – from targeted to widespread – could reduce traffic. Additionally, the GCP have worked with our partners to monitor and evaluate closures.

Summary of SPD Work

7.3. The Making Space for People project will ultimately produce a Supplementary Planning Document (SPD) which will provide planning guidance for the streets and public spaces that form the public realm in Central Cambridge. The SPD will align with relevant public realm and movement planning policies in the Cambridge Local Plan (2018) providing specific guidance on interpreting and implementing these policies within Central Cambridge. It will also support the overall City Access aims to reduce traffic and achieve a significant shift to sustainable transport modes.

7.4. To date, a Baseline Report (*BDP, 2019*) has been published which has helped to formulate a detailed understanding of the challenges faced in Central Cambridge.[13] A proposed vision and key strategies have been published as part of an engagement activity.[14] Results are currently being analysed and will form a key input to the development and subsequent adoption of the SPD itself.

Physical Demand Management Modelling (Mott MacDonald, 2017)[15]

7.5. In response to consultation feedback on the concept of peak-time congestion control points (PCCPs) across the road network in Cambridge, Mott MacDonald (MM) were commissioned to undertake an assessment of alternative traffic management measures to reduce the permeability of the city road network for general traffic whilst improving accessibility for public transport, with a particular focus on East Road and Hills Road as two of the highest frequency bus routes which suffer high levels of congestion.

7.6. The study sets out a rationale for the alternative traffic management measures which focus on reducing accessibility for general traffic and freeing up space for public transport on the inner ring road link (East Road-Gonville Place-Lensfield Road). Measures to mitigate the transfer of traffic on immediate neighbouring streets were also included. The two options identified (referred to as Options 7 and 8 in the study report) were modelled using the CSRM1 model for the AM peak for a forecast year of 2031 against a Do Minimum scenario, primarily for option comparison purposes.

7.7. The results were not based on a full demand model run and so did not reflect any mode shift. It was assumed that a PM peak model would produce similar outcomes to the AM model. For both options the modelling predicted mixed results with increases in traffic flow and delay across the wider city road network as through traffic is diverted with Option 7 showing greater performance benefits than Option 8 within the central area itself. The study report also includes draft design layouts for both options.

[13] https://www.cambridge.gov.uk/media/7672/making-space-for-people-spd-baseline-report-chapters-1-to-4.pdf ; https://www.cambridge.gov.uk/media/7673/making-space-for-people-spd-baseline-report-chapters-5-to-8.pdf

[14] https://www.cambridge.gov.uk/media/7671/making-space-for-people-spd-central-cambridge-vision.pdf

[15] 'Cambridge Access Study: City Centre Traffic Management Options', 2017, Mott MacDonald, https://greatercambs.filecamp.com/s/vui4k4dFhZzfpNwg/d

Physical Demand Management Modelling – (Atkins, 2018)[16]

7.8. The study remodelled the measures considered in the earlier work by MM using the upgraded CSRM2 model based on a 2015 base model, again for the AM peak and primarily for option comparison purposes. Additional scenarios were also assessed which involved the addition of further traffic management measures to the original options including a full closure of Silver Street to general traffic (Note: Silver Street is currently only subject to part-day closure measures) and further measures to prevent the transfer of traffic to neighbouring streets.

7.9. Again, the modelling outputs suggest mixed outcomes. Overall, the original option scenarios and those with additional traffic management measures show some improvements in terms of flows and travel times within/on the inner ring road which could be further improved by re-optimisation of signal timings. There is only a slight reduction in overall car travel and most of the traffic is displaced and causes more congestion in outer Cambridge.

7.10. A separate scenario involving a closure of the historic city centre core to cars and goods vehicles was also undertaken for both the AM and PM peaks. This predicts a significant reduction of car journeys within Cambridge. There is mostly an overall decrease in travel times along the main journey time routes which should make buses faster and more reliable and hence more attractive.

7.11. However, a reduction of vehicles driving in Cambridge frees up road space for people travelling through the surrounding areas and hence leads to an overall increase of vehicle trips outside the city centre. The benefits of this scenario would decrease if essential access for servicing and to the Grand Arcade car park were factored in.

Early Findings from the Mill Road Closure

7.12. The Mill Road Bridge was closed to vehicles for 8 weeks from 1st July 2019 for crucial works carried out by Govia Thameslink to improve rail services. Smart Cambridge, in collaboration with partners at the City Council, took this opportunity to install 15 traffic count sensors and 7 air quality sensors to monitor road usage before, during and after the closure and air quality during and after the closure to understand how it impacted both traffic volumes and air quality on Mill Road itself and in other surrounding roads. The project aimed to:

- Trial new technology and the processes for its installation
- Make city data available to the public via Cambridgeshire Insight and the Intelligent City Platform
- Use the data collected to understand whether closures affect behaviour and whether this is sustained
- Gain a better understanding of the analysis that can be carried out on sensor data and what insights can be gathered from the use of multiple data sets

7.13. A major fire on Mill Road including additional road closures, the bridge being intermittently open/closed to pedestrians, major gas works and action by Extinction Rebellion mean that it is difficult to draw firm conclusions about modal shift from the evidence. However, the ability to create and analyse sensor data has been shown to be useful and is now being applied elsewhere.

7.14. Subject to the clear caveats above, some analysis has been done though this is ongoing so all results are interim. Raw data is available via Cambridgeshire Insights.

[16] 'Technical Note: CSRM2 City Access Study', Atkins, 2018, https://greatercambs.filecamp.com/s/Y7X1ZanYaeSdFkSP/d

7.15. The following provides an example of interim findings from the 15 month long study:

- In the 4 weeks prior to the closure approximately 10,386 cars per day (Mon-Fri only) were recorded on the western end of Mill Road.
- By the second month of the closure, this had dropped by over 55% to 4591. The number of goods vehicles also dropped from 1688 to 916 over the same period, a drop of over 45%.
- Increased vehicle traffic was recorded on alternative routes, in particular Coldhams Lane and Cherry Hinton Road. The latter led to additional congestion at the Clifton Road/Cherry Hinton Road junction, but the team were able to rapidly analyse sensor data which enabled the Signal Team to significantly ameliorate the situation by adjusting the signal equipment.
- In the 4 weeks after the reopening of the bridge, the number of cars and goods vehicles on Mill Road and alternative routes returned towards pre-closure levels.
- Given that there were only a very small number of days that pedestrian and cycle access was completely prohibited, the variations in the number of pedestrians and cyclists along the route have been less dramatic.

7.16. Ongoing analysis of the data will allow a better assessment of long term behaviours.

Enabling measures: pricing interventions (road pricing and parking pricing)

7.17. Pricing mechanisms have been used in a variety of contexts to reduce demand for car travel and raise funding for public transport improvements, helping to offer alternatives. Technical work has considered the evidence for different pricing interventions, both for parking pricing and road pricing measures. Further, it has looked at how these options could work in a Greater Cambridge context, as well as modelling the impacts of different pricing interventions to better understand how different elements perform against one another.

Evidence Base Paper: road pricing (What Works Centre for Local Economic Growth, forthcoming)

7.18. The What Works Centre for Local Economic Growth has carried out a rapid evidence review of the impacts of road pricing on outcomes of interest to cities, and we have been in discussion with the Centre about their early findings. The review focuses on studies with methodologies that allow the authors to estimate the causal effect of changes in road pricing policies/congestion on different outcomes: those that provide before-and-after comparisons or cross-sectional studies that control for differences between areas differently exposed to changes in congestion.

7.19. Draft versions of the review found that road pricing leads to significant improvements in traffic conditions and positive effects on air pollution; and that improved public transport is an important policy complement to road pricing: findings replicated across multiple studies. Some additional weaker findings (each based on just one study) are that road pricing may cause a decrease in retail rents (Singapore), a reduction in accident rates (London) and an increase in house prices (also London[17]). The forthcoming publication will elaborate these findings.

[17] However the house price impact is assumed to be the effect of the 90% resident exemption in London driving up house prices inside vs just outside the congestion charge zone boundary. It may be that these impacts would not occur for charging schemes that do not include a resident exemption.

Demand Management options report (Arup, 2019)[18]

7.20. This study, completed in January 2019, considers the options for price-based demand management (parking and road pricing) to complement the work carried out concurrently by Motts and Atkins on physical demand management.

7.21. It includes case studies of road pricing and workplace parking schemes elsewhere, and draws lessons of relevance to Greater Cambridge. It then presents the results of an economic modelling exercise designed to give a preliminary assessment of the relative impacts of demand management measures that have a cost component. The focus of the modelling was on traffic impacts and revenues; it was carried out in parallel with the Clean Air Zone feasibility study (see below) which considered air quality impacts. This preliminary assessment informed the material produced for the Choices for Better journeys public engagement, and its emerging findings were summarised in the City Access paper considered by the GCP Executive Board in December 2018.

7.22. The model results suggest that a Workplace Parking Levy (WPL) in isolation would have minimal impact on demand and that a WPL alone would not be able to meet the traffic reduction target of 10-15% compared with 2011 although it could successfully raise substantial funds to invest in improving public transport, walking and cycling. Likewise, off street parking charges alone would have minimal impact. A package of WPL (at £400 per annum) and off street parking charge increases (of £5 per space above current charges) is predicted to generate ~£23m annually and reduce traffic by 5% below the baseline 2030 projection.

7.23. The model also tests the impacts of a pollution charge of £10 targeted at vehicles that do not meet Euro 6 (for diesel) or Euro 4 (for petrol) standards. Initial impacts and revenues are high but over time the model suggests that fewer cars will be liable as the vehicle fleet cleans up, making a pollution charge increasingly ineffective in tackling congestion as time goes by unless a more stringent definition of 'most polluting vehicles' were adopted.

7.24. The model identified four scenarios of a flexible charge targeted at all vehicles, all of which can meet the traffic reduction target of 10-15% below 2011 levels, and maintain that decrease through to 2030. The model demonstrates that various different ways of defining a flexible charge may meet policy objectives. Four illustrative scenarios were developed and results presented in the report (other permutations could be developed and tested):

- *Balanced charging:* a £4 all day charge which was estimated to be the lowest flat rate, all day, city-wide charge that could meet the traffic reduction target.
- *Targeted charging:* a more varied package of charges, closer to the public perception of an 'intelligent charge' which has variable prices by zone and by time of day where the most congested areas and times are charged a higher rate than the least. This levies a £1 charge all day in a wider 'outer zone', and a charge of £6-£10 in an 'inner zone' inside the inner ring road.
- *Road & parking charging:* testing a lower, variable rate road charge (£2-4) supplemented by a WPL (£1,000 p.a.) and increased parking charges (£5 increase). This spreads the burden of demand management and revenue generation across multiple measures, but it also increases the complexity, costs and political risks of implementation.
- *Peak only charging:* testing the lowest level of peak-hour only charging likely to be capable of meeting traffic reduction targets. This was estimated to be £5, levied city-wide during the AM and PM peak periods only.

[18] 'Demand Management options report', Arup, 2019, https://greatercambs.filecamp.com/s/FLUgILPtqfnSuJdz/d

7.25. The high level findings produced by this spreadsheet-based modelling exercise informed packages developed for more detailed testing through the CSRM2 model by Atkins in Summer/Autumn 2019 (see below).

7.26. The model also presented preliminary mode shift estimates, and gross and net revenue impacts for the four illustrative scenarios. Depending on the scenario considered, the report identified potential gross revenues of £16 million to £105m; with preliminary operating cost estimates ranging from £4m to £26m. Net revenue may therefore fall between £12m and £79m. These estimates are preliminary and would require considerable refinement if a pricing option were to be taken forward.

7.27. The report also highlights preliminary equity and equality considerations (now being considered through the Strategic Integrated Impact Assessment described in section 8) and considers phasing and implementation.

Demand Management Options Modelling (Atkins, November 2019)[19]

7.28. Atkins were commissioned to carry out runs of the Cambridge Sub-Regional Model 2 (CSRM2), building on preliminary work undertaken by Arup and described above. Six tests were undertaken, modelled in 2026 and 2031 forecast years. They were:

- A £5 Area Charge (congestion charge), operating from all day from 07:00-19:00 in a defined area around the city;
- A £5 Area Charge, operating in the AM peak period only, from 07:00-10:00;
- A £10 Area Charge, operating all day from 07:00-19:00;
- A £10 Area Charge, operating in the AM peak period only, from 07:00-10:00;
- A £5 Parking Charges test (incorporating general parking charges and a workplace parking levy scheme), increasing all existing parking charges by £5 for everyone except residents parking outside their own homes; operating at all times in the same area as defined for the congestion charge tests; and
- A £10 Parking Charges test.

7.29. Because of the modelled years available, tests are run against a target of 10% traffic reduction compared with the 2015 base (to approximate a 10-15% reduction on 2011 which is the policy target). The charging zone covers most of the City, and is loosely defined by the ring of park and ride sites (the P&Rs are outside the zone boundary). In all tests, ultra-low emission vehicles (hybrid and full electric) are exempt from charges.

7.30. As would be expected, the £10 charges cause larger impacts than the £5 equivalents. For trip volumes to/from the charge area:

- The number of trips accessing the charged area during the AM peak hour successfully falls below the target in all scenarios, with the exception of the £5 Parking Charges test in 2026 and 2031; and
- The number of trips accessing the charged area during the PM peak hour also successfully falls below the AM peak target (despite having a higher starting point) in the £5 and £10 Area Charge tests and £10 Parking Charges test in 2026, and in the £10 Area Charge test in 2031.

[19] 'Choices for Better Journeys: CSRM2 Runs', Atkins, 2020, https://greatercambs.filecamp.com/s/KpFq8bMrR0YLpSlI/d

7.31. When considered in terms of vehicle kilometres travelled within the charged area:

- The vehicle kilometres travelled in the AM peak hour successfully fall below the 10% reduction target in the £5 and £10 Area Charge tests, both all day and AM-only, in 2026 and 2031;
- The vehicle kilometres travelled in the PM peak hour also successfully fall below the AM peak target in the £10 all day Area Charge test in 2026, but not any of the other PM results;
- The AM-only variants of the Area Charge tests are understandably less effective at reducing traffic levels in the interpeak and PM peak time periods than the all-day tests; and
- The Parking Charges tests fail to meet the target, since they only target destinations to the charge area and not movements from or through it.

7.32. The majority of mode-switching that leads to these car traffic reductions is brought about by a shift to active modes (for shorter distances) and to P&R (for longer distances). Journey times within the charge area increase under all modelled scenarios.

7.33. The model runs are also being used to calculate the carbon impacts of the different scenarios, and this will be included in the Executive Board papers.

8. Strategic Integrated Impact Assessment

Strategic Integrated Impact Assessment – baseline and scoping (Steer & Temple, January 2020) [20]

8.1. The Strategic Integrated Impact Assessment (IIA) will be carried out on City Access proposals once defined. This will cover equalities, business/economic, environmental, health and community safety impacts to ensure that decision makers have appropriate evidence about the implications of the proposed schemes on which to base decisions.

8.2. The purpose of an IIA in the context of strategy development is to ensure that a number of considerations and requirements that are essential to good policy-making are considered in an integrated way and fulfil appropriate regulation and legislation. The approach avoids the need to undertake and report on separate assessments, seeks to reduce any duplication of assessment work and benefits from a shared understanding of the policies and common interpretation of baseline evidence.

8.3. In advance of firm proposals being defined, preparatory work is being undertaken. This includes defining a baseline against which proposed schemes can subsequently be measured, agreeing the details of the assessment approach and carrying out preliminary assessments of the individual measures being considered as part of the City Access Strategy.

8.4. A link to the draft IIA scoping summary report is listed as a background document. Table 1.3 on page 21 summarises the assessment of the different measures at this stage, including identifying potential impacts and mitigations. It is important to remember that this assesses measures individually – the Strategic Integrated Impact Assessment will consider the package of measures, including any mitigations, and as such will give a rounded view of the chosen interventions.

[20] 'Greater Cambridge Partnership: Integrated Impact Assessment – DRAFT Baseline & Scoping Report Summary Report', Steer and Temple Group, 2020, https://greatercambs.filecamp.com/s/UY0HyTe1emd3zzgg/d

9. Public Engagement

9.1. The Citizens' Assembly built on previous public engagement to understand the challenges facing people living and working in our area, their priorities for the future, including in relation to improving public transport, and their feedback on options for delivering change.

Our Big Conversation (Greater Cambridge Partnership, 2018) [21]

9.2. Our Big Conversation took place between in autumn 2017 with the detailed findings reported to the Board in 2018. Our Big Conversation analysis showed that the GCP's strategic aims for improving transport are supported or strongly supported.

9.3. Feedback from this previous conversation is a driving rationale for the City Access focus on improving public transport and improving congestion. Asked to identify the biggest challenges in travelling in the Greater Cambridge area, respondents told us:

- Traffic and congestion slowing [their] journey (63 per cent City; 77 per cent South Cambridgeshire)
- Lack of public transport (36 per cent City; 62 per cent South Cambridgeshire)
- Safety of alternatives (41 per cent City; 26 per cent South Cambridgeshire)

9.4. Reliability is most frequently cited as the reason for the choice of travel mode (41 per cent). In addition, of those who do not use alternative modes, the top three reasons were due to: speed, reliability and price of public transport.

9.5. South Cambridgeshire residents (where public transport use is much lower than in the City) noted that more frequent and faster services, lower fares and more park and ride options were the most likely things to influence their mode of travel.

Choices for Better Journeys (Greater Cambridge Partnership, 2019)[22]

9.6. The Choices for Better Journeys engagement exercise took place between 25th February and 31st March 2019 and was summarised in section 6 of the City Access paper in the June 2019 Joint Assembly and Executive Board reports[23]. It set out GCP's vision of making public transport a genuinely attractive option compared with the car and sought detailed feedback from the public and stakeholders on options for funding public transport and methods of reallocating road space.

9.7. 82% of respondents supported the vision, with those travelling to work by bicycle or public transport the most supportive. The aspects of a transformed public transport network that were most important to respondents were a reliable and frequent service. When given different demand management ideas to create money and space for public transport improvement a pollution charge was ranked first or second by the most participants (44%), followed by a flexible charge. If charges were to be introduced, respondents thought that

[21] GCP Big Conversation: Summary Report of Survey findings, January 2018

[22] 'Choices for Better Journeys: Summary report of engagement findings', Greater Cambridge Partnership https://consultcambs.uk.engagementhq.com/1836/documents/2464

[23] https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=TeQfgFRlSRhn%2fNv8vDTVJMyXjLwmALBImI7xv0LbmjVCHAJyIa8P%2fg%3d%3d&rUzwRPf%2bZ3zd4E7Ikn8Lyw%3d%3d=pwRE6AGJFLDNlh225F5QMaQWCtPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFfXsDGW9IXnlg%3d%3d=hFflUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFflUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=ctNJFf55vVA%3d&FgPlIEJYlotS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qjj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFf55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJFf55vVA%3d&WGewmoAfeNQ16B2MHuCpMRKZMwaG1PaO=ctNJFf55vVA%3d

money raised should be used to improve transport and make it cheaper to travel into Cambridge by public transport than to drive in and park. One key theme from qualitative feedback was that respondents felt that improvements had to be made to public transport to make it a truly viable alternative to the car. Other key themes included the need for improvements to cycling infrastructure, concerns about the workplace parking levy and concerns relating to how the potential proposed changes may impact on those with low incomes.

10. Phasing and implementation – approach and suggested immediate actions

10.1. As noted in previous papers, phasing and implementation considerations are crucial to any future City Access package. Any final plan will need to be delivered in stages, in order to ensure a build-up of capacity and choice of sustainable travel alternatives, ahead of implementation of a full scheme and the further enhancements enabled by this.

Potential short-term interventions

10.2. A first phase could include:

- A managed build-up of bus services, where capacity exists. Initially this could target evening and weekend services, improving the offer for rural areas, or providing additional orbital links;
- Fare incentives, either temporary or permanent, targeted to encourage more people to use a bus and to improve accessibility for those who have fewer choices to travel by alternative means;
- Investment in the bus fleet, moving to less polluting vehicles, alongside investment in EV charging and the local grid;
- Increased park and ride capacity, through additions to existing sites and early delivery of new sites where feasible;
- A sustainable transport programme to encourage more cycling and walking through additional infrastructure, improvements to cycle parking, car free days, safety enhancements and incentive schemes such as subsidised electric bike hire; and
- Short term network capacity improvements where feasible, through upgrades to traffic signals and prioritisation of buses, cyclists and pedestrians at junctions and crossing points, and consideration of targeted closures or access restrictions.

10.3. Early work to deliver elements of the above is underway, and action to date includes:

- Smart traffic signals to support the delivery of demand management objectives and better bus journeys. The investment that GCP is making to upgrade traffic signals across the Greater Cambridge area is continuing with the key objectives of:
  - Enabling bus priority at all signal controlled junctions on the core bus network;
  - Reducing waiting times and extending crossing times for walking and cycling on key routes; and
  - Upgrading systems to improve network co-ordination capabilities to reduce delays.
- Changes to car parking, to encourage use of sustainable travel modes, including:
  - New spaces at park&ride to ease short term pressures;
  - Subsidising P&R to remove £1 parking charge;
  - Roll out of controlled parking zones across the Cambridge City area;
  - Changes to city car park pricing to discourage use by commuters;
- Adding additional cycle parking to make it easier to travel by bicycle:
  - 150 new spaces in city centre;
  - Making repairs to existing spaces;
  - Addition of cycle lockers at park&ride;
  - Exploring the feasibility of expanding grand arcade provision;

- Supporting the uptake of electric vehicles:
    - Trialling the use of electric buses in the city – the new buses are due to be operational in the coming weeks;
    - Funding additional taxi electric charging points;
- Making use of new technology to provide information and choice:
    - Through the smart programme, rolling out information screens, making better use of real time data, and creating new mobility apps;
    - The forthcoming trail of autonomous pods on the guided busway offers the opportunity to consider how out of hours services could be provided;
    - The area has made a bid for the Government's Future Mobility Zone funding which would enable us to enhance first and last mile experience;
- Encouraging our communities to travel sustainably:
    - Working with partners on the CBC travel study, to understand and identify changes to support journeys to and from the campus by sustainable means;
    - Continuing to work with businesses, schools, colleges and our universities to understand their access needs and support them with travel planning;
    - Offering cycle incentives such as cycle September.

10.4. Building on this, the Board will be asked to consider proceeding with further potential short-term interventions and the resource implications of these. The evidence shows that early action is important, and this has been echoed by the Citizens' Assembly, businesses and the wider public. The measures outlined below will start to address issues around congestion, public transport, air quality and carbon emissions, increase the availability of alternatives to the private car, and enable the testing out of different approaches in advance of bringing together a final package of measures looking at medium-longer term actions. A proposed 2-year programme of measures would include:

- Enhancements to the current bus network, including extending the operating hours so services run 19 hours/day Monday to Saturday and 16 hours/day Sundays, and by standardising frequencies so the bus network offers a good level of service throughout the day. This would encourage people to use the bus, and a 2-year pilot would allow us to test responses to improvements;
- Designing a targeted fare pilot, offering short-term discounts for some groups to trial different approaches and evaluate the impact on patronage;
- Investment in measures to support the electrification of transport and improve air quality and reduce carbon emissions. This would include expanding the electric bus pilot by funding the delivery of additional electric buses on another route, and expanding the charging network for cars in particular through provision of charging infrastructure at park&ride sites;
- Encouraging more people to cycle through provision of additional cycle parking at key locations, including the city centre and the Biomedical Campus, and funding a lease scheme for electric and cargo bikes to encourage longer-distance, family and business cycle commuting;
- Development of an integrated parking strategy, considering on-street, off-street and park&ride provision and how this can support users whilst better meeting city deal objectives. This could include immediate expansions to the park&ride network, ahead of the provision of more than 10,000 additional spaces as part of GCP schemes;
- Piloting further road closures, both in the city centre and on local roads. In the city centre, for example, this could include exploring a trial for a full-time closure of Silver Street to cars to enable better bus, cycling and pedestrian access. A pilot community closure scheme could be developed to offer communities the opportunity to come forward with proposals for local roads, for example 'play streets', 'pocket parks' or closures around schools; and

- Development of a freight pilot for the city centre, working with the BID and others to reduce vehicle deliveries, thereby supporting improvements to air quality and public realm as well as potentially reducing vehicle movements at busy times.

Medium-long term strategy

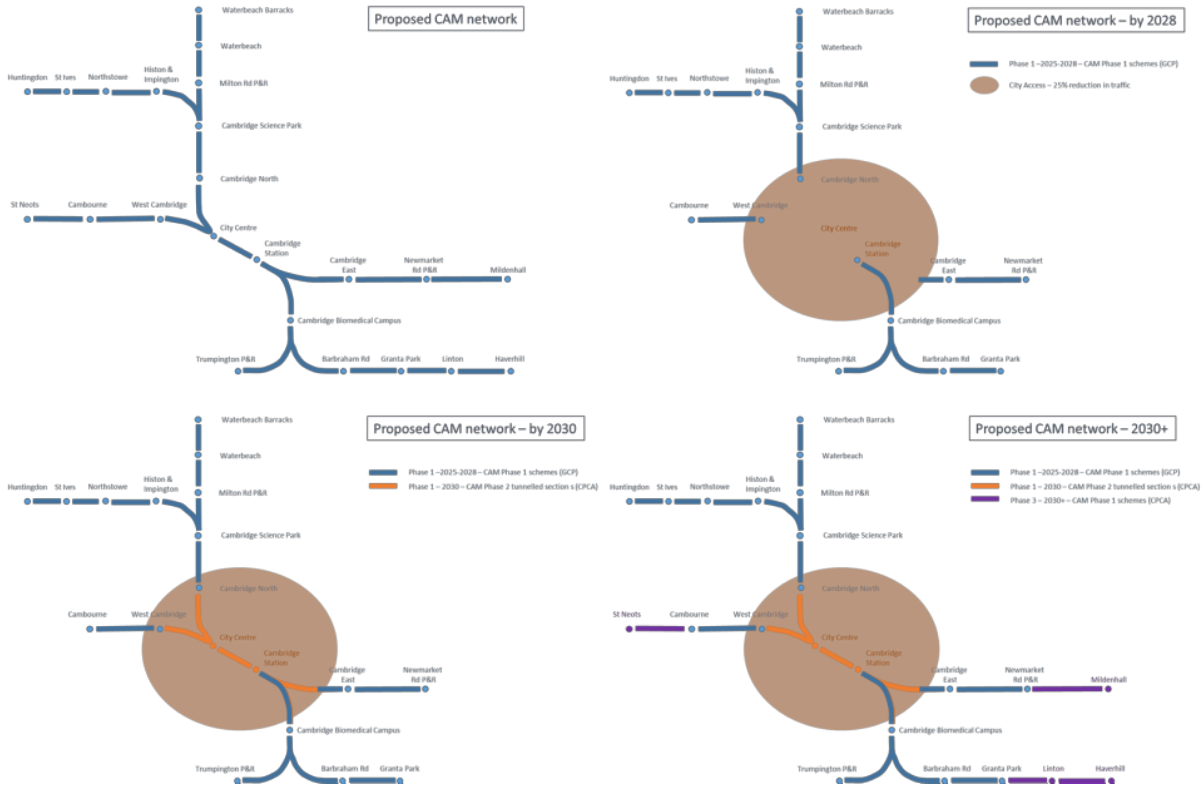
10.5. In the medium-long term, to address the scale of the issues currently facing the area, more significant action will be need to build on these initial steps to make the most of additional infrastructure delivered through the City Deal and to ensure the area can continue to grow and share its prosperity. Proceeding fully with more significant improvements requires long-term certainty over the necessary future funding and additional network capacity.

10.6. The City Deal provides a once-in-a-generation opportunity to forward fund improvements to sustainable transport and technical work assumes this will be the case. One measure alone will not address the issues, and so all interventions will need to be part of a balanced package that provide more choice to people travelling in and around our area, whilst recognising the need to manage demand for car travel to create space for sustainable modes, and to identify a long-term funding solution to ensure sustainable transport is competitive with the car. Whilst the improvement in service will cause farebox revenue to rise as people are attracted onto public transport, it is not realistic to expect that a network can be operated at a commercial profit, and hence some money to support its operation must be found.

10.7. The City Deal now has worked up plans to deliver a programme of infrastructure schemes that will provide a significant improvement to public transport, cycling and walking and give more people the option to leave their car at home and travel sustainably. This includes four schemes that form phase 1 of the Cambridgeshire Autonomous Metro, delivered from 2023, and providing benefits in their own right as well as forming part of the a metro system following the delivery of tunnels from 2029.

10.8. Over the next 10 years, the local transport environment is set to change considerably, and it is likely that any City Access scheme will need to evolve and be reviewed over time, particularly following delivery of a full CAM system. That said, many of the drivers of change will continue to exist or even become more important over time such as shifting to net zero carbon. Figure 12 sets out how CAM and City Access could develop over time.

Figure 12: Phasing of GCP public transport corridors, City Access and the CAM metro system (illustrative, pending decision by CPCA on preferred option for CAM)



11. Next Steps

11.1. The City Deal identified congestion and a lack of public transport capacity as key issues impacting on the future prospects for this area. Since then, a broader and deeper evidence base has been developed that demonstrates:

- The importance of Greater Cambridge to the wider economy – the CPIER set out the evidence of how this geography drives growth in neighbouring areas, and how action and investment to address transport issues here is needed to meet the Cambridgeshire and Peterborough Combined Authority's growth ambitions;
- The role of transport in the area in contributing to poor air quality and high levels of carbon emissions;
- As well as new infrastructure, a significant improvement to public transport services is needed to provide people with a competitive alternative to travelling by car;
- An assessment of the options available to deliver this, drawing on evidence from other places, which shows that – whilst behavioural measures may have small impacts on some car users – a more significant intervention is needed to drive change at the level required and in line with the City Deal's objective to reduce traffic by 10-15% on 2011 levels; and
- Detailed work to understand possible options for enhancing the bus network, and an assessment of different measures to raise funding and create space for improvements to transport across the area.

11.2. Alongside this, the City Access project has gathered extensive views from the public and stakeholders to support the development of the strategy, including most recently through the Citizens' Assembly. There is a clear public desire for action.

11.3. As set out in the previous agenda item, following the Citizens' Assembly, the GCP will need to respond to the recommendations in full. It is proposed that this response is made by summer 2020, and will include consideration of the evidence set out in this paper.

11.4. In June 2019, the Executive Board agreed a set of principles for future work on the City Access project. These can be used, alongside the evidence and feedback from the Citizens' Assembly and other public engagement, to inform the development of different packages for further consideration. There are choices that can be made in terms of the level of intervention and the measures used, depending ultimately on how objectives are prioritised. Different enhancements and mitigations can also be considered based on the likely impacts of each package on different groups and objectives. As set out above, phasing will be a key consideration in the design of any package to ensure people have options to travel sustainably.

11.5. As well as considering the medium-long term action, the Board will be asked to agree some immediate interventions as set out in paragraph 10.4, which will start to address issues around congestion, public transport, air quality and carbon emissions, increase the availability of alternatives to the private car, and enable the testing out of different approaches in advance of bringing together a final package of measures looking at medium-longer term actions.

List of Appendices

Appendix 1	Summary of demand management options

Background Papers

Report Title	***Report Date***	***Paper section referring (if multiple, first reference in paper)***	***Link to document***
Cambridgeshire & Peterborough Independent Economic Review	2018	4 - Capacity & Growth Analysis	https://www.cpier.org.uk/final-report/
Technical assessment of alternative measures proposed as an alternative to fiscal options to address future congestion in Greater Cambridge	2019	5.4 - Technical assessment of alternative measures proposed as an alternative to fiscal options to address future congestion in Greater Cambridge	https://greatercambs.filecamp.com/s/kLtJXgfboUIdzqnC/d
Lessons from Elsewhere	January 2020	5.6 – Lessons from Elsewhere	https://greatercambs.filecamp.com/s/R1havJ4AXniu9Byr/d
Cambridge Clean Air Zone Feasibility Study	2018	5.11 – Clean Air Zone Feasibility Study	https://consultcambs.uk.engagementhq.com/1836/documents/2050
'Reducing air pollution, CO_2 emissions and congestion in Cambridgeshire'	2019	5.14 – Carbon Work	www.greatercambridge.org/reducingairpollutionreport/
Technical Note – Public Transport Investment Analysis	2019	6.3 – Public Transport Prioritisation Analysis	https://greatercambs.filecamp.com/s/vkcSQOwBi6wkfbhC/d
SYSTRA	2020	6.9 – Future Bus Network Concept	https://greatercambs.filecamp.com/s/8waVgal1mMlYNfJ9/d
Making Spaces for People Baseline Report, BDP	2019	7.4 – Summary of SPD work	https://www.cambridge.gov.uk/media/7672/making-space-for-people-spd-baseline-report-chapters-1-to-4.pdf ; https://www.cambridge.gov.uk/media/7673/making-space-for-people-spd-baseline-report-chapters-5-to-8.pdf

Report Title	*Report Date*	*Paper section referring (if multiple, first reference in paper)*	*Link to document*
Making Spaces for People: Central Cambridge Vision, Aims, Objectives & Strategies,	2019	7.4 – Summary of SPD work	https://www.cambridge.gov.uk/media/7671/making-space-for-people-spd-central-cambridge-vision.pdf
'Cambridge Access Study: City Centre Traffic Management Options', Mott MacDonald	2017	7.5 – Physical Demand Management modelling (Mott MacDonald, 2017)	https://greatercambs.filecamp.com/s/vui4k4dFhZzfpNwg/d
'Technical Note: CSRM2 City Access Study', Atkins	2018	7.8 – Physical Demand Management modelling (Atkins, 2018)	https://greatercambs.filecamp.com/s/Y7X1ZanYaeSdFkSP/d
'Demand Management options report', Arup	2019	7.20 – Demand Management options report	https://greatercambs.filecamp.com/s/FLUgILPtqfnSuJdz/d
'Choices for Better Journeys: CSRM2 Runs', Atkins	2020	7.28 – Demand Management options modelling	https://greatercambs.filecamp.com/s/KpFq8bMrR0YLpSlI/d
'Greater Cambridge Partnership: Integrated Impact Assessment – DRAFT Baseline & Scoping Report Summary Report', Steer and Temple Group	2020	8 – Strategic Integrated Impact Assessment	https://greatercambs.filecamp.com/s/UY0HyTe1emd3zzgg/d
'Report and recommendations – Greater Cambridge Citizens' Assembly on congestion, air quality and public transport', Involve	2019	9.1 – Public Engagement	https://www.involve.org.uk/sites/default/files/field/attachemnt/GCCA%20on%20Congestion%20Air%20Quality%20and%20Public%20Transport%20-%20Full%20Report%20_0.pdf
'Our Big Conversation: Summary Report of Survey Findings', Greater Cambridge Partnership	2018	9.2 – Our Big Conversation	https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=lT89Qvi2wNJefHSXNA3sktDKOhbbfuaFCHA5pO4gXOVa%2f2ym848cdw%3d%3d&rUzwRPf%2bZ3zd4E7Ikn8Lyw%3d%3d=pwRE6AGJFLDNlh225F5QMaQWCtPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFfXsDGW9IXnlg%3d%3d=hFflUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFflUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=c

Report Title	*Report Date*	*Paper section referring (if multiple, first reference in paper)*	*Link to document*
			tNJFf55vVA%3d&FgPlIEJYlotS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qjj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFf55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJFf55vVA%3d&WGewmoAfeNQ16B2MHuCpMRKZMwaG1PaO=ctNJFf55vVA%3d
'Choices for Better Journeys: Summary report of engagement findings', Greater Cambridge Partnership	2019	9.6 – Choices for Better Journeys	https://consultcambs.uk.engagementhq.com/1836/documents/2464

APPENDIX 1: SUMMARY OF DEMAND MANAGEMENT OPTIONS

Appendix 1: key features of demand management options

Analysis below is based on modelling, which relies on a number of assumptions and summarises information from multiple technical sources. All of the options below could be implemented in various ways, which would greatly affect what the actual impact would be. Moreover, the impacts would also depend on how the option was implemented as part of a package of measures, e.g., alongside major public transport improvements.

	Closing roads to cars *Restricting cars in certain lanes, roads or zones*	**Restricting or removing parking** *Prohibiting parking and/or removing parking spaces*	**Clean Air Zone** *Charging the most polluting vehicles (but not cars)*	**Pollution Charge** *A Clean Air Zone including the most polluting cars*	**Flexible Charge** *Charging for driving when roads are congested*	**Workplace Parking Levy (WPL)** *Charging businesses for their parking spaces*	**Increasing parking charges** *Charge (or charge more) for council-operated parking*
Demand Impact	• Impact depends on the extent of the closures. Small zone closures may lead to displacement elsewhere rather than behaviour change. • For targeted road closure schemes, demand reduction is estimated to be approximately 8%. • To meet demand reduction targets, radical closures would be needed, e.g. prohibiting motorised traffic from most of the city centre inside the inner ring road. • However, some level of exemptions would be necessary, which would reduce overall impact.	• This would be likely to reduce car travel, but only for those drivers who use public car parks. Currently this is mostly leisure, shopping and hospital visitors (not commuters). • May lead to a small reduction in overall flows, but is unlikely to meet the demand reduction target. GCP analysis suggests this might get 1-2% of city centre traffic off the roads depending on the price.	• Likely to have minimal impact on congestion. Some bus, van and HGV traffic may be removed, but not necessarily as businesses simply replace older vehicles with newer, cleaner ones. • Would become less effective in addressing congestion as vehicles clean up.	• Potential to reduce flows at early stages of scheme. However, becomes ineffective as vehicles clean up. • The demand management options report predicts a reduction in flows of 21,000 vehicle trips in 2021. However, this decreases to 500 by 2035 and at no point in time meets target reduction. • Would have more impact than a Clean Air Zone but less than a flexible charge. • Impact would depend on where the definition of 'clean' cars was set.	• Likely to be the most effective measure for reducing motorised traffic and (depending on charge rate) the only measure that could meet traffic reduction targets alone. • Atkins analysis suggests a £10 area charge would meet the 10% trip reduction target. • This is a particularly effective long-term measure as all vehicles will be charged and the measure is thus not affected by the significant clean-up in the vehicle fleet over time.	• A £1000 WPL is extremely unlikely to meet the desired 15% demand reduction (impact is estimated at 2%). • This is partly because only 40% of the levy is assumed to be passed on to employees (based on the percentage passed on in Nottingham). • In Nottingham some employers reduced their car parking space in the run-up to WPL implementation. In this way it could act as a catalyst to physical demand management.	• Likely to reduce car travel, but only for those drivers that use public car parks (mostly leisure, shopping and hospital visitors). • Might have a minor impact on city centre traffic depending on price. An increase of £5 could lead to a 4% traffic reduction. • Public car park costs have already increased in recent years and so users are likely to be among a less price sensitive user class.

	Closing roads to cars	Restricting or removing parking	Clean Air Zone	Pollution Charge	Flexible Charge	Workplace Parking Levy (WPL)	Increasing parking charges
Air Quality Impact	• Would be strongly positive for the areas subject to closures (assuming no new dirty buses are introduced). • This could be partially or fully offset by traffic being displaced to other routes and air quality worsening there. Overall impacts will depend on the extent of the road closures.	• If there were a substantial reduction in car traffic this would likely have a positive impact on air quality. • Some of this may be offset if there is increased circulation of cars looking for parking.	• Likely to be strongly positive. The scale depends on charge rates, eligibility and zone. The majority of emissions that contribute to poor air quality in the city centre come from the largest vehicles. • Would incentivise the use of cleaner vehicles, providing air quality benefits into the future.	• Likely to be strongly positive overall. • This may have a greater impact on emissions than a flexible charge, as it would discourage use of dirtier cars and incentivise the purchase of cleaner vehicles. • However, major impact on emissions would come from a shift to cleaner buses and HGVs, which could be achieved by a CAZ alone.	• Likely to be strongly positive overall. • The scale depends on the specific scheme definition. • The majority of emissions benefits come from larger vehicles; which could be achieved by a CAZ alone. • There may be a slightly weaker incentive to switch to clean vehicles if all vehicles are liable to pay.	• To the extent that this reduced congestion, it would have positive impacts on air quality and carbon emissions. • There is no direct incentive to move to lower emissions vehicles, and it does not address the biggest source of emissions: HGVs, buses and vans.	• To the extent that this reduces congestion, it would have positive impacts on air quality (depending on what mode people switch to). • This could be partly offset by an increase in cars circling looking for free or cheaper parking (if no on-street parking controls were introduced).
Carbon Impact ***(Further assessment underway)***	• Likely to reduce carbon emissions from transport in the affected areas. May cause displacement elsewhere if the zone is too small.	• Depending on the extent of traffic reduction, likely to have a positive impact on emission levels.	• Likely to encourage a reduction in carbon emissions within the charged area due to a shift from dirtier to cleaner large vehicles.	• Likely to lead to a reduction of carbon emissions in the charged area.	• Likely to reduce carbon emissions depending on the amount of modal shift towards public transport and active travel.	• Minimal impact on emissions as would affect diesel cars but not HGVs, buses, vans, taxis, etc.	• To the extent that it reduces congestion it would reduce associated carbon emissions.
Potential Revenue Impact	• None directly. • May be indirect increases in public transport farebox revenue if demand for public transport is boosted because of physical demand management measures.	• Would not provide any revenue. Revenue may even decrease if council car parking is removed.	• May produce a small amount of short term revenue but net revenues are likely to be low and as vehicles clean up, fewer will pay the charge.	• Will provide significant source of revenue at early stages as polluting vehicles are a significant proportion of the total vehicle fleet (might produce £25m in 2021). Revenues will gradually decrease over time as the fleet cleans up.	• Will provide a significant source of revenue for the council in all scenarios as all vehicles are charged (net revenue estimates vary from £40 to £90 million per annum depending on scheme definition.	• WPL can be a relatively effective tool for generating revenues (model outputs suggest that a £1000 charge could generate £13m per annum).	• Would generate a moderate amount of money depending on the charge level. An increase of city centre parking charges by £5 per use could lead to an estimated £16m annual additional revenue.

	Closing roads to cars	Restricting or removing parking	Clean Air Zone	Pollution Charge	Flexible Charge	Workplace Parking Levy (WPL)	Increasing parking charges
Equality Impact	• Physical demand management measures may have negative equalities impacts on those who are physically impaired and need to drive. • Physical demand management measures remove or reduce choice for the driving public. • Unlike charging, this does not impact differently depending on income.	• Disadvantaged people could benefit more from parking controls due to their higher PT uptake. • However low-income groups that have no option of using PT will be particularly negatively affected. For example, many Addenbrooke's workers on low pay and anti-social hours (when there is poor PT provision) rely on free on-street parking. • Could disproportionately affect disabled people who rely on cars.	• A charge is likely to fall disproportionately on smaller businesses (who are likely to have older vehicles and not be able to afford to upgrade or retrofit their fleet). • Costs may be passed on to bus passengers in the form of fare increases, which would negatively affect low-income groups who rely on PT.	• Disproportionately affects lower income groups as this group is more likely to drive high emitting vehicles whereas higher income households are more likely to own a car that will be exempt. This is due to higher prices for more modern, low polluting cars. • Some positive impacts at beginning of scheme as initial revenues can be invested in PT which is used disproportionately by disabled, older and/or lower income groups. This positive effect however fades as revenues decrease.	• Significant and positive impacts as high revenues can be invested in PT improvements that relatively support disadvantaged health, income and age groups. • However low-income groups that have no reasonable PT option will be particularly negatively affected by a charge as they will spend a higher proportion of their income on the charge.	• Disadvantaged people are less likely to be in employment (so may be less likely to be affected) – but it may form an unintended barrier to unemployed people being able to afford to find and take paid employment. • Small businesses may find the cost harder to absorb than big business. This impact could be mitigated by exempting small business.	• Disadvantaged people could benefit more from parking controls due to their higher PT uptake. • However low-income groups that have no option of using PT will be particularly negatively affected by a charge as they will spend a higher proportion of their income on the scheme. • Could disproportionately affect disabled people who rely on cars.
Public Engagement	• Most strongly supported measure by the Citizens' Assembly. • Ranked in the middle by Choices for Better Journeys. • Engagement to date has focussed on the concept rather than specific roads. However, closing	• The Citizens' Assembly supported this more than increasing parking charges or a WPL but less than closing roads or charging options. • Removing parking for leisure and shopping visitors tends to be	• All charging options were fairly highly supported by the Citizens' Assembly, second only to closing roads. • Cambridge businesses have supported charging options in order to reduce demand and	• All charging options were fairly highly supported by the Citizens' Assembly, second only to closing roads. • Most strongly supported measure by Choices for Better Journeys. • Cambridge businesses have	• All charging options were fairly highly supported by the Citizens' Assembly, second only to closing roads. • Second most strongly supported measure by Choices for Better Journeys. • Cambridge businesses have supported	• The second least supported measure by the Citizens' Assembly. • Second least supported measure by Choices for Better Journeys. • Unpopular with businesses.	• The least supported measure by the Citizens' Assembly. • Least supported measure by Choices for Better Journeys. • Disincentivising parking for leisure and shopping visitors tends to be unpopular with businesses.

	Closing roads to cars	Restricting or removing parking	Clean Air Zone	Pollution Charge	Flexible Charge	Workplace Parking Levy (WPL)	Increasing parking charges
	roads tends to attract strong opinions when specific schemes are discussed.	unpopular with businesses.	provide funding for public transport.	supported charging options in order to reduce demand and provide funding for public transport.	charging options in order to reduce demand and provide funding for public transport.		
Implementation timeframe	• 18-24 months, including business consultation.	• Subject to City and County decision-making.	• 18-24 months, including statutory consultation.	• c.3 years, including statutory consultation.	• c.3 years, including statutory consultation.	• 18-24 months, including business consultation.	• Subject to City and County decision-making.
Pros: opportunities and benefits	• Can reduce congestion and create space for active travel. • May lead to improved air quality and better health outcomes as well as improved public realm. • It could contribute to a safer and more welcoming environment for walking and cycling with congestion reduction benefits as well as the health benefits of increased activity levels. • Potential modal shift to sustainable transport options.	• Potentially an effective way to achieve modal shift to sustainable transport options. • Reduced parking might over time lessen problems caused by queues for car parks if there is sufficient modal shift. • Space freed up from parking can be used in ways that contribute to the GCP aims (e.g. bus lanes, cycle lanes, wider pavements).	• Strongly positive impact on air quality. • Provides an incentive to switch to cleaner vehicles, providing long-term air quality benefits. • Makes public transport a greener option. • This may encourage new delivery operations e.g. electric fleet, freight consolidation.	• Reduced congestion; although impacts may diminish over time. • Health benefits and public realm benefits from reduced emissions. • Through traffic may avoid the area and thus reduce congestion. • Vehicle owners (businesses and individuals) may change their vehicles to cleaner models over time. • This may encourage new delivery operations e.g. electric fleet, freight consolidation.	• Greatest potential to deliver the 10-15% reduction in traffic (based on 2011 figures). • Significant potential for funding for improved, subsidised public transport and sustainable alternatives which helps to address concerns about low paid workers. • Potential modal shift to sustainable transport options. • Potential flexibility may allow change over time in response to feedback from those affected.	• The main pro is the potential to impact commuter behaviours including modal shift if businesses choose to pass on the charge. • There is also the likelihood that some businesses will be incentivised to release car parks for more productive uses (e.g. housing or employment) providing windfall and infill sites in the city centre and at key employment locations.	• Potentially an effective way to achieve modal shift to sustainable transport options. • Would generate a moderate amount of money that could be invested in public transport and active travel.
Cons	• Risk of displacement rather than behavioural change. • Strong previous business opposition. • No revenue created for public transport	• Would not meet traffic reduction targets. • May reduce parking revenues, with a negative impact on City and County	• A Clean Air Zone would mean that users of public transport were asked to contribute to the cost of reducing poor air quality (because	• Will become increasingly ineffective for congestion in the coming years as the overall vehicle fleet	• There is a perception that this option would negatively impact those travelling from outside the city more than those living in	• Relatively small potential for funding improvements in comparison to flexible charging. • Very limited impact on overall demand	• The impact on overall demand due to parking charges is limited and will not be able to meet targets in isolation.

	Closing roads to cars	Restricting or removing parking	Clean Air Zone	Pollution Charge	Flexible Charge	Workplace Parking Levy (WPL)	Increasing parking charges
	or active travel improvements.	Council budgets (particularly significant for City given its relatively high proportion of overall budget). • Restricting parking can be very unpopular with the general public and with businesses/retailers. • Restricting parking in new developments mean that those who live and work there have to change but those in older houses and jobs can continue unaffected.	costs would be passed on to passengers through ticket prices) whilst car drivers were not. • Will become less effective at dealing with congestion and raising revenue over time as vehicles clean up. • Will not affect emissions from private cars. • Unlikely to create substantial additional road space for public transport, cycling and walking improvements.	transitions to clean vehicles. • As the charge becomes obsolete the demand impact will be reduced to negligible and revenues will also be virtually eliminated.	Cambridge. In fact, ANPR survey results show around 90,000 trips (50% of total – 24-hour survey period) are "internal to internal". This suggests that the impact would fall on both groups in almost equal measure.	due to low propensity of workplace parking. • Business opposition. • It is not clear what proportion of businesses liable for the Levy would absorb it as a business overhead (which would be likely to have minimal traffic reduction impact) and what proportion would pass the cost on to individual drivers.	• Leisure and shopping visits are most likely to be affected (because most commuters do not use public car parks). These journeys are less likely to be undertaken at peak times. So the cost would be borne by those that are not causing the biggest problems, and may not have much of an impact at the most congested times of day. • Unpopular with businesses/retailers. • Unlikely to create substantial additional road space for public transport, cycling and walking improvements.

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake – Transport Director, Greater Cambridge Partnership

GREENWAYS

1. Purpose

1.1. The creation of a network of walking and cycling Greenways is part of the strategy to encourage commuting by sustainable transport modes into Cambridge from South Cambridgeshire villages, in a bid to reduce traffic congestion, as well as contributing towards improved air quality and better public health. The project also provides opportunities for countryside access and leisure.

1.2. Greenways have the potential to significantly improve access to a range of sites, including planned housing and employment growth at Babraham Research Campus, Cambridge Biomedical Campus, Cambridge Northern Fringe, Cambridge Southern Fringe, Cambridge Science Park, Granta Park, Wellcome Trust Genome Campus and West Cambridge (collectively around 10,500 new homes and 19,000 new jobs between 2011 and 2031).

1.3. £500,000 was previously approved to develop the Greenway routes through early engagement and public consultation to determine the route, extent, form and associated links for each of the 12 Greenway routes. This work has now been completed.

1.4. The Executive Board will be asked to consider:

- Progress made in developing the Greenways, working with local communities and stakeholders to date;
- The proposed prioritisation process, and the principle of bringing a small number of Greenways to each of the next three Board meetings, to ensure thorough scrutiny and debate;
- The outline budget for the Waterbeach scheme of £8m;
- The outline budget for the Fulbourn scheme of £6m;
- Use of Compulsory Purchase Order powers to secure the necessary land, should this not prove possible and/or timely through negotiation; and
- The outline programme.

2. Background

2.1. £500,000 was previously approved to develop the Greenway routes through early engagement and public consultation to determine the route, extent, form and associated links for each of the 12 Greenway routes. This work has now been completed.

2.2. Early community engagement was undertaken on all 12 Greenway routes, with 22 events held, between July 2017 and April 2018, the results and ideas from which informed the options then taken to public consultation.

2.3. Public consultation on the 12 routes started in July 2018, and has recently completed, with a total of 21 events taking place.

3. Key Issues and Considerations

3.1. Consideration and delivery of the wider Greenway network needs to be carefully managed. A priority process has been developed to assist; assessing the routes against the following criteria: cost / benefit analysis, local support, alignment with other strategic priorities, standard of current cycling provision, deliverability to NMU (non-motorised user) standard, level of landowner negotiation required and number of parishes on the route.

3.2. Based on revised criteria, further scoring has been undertaken for which Waterbeach Greenway emerges as the highest priority, with Fulbourn placed second. The scoring can be seen in **Appendix 1**. A more detailed version of the assessment table with more commentary into the rationale behind scores given can be viewed at this link: www.tinyurl.com/y6evmqa8

3.3. Linton Greenway which scored 5th highest in the prioritisation table, is being developed and delivered as part of the South East Cambridge Transport project.

4. Options and Emerging Recommendations

Waterbeach

4.1. Waterbeach is located 5.5km north of Cambridge North station across flat terrain, and for cyclists it is currently served by relatively narrow shared use paths via the Cam towpath (known locally as the Hailing Way) or alongside the A10, and continuing through Milton village. Major housing growth is planned with 10,000 new homes north of Waterbeach, and plans by the developers to move Waterbeach Station to the north, as well as making cycling and walking integral to their vision for these developments.

4.2. The 2011 Census results show 15% of Waterbeach residents cycling to work. The Greenway route therefore needs sufficient capacity to accommodate large numbers of users. New cycle routes through the new developments will provide links to Cambridge Research Park and other employment sites North West of Waterbeach.

4.3. In network terms the Waterbeach Greenway would link The Chisholm Trail, the St Ives section of the Busway (St Ives Greenway), and Cambridge North station, as well as linking closely to Milton Road and Green End Road.

4.4. During the community engagement sessions, three routes for the Greenway were considered including improving the existing narrow path alongside the A10 and through Milton, widening and improving the Cam towpath route, and looking at a new route following the railway line. The railway route gained the most support during the engagement activities and it was felt to be the only one that could offer sufficient capacity and would be the most direct option. It was felt that having a new route would take commuter cyclists off the narrow towpath route, and hence make it more pleasant as a route for walkers and runners.

4.5. Whilst the public consultation focussed on the railway route, other routes could be suggested. The consultation leaflet, a consultation report and a one page summary infographic can be viewed at this link: www.tinyurl.com/y6evmqa8. 90% of the 423 respondents supported a new route alongside the railway line.

4.6. Due to the large land area covered by the scheme, a full Environmental Impact Assessment will be submitted as part of the planning application to address issues such as ecology, heritage and landscape setting. The proposed route is across land owned by Cambridgeshire County Council (County Farms Land) as well as land proposed to form part of Cambridge Sports Lakes, both of whom have already been engaged early on. The route is adjacent to Network Rail assets, so approvals around construction methodology will also be needed.

4.7. The recommendation will be to seek approval for the final route as shown in **Appendix 2**. The scheme has been broken down into two phases to enable an initial phase to be delivered as quickly as possible to make a route between Waterbeach and the north of Cambridge available. The later phase will make the route even more direct, and add value to the project.

4.8. The proposed £8m budget will be used to complete the detailed design of the scheme, statutory processes including planning permission, and land procurement. At this early stage it is felt that the £8m will also cover the costs to deliver Phase One of the scheme. Further funding will then be required to complete Phase 2 of the scheme including the A14 underpass, though a future Board approval;

4.9. The table below sets out the proposed details for each section of the Greenway, though these are subject to landowner agreement, road safety audit, planning and other statutory processes.

WATERBEACH GREENWAY - PHASE ONE	
SECTION	**PROPOSED FORM OF GREENWAY**
Cambridge North Station to Jane Coston Bridge	Signage and localised widening and resurfacing of the existing path. Changes to side road junctions to improve visibility. Improved bridge approach. Scope for some landscaping improvements.
Jane Coston Bridge to Railway line, via Milton Country Park	Improved signage and layout around the car park area and upgrade to surfacing of the path across Milton Country Park.
2.5km long section parallel to the railway line to Car Dyke	4m wide new shared use path finished in tarmac, with 2.5m wide grassed area on one side (for horse riders, joggers and ramblers), landscaping and drainage feature
Car Dyke spur	3m wide new shared use path finished in tarmac
Car Dyke to existing railway station	3m wide new shared use path finished in tarmac
PHASE TWO	
Cambridge North Station to South East corner of Milton Country Park, via new A14 underpass	New 4m wide shared use path finished in tarmac across North East Cambridge business district and residential development connecting to High Street 'spine road'. New underpass under the A14 with lighting. Signage and landscaping will be integral to design.
Branches to the east and west of Waterbeach to link residential areas, new town developments and new railway station location.	Combination of upgrades to existing paths and new sections of route 3m wide shared use, where possible. New signage and traffic calming infrastructure. Route to be developed in collaboration with local stakeholders and new town developers.

Fulbourn

4.10. Fulbourn is located 5.5km east of Cambridge station across flat terrain via Cherry Hinton, and for cyclists it is served by relatively narrow and in places poorly surfaced shared use paths. Major housing and employment growth is planned on the east side of the city. Improved cycling infrastructure would support more journeys to be made by bike rather than private car.

4.11. Fulbourn Greenway would provide an important improved link in the cycling network in the east side of the city. **Appendix 3** shows how Fulbourn and Waterbeach Greenways interact with and enhance the network.

4.12. During the community engagement sessions, a 'blank canvas' approach was taken with the public asked to tell us their preferences for route alignment. Members of the public were also asked to identify where they experienced problems or barriers when walking and cycling. Whilst a number of route options were identified, strong support emerged for the most direct route via the Tins Path. The crossing of the railway on the Tins Path was also highlighted as a pinch-point by many and there was strong support for an upgrade to the bridge. Additionally improved surfacing, signage and lighting were identified as measures that would dramatically improve conditions for both walking and cycling.

4.13. The consultation leaflet, a consultation report and a one page summary infographic can be viewed at this link: www.tinyurl.com/y6fkombj. 85% of the 422 respondents said they supported improvements to the Tins Path, and 83% said they support improvements to the Sankey Path. Other elements were well supported too.

4.14. The most challenging elements to deliver are the replacement bridge over the railway line and the path widening east of Cherry Hinton High Street, for which Network Rail approvals will be needed and land secured. The on highway elements may require some localised discussions and consultations.

4.15. The recommendation will be to seek approval for the final route as shown in **Appendix 4**. This includes a new wider foot and cycle bridge with improved alignment over the railway line and improvements to The Tins and The Snakey Path. Wholescale improvements to Carter Bridge were included in the consultation but these proposals are now part of a major maintenance bid being compiled by Cambridgeshire County Council to the Department for Transport.

4.16. The proposed £6m budget will be used to complete the detailed design of the scheme, statutory processes, land procurement and construction.

4.17. The table below sets out the proposed details for each section of the Greenway, though these are subject to landowner agreement, road safety audit, planning and other statutory processes.

FULBOURN GREENWAY	
SECTION	**PROPOSED FORM OF GREENWAY**
Cambridge Station to Perne Road	Junction improvements, localised widening and resurfacing of the existing route. Improved signage and prioritisation measures.
Snakey Path	Widening and resurfacing where possible this scheme would be in partnership with the Cambridge City Council who have already allocated £125,000 to support the improvement works.

Perne Road to Cherry Hinton (The Tins Path)	Some widening and resurfacing of the existing route. Replacement of the railway bridge to provide a 3m path with shallow approach ramps. A new realigned section of 3m path and resurfacing of Railway Street, Cherry Hinton.
Cherry Hinton High Street to Yarrow Road	3m wide new shared use path adjacent to the railway finished in tarmac. Improved crossing arrangements of both the High Street and Yarrow Road.
Yarrow Road to Fulbourn	3m wide new shared use path finished in tarmac to the north of Tesco supermarket. 'Quiet Road' treatment on Fulbourn Old Drift to include speed limit reduction to 20mph, carriageway and footway resurfacing.

5. Next Steps and Milestones

For Waterbeach Greenway

5.1. Engage statutory bodies including Environment Agency, Heritage England and Network Rail, along with stakeholders such as Parish Councils, Wildlife Trust and Conservators of the Cam in readiness for statutory processes.

5.2. Appoint land agents to progress and complete land negotiations.

5.3. Appoint consultants to undertake detailed design and prepare packages for a planning application.

5.4. Consultation and engagement with local communities on detailed design proposals.

For Fulbourn Greenway

5.5. Appoint consultants to undertake detailed design and prepare packages for any statutory processes.

5.6. Formalise discussions with Network Rail to secure land and necessary approvals to replace The Tins Bridge.

5.7. Continue to work closely with Cambridge City Council to progress the Snakey Path project and potentially support them in the early implementation of this element of the scheme.

5.8. Consultation and engagement with local communities on detailed design proposals.

For Greenways Generally

5.9. Further Greenways to be brought to the Assembly for discussion ahead of going to the Executive Board for approval, as per the order set out in **Appendix 1**.

5.10. The proposed timetable for seeking Executive Board approval for each Greenway is thus:

June 2020 meeting – Comberton, Melbourn and St Ives.
October 2020 meeting – Barton, Haslingfield and Sawston.
December 2020 meeting - Swaffhams, Bottisham and Horningsea

List of Appendices

Appendix 1	Criteria based assessment model for Greenways prioritisation
Appendix 2	Plan showing Waterbeach Greenway, including phases, key features and Quick Wins already delivered.
Appendix 3	Plan showing Waterbeach and Fulbourn Greenways interaction with cycleways network.
Appendix 4	Plan showing Fulbourn Greenway, including key features and Quick Wins already delivered.
Appendix 5	Milestones and key risks

Background Papers

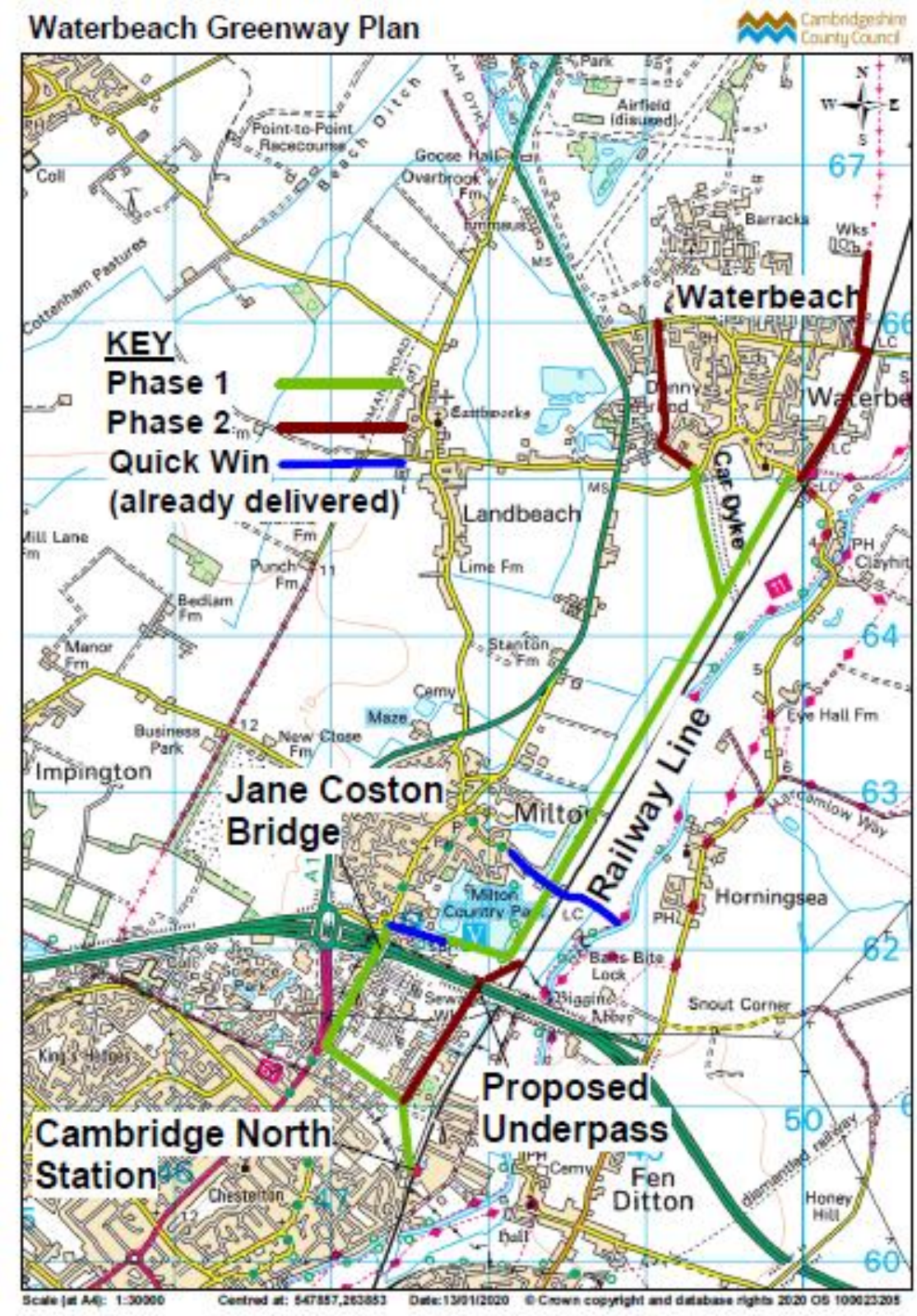
Paper	Link
Waterbeach Greenway feasibility report by Nigel Brigham and Associates, 2017	www.tinyurl.com/y6evmqa8
Waterbeach Greenways report by 5th Studio, September 2018	www.tinyurl.com/y6evmqa8
Fulbourn Greenway feasibility report by Nigel Brigham and Associates, 2017	www.tinyurl.com/y6fkombj
Fulbourn Greenways report by 5th Studio, September 2018	www.tinyurl.com/y6fkombj

APPENDIX 1

CRITERIA BASED ASSESSMENT MODEL FOR PRIORITISING GREENWAYS

	Economic case		Stakeholder support		Strategic fit		Current provision		Deliverability			
Weighting	x 5		x 4		x 6		x 2		x 3			
LOCATION	Scoring	Priority	Scoring	Priority	Scoring	Priority	Scoring	Priority	Scoring	Priority	Overall Score	Placing
WATERBEACH	3	HIGH PRIORITY	3	HIGH PRIORITY	3	HIGH PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	55	1
FULBOURN	3	HIGH PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	54	2
MELBOURN	2	MEDIUM PRIORITY	3	HIGH PRIORITY	3	HIGH PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	53	3
ST IVES	3	HIGH PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	1	LOW PRIORITY	3	HIGH PRIORITY	52	4
COMBERTON	1	LOW PRIORITY	3	HIGH PRIORITY	3	HIGH PRIORITY	3	HIGH PRIORITY	2	MEDIUM PRIORITY	47	5
LINTON	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	46	6
SAWSTON	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	3	HIGH PRIORITY	1	LOW PRIORITY	2	MEDIUM PRIORITY	44	7
HASLINGFIELD	3	HIGH PRIORITY	1	LOW PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	41	8
BARTON	2	MEDIUM PRIORITY	3	HIGH PRIORITY	1	LOW PRIORITY	1	LOW PRIORITY	2	MEDIUM PRIORITY	36	9
SWAFFHAMS	1	LOW PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	35	10
BOTTISHAM	1	LOW PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	1	LOW PRIORITY	2	MEDIUM PRIORITY	33	11
HORNINGSEA	1	LOW PRIORITY	2	MEDIUM PRIORITY	1	LOW PRIORITY	2	MEDIUM PRIORITY	2	MEDIUM PRIORITY	29	12

APPENDIX 2


Waterbeach Greenway Plan
Cambridgeshire County Council
KEY
Phase 1
Phase 2
Quick Win
(already delivered)
Waterbeach
Landbeach
Jane Coston Bridge
Railway Line
Car Dyke
Impington
Milton
Horningsea
Fen Ditton
Proposed Underpass
Cambridge North Station
Chesterton
Snout Corner
Honey Hill
Scale (at A4): 1:30000
Centred at: 547857,263853
Date:13/01/2020
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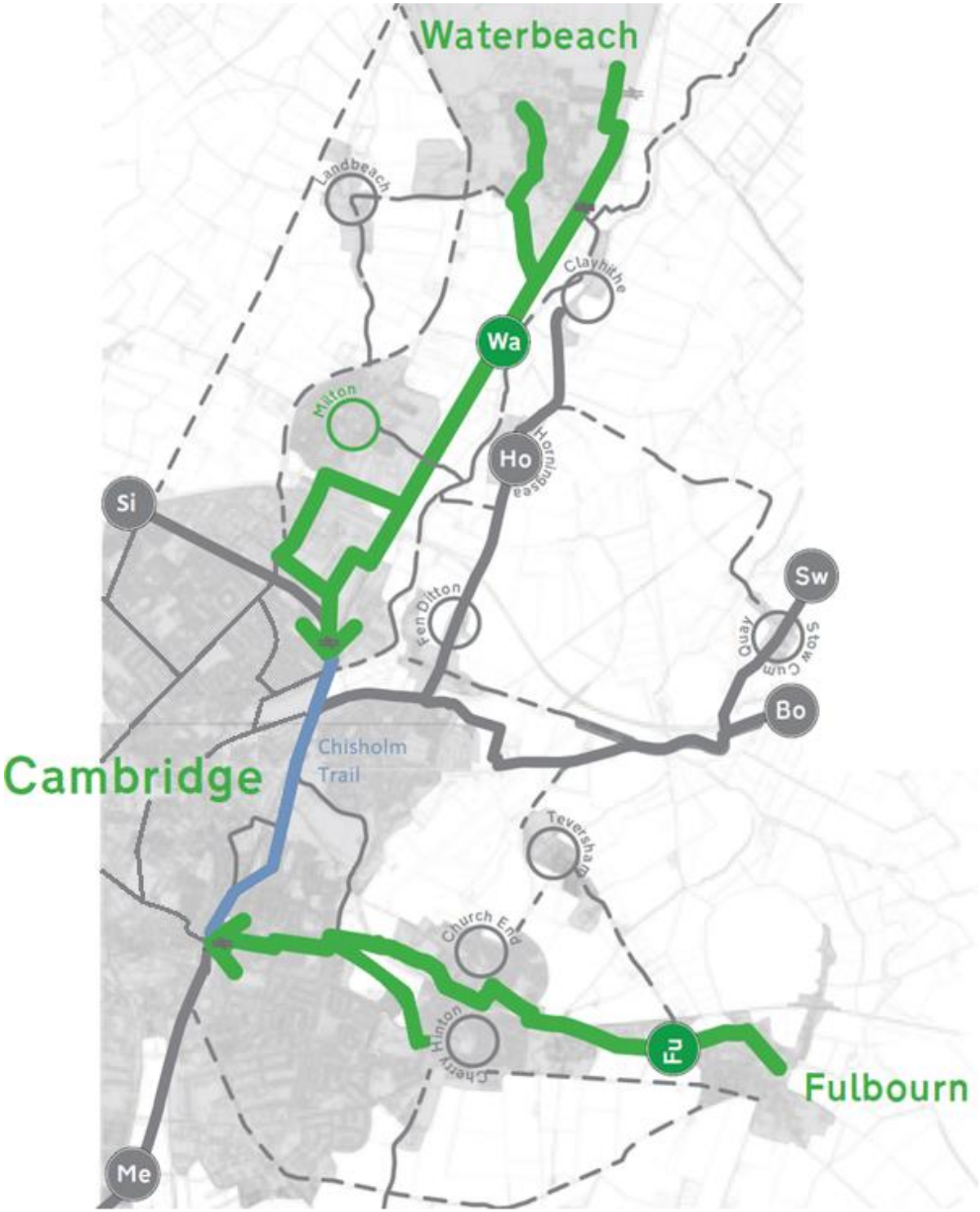
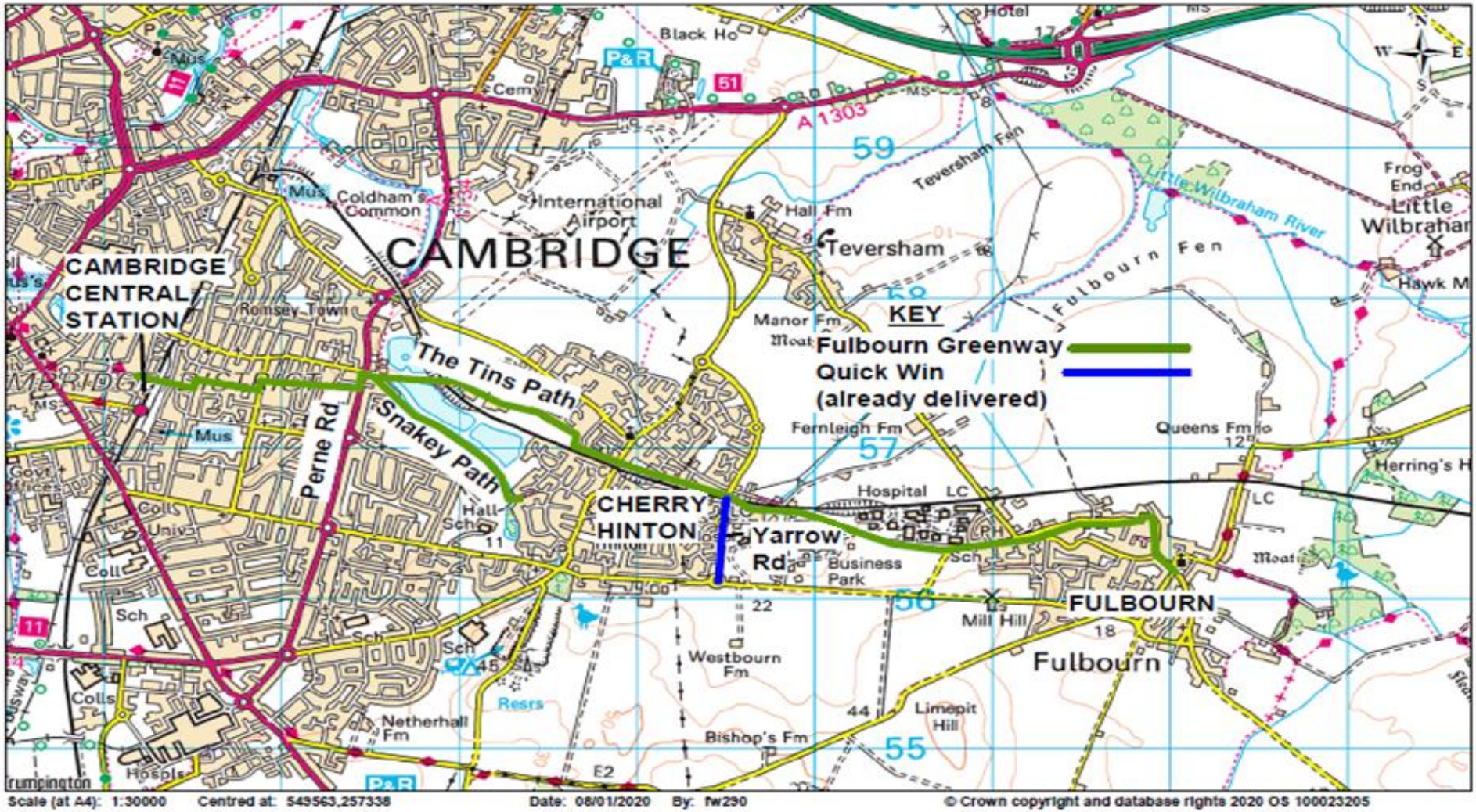
APPENDIX 3

Waterbeach and Fulbourn Greenways interactions with cycleway network



APPENDIX 4

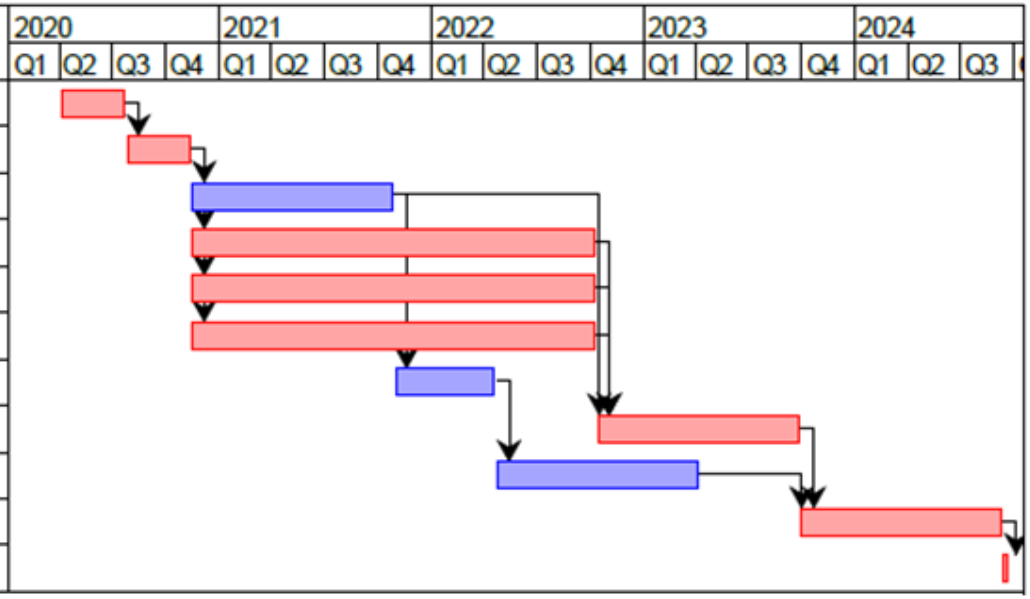
Fulbourn Greenway Plan



APPENDIX 5 – MILESTONES FORECAST AND KEY RISKS

Waterbeach

	Name	Start	Finish
1	Project Set-up	06/04/20 ...	24/07/20 ...
2	Procurement of consultants	27/07/20 ...	13/11/20 ...
3	Develop detailed design	16/11/20 ...	29/10/21 ...
4	Land negotiations (Phase 1 & 2)	16/11/20 ...	14/10/22 ...
5	Network Rail planning and consents	16/11/20 ...	14/10/22 ...
6	Env. Surveys/ Impact Assessment (Phase 1 & 2)	16/11/20 ...	14/10/22 ...
7	ECI Procurement	01/11/21 ...	22/04/22 ...
8	Planning permission process	17/10/22 ...	29/09/23 ...
9	Procurement of contractor	25/04/22 ...	07/04/23 ...
10	Construction	02/10/23 ...	13/09/24 ...
11	Completion	16/09/24 ...	16/09/24 ...

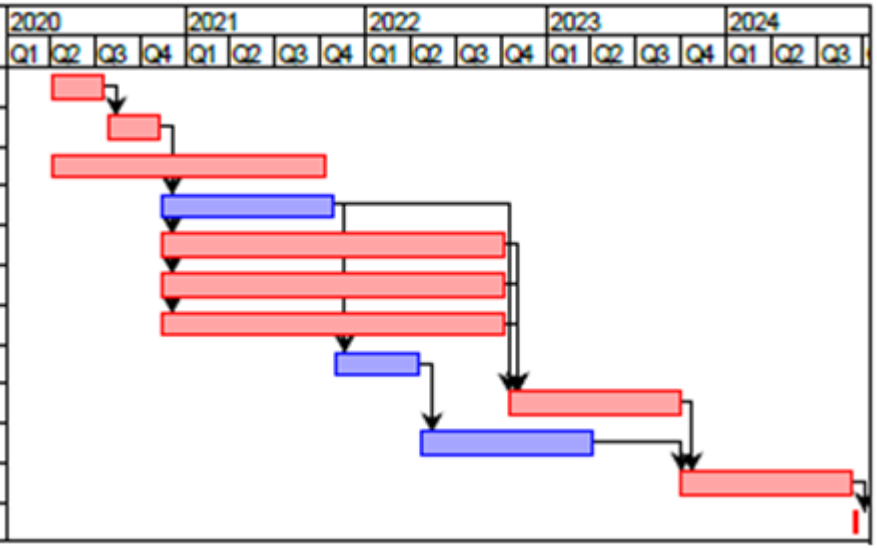


Key Risks

Resource – Project Team and Comms
Procurement process – Time/Cost
Consents – Planning / Network Rail
Cost escalation – Project controls
Other infrastructure schemes/developments taking precedent

Fulbourn

	Name	Start	Finish
1	Project Set-up	06/04/20 ...	24/07/20 ...
2	Procurement of consultants	27/07/20 ...	13/11/20 ...
3	Develop and deliver Snakey Path scheme with City Counci	06/04/20 ...	15/10/21 ...
4	Develop detailed design of Fulbourn route	16/11/20 ...	29/10/21 ...
5	Land negotiations	16/11/20 ...	14/10/22 ...
6	Network Rail planning and consents	16/11/20 ...	14/10/22 ...
7	Environmental surveys/impact assessment	16/11/20 ...	14/10/22 ...
8	ECI Procurement	01/11/21 ...	22/04/22 ...
9	Planning permission process	17/10/22 ...	29/09/23 ...
10	Procurement of contractor	25/04/22 ...	07/04/23 ...
11	Construction	02/10/23 ...	13/09/24 ...
12	Completion	16/09/24 ...	16/09/24 ...



Key Risks

Resource – Project Team and Comms
Procurement process – Time/Cost
Consents – Planning / Network Rail
Cost escalation – Project controls
Other infrastructure schemes/developments taking precedent

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

QUARTERLY PROGRESS REPORT

Report To: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Niamh Matthews – Head of Strategy and Programme, Greater Cambridge Partnership

1 Purpose

1.1 To update the Joint Assembly on progress across the Greater Cambridge Partnership (GCP) programme, including updates on:

- A proposal to part-fund a pilot modern methods of construction (MMC) project to provide six temporary housing units for homeless residents (section 5 and 8) at a cost of £70k;
- The Cambridge Biomedical Campus Transport Study, to specifically note progress with the action plan, and agree to continue to engage in this work (section 20);
- A proposal to continue to allocate to Cambridgeshire County Council, 50% (£531,000) of the lost annual income resulting from the removal of the £1 parking charge at Park and Ride sites in the GCP area from 1st April 2020, and to review this before the end of 2020/2021 (Section 21); and
- The proposed 2020/2021 Budget (section 24).

2 Programme Finance Overview

2.1 The table below gives an overview of the 2019/20 budget, as agreed at the March 2019 Executive Board, and spend as of 31st December 2019.

Funding Type	**2019/20 Budget (£000)	Expenditure to Date (Dec 19) (£000)	Forecast Outturn (Dec 19)(£000)	***Forecast Variance (Dec 19) (£000)	Status*		
					Previous[1]	Current	Change
Infrastructure Programme Operations Budget	34,141	19,512	29,077	-5,064			↔

** Please note: RAG explanations are at the end of this report.*
*** 2019/20 Budget includes unspent budget allocations from the 2018/19 financial year, in addition to the allocations agreed at the March 2019 Executive Board*
**** Forecast variance against the 2019/20 budget.*

[1] Throughout this report references to "previous status" relates to the progress report last considered by the Joint Assembly and Executive Board

Housing and Strategic Planning

"Accelerating housing delivery and homes for all"

Indicator	Target	Timing	Progress/ Forecast	Status		
				Previous	Current	Change
Housing Development Agency (HDA) – new homes completed	250	2016 - 2018	301	Scheme Complete		
Delivering 1,000 additional affordable homes**	1,000	2011-2031	778			↓

*** Based on housing commitments as at 31 July 2019 on rural exception sites, on sites not allocated for development in the Local Plans and outside of a defined settlement boundary.*

3 Housing Development Agency (HDA) Completions

3.1 The indicator for "Housing Development Agency (HDA) – new homes completed" has now been marked as complete. This reflects that the new homes directly funded by the Greater Cambridge Partnership have all been completed. 301 homes were completed across 14 schemes throughout Greater Cambridge.

3.2 Both Cambridge City Council and South Cambridgeshire District Council are continuing to deliver more new homes in Greater Cambridge over the next five years. This delivery is funded by various sources, including £70m funding via the Cambridgeshire & Peterborough Devolution Deal for the City Council programme. The GCP will continue to work with partners to explore additional opportunities to unlock further affordable housing.

4 Delivering 1,000 Additional Affordable Homes

4.1 The methodology, agreed by the Executive Board for monitoring the 1,000 additional homes, means that only once housing delivery exceeds the level needed to meet the Cambridge and South Cambridgeshire Local Plan requirements (33,500 homes between 2011 and 2031) can any affordable homes on eligible sites be counted towards the 1,000 additional new homes.

4.2 The Greater Cambridge housing trajectory published in November 2019 shows that it is anticipated that there will be a surplus, in terms of delivery over and above that required to meet the housing requirements in the Local Plans, in 2021-2022. Until 2021-2022, affordable homes that are being completed on eligible sites are contributing towards delivering the Greater Cambridge housing requirement of 33,500 dwellings.

4.3 Eligible homes are "*all affordable homes constructed on rural exception sites, and on sites not allocated for development in the Local Plans and outside of a defined settlement boundary*".

4.4 The table above shows that on the basis of known sites of 10 or more dwellings with planning permission or planning applications with a resolution to grant planning permission by South Cambridgeshire District Council's Planning Committee, 778 eligible affordable homes are anticipated to be delivered between 2021 and 2031 towards the

target of 1,000 by 2031. In practice this means that we already expect to be able to deliver 78% of the target on the basis of currently known sites.

4.5 This is a reduction of 75 dwellings from the amount of eligible affordable homes reported in previous updates. The latest published housing trajectory anticipates that a surplus against the Local Plan housing requirements is expected a year later than anticipated in the previous updates – 2021-2022 rather than 2020-2021, and therefore some previously anticipated eligible homes are now anticipated to be completed before the Councils reach a surplus. The Councils believe that the key reason for its anticipated delivery being lower than previously, and therefore a surplus being achieved later in the plan period, is the change in the national definition of a deliverable site. The new definition requires a much higher level of evidence to be provided to demonstrate that a site can be delivered in the next five years, where the site does not have full planning permission. This change has had an impact on the sites that can be included in the anticipated supply for the next five years (as set out in the latest published housing trajectory). There are also a number of sites in the Greater Cambridge housing trajectory where their anticipated delivery timetable is now later than had previously been anticipated.

4.6 Although anticipated delivery is slower than previously anticipated, the latest housing trajectory shows that 38,402 dwellings are anticipated in Greater Cambridge between 2011 and 2031, which is 4,902 dwellings more than the housing requirement of 33,500 dwellings. There are still a further 12 years until 2031 during which affordable homes on other eligible sites will continue to come forward as part of the additional supply, providing additional affordable homes that will count towards this target. Historically there is good evidence of rural exception sites being delivered (around 40 dwellings per year), and therefore we can be confident that the target will be achieved.

5 Allia Proposal – Piloting Modern Methods of Construction (MMC) for Temporary Housing

5.1 GCP officers have been approached by Allia, which is a Cambridge based social enterprise which seeks to help start-ups and provides charity bonds to fund social and specialist housing. They have partnered with Jimmy's Cambridge which is a charity based in the city and works with the local community, volunteers and other agencies to deliver 24/7 emergency accommodation for people who are homeless.

5.2 Having found a site at the Christ the Redeemer church on Newmarket Road, Allia's proposal is for six temporary units, five of which will be for people who are homeless with the remaining one unit for a voluntary resident warden to provide low level support and surveillance. The proposal is for the units to be situated on the site for between one and three years prior to the site being redeveloped. After this period the units will be relocated to another site within the area. Allia are working closely with a number of bodies to determine a suitable relocation site for the units.

5.3 The scheme provides an opportunity to further understand how MMC can contribute to diversification within the housing market. MMC units are quick to build and provide the opportunity to meet higher energy efficiency standards, resulting low running costs. MMC has the potential to allow a more flexible design than traditional materials may allow. In order to minimise any disruption and expedite the build out times, these units will be built off site in a former aircraft hangar in Waterbeach which Urban and Civic have offered at nil cost. The units are expected to take three months to complete.

5.4 This proposal also gives us an opportunity to provide 12 trainees the opportunity to learn on the job and go on to undertake further training.

5.5 Each unit costs £35k which includes the fabrication of the units, utilities connections on the site as well as a contribution to the upfront cost for the New Meaning Foundation, therefore the cost that Officers are asking the board to approve would be £70k.

Skills

"Inspiring and developing our future workforce, so that businesses can grow"

Indicator	Target	Progress	Status		
			Previous	Current	Change
Number of "additional" Level 2 and 3 apprenticeships started in Greater Cambridge growth sectors	420	481 (*July 2019*)			
Total number of apprenticeships completed in Greater Cambridge growth sectors	-	875 (*July 2019*)			

6 Update on Progress Towards Delivering 420 Additional Apprenticeships (2015-2020)

6.1 A key commitment in the Greater Cambridge City Deal is for partners to deliver 1,556 apprenticeship starts aligned to local growth sectors over five years. Particularly, this includes "an additional 420 Level 2 and 3 Apprenticeships over five years in areas aligned to Greater Cambridge's growth sectors". Therefore, the City Deal commitment includes 1,136 "expected" starts and 420 "additional" starts.

6.2 The Board has previously acknowledged it is difficult to monitor against this target, due to the difficulty in drawing a direct link between interventions and apprenticeships generated (work which the GCP Apprenticeship Service is now pursuing – see section 7 for progress), and the complex nature of identifying "local growth sectors" in Greater Cambridge. This has been compounded with delays in the release of apprenticeships data from the ESFA. However, officers have now developed an approach to monitor progress against the 420 additional apprenticeships target. Given significant growth in apprenticeship starts in Greater Cambridge in 2018/19, officers are clarifying released figures with the DfE.

6.3 Based on evenly distributing the 1,556 total apprenticeship starts identified by the City Deal over the five academic years from August 2015 to July 2020, we would expect to see a total of 1245 starts by the end of the 2018/19 academic year, of which 909 are expected and 336 are additional.

6.4 Analysis has identified that from 2015/16 to 2018/19 academic year, 481 "additional" Level 2 and 3 apprenticeships have been started in Greater Cambridge growth sectors. This is based on a total of 1,390 recorded Level 2 and 3 Apprenticeship starts in growth sectors during the four year period. Given this positive progress to date, and the ongoing work of the GCP Apprenticeships Service, officers are confident that we will easily maintain delivery of more than 420 additional apprenticeships by the end of the five year period in July 2020. Monitoring data for this will be available in late 2020.

6.5 It was also considered whether apprenticeship completions may provide a more useful indicator of success of the City Deal interventions in the future than apprenticeship starts. 875 apprenticeships have been completed in Greater Cambridge growth sectors from the 2016/17 to 2018/19 academic year. Completions are counted from 2016/17

onwards, as the first Investment Fund allocation was received in April 2015 and it takes at least 12 months for an apprenticeship to be completed. This figure includes all apprenticeship levels, including up to degree apprenticeships, which are an important part of skills provision for the Greater Cambridge economy.

6.6 The initial City Deal target of 420 additional apprenticeships, as outlined in 6.1, has now been exceeded after 4 years of the programme. Due to strong apprenticeship start rates so far, this target will be met after 5 years if 166 Level 2 and 3 apprenticeships are started in local growth sectors in 2019/20 (the average annual rate to date is 348). Given this, officers propose that all future reporting will be based on the progress of the Greater Cambridge Apprenticeship Service, launched in March 2019, as in section 7.

Indicator	Target (to March 2021)	Progress (30/09/2019)	Status		
			Previous	Current	Change
Number of people starting an apprenticeship as a result of an Apprenticeship Service intervention.	420	127			↔
Number of new employers agreeing to support an apprenticeship scheme.	320	129			↔
Number of schools supporting new, enhanced apprenticeship activity.	18	17			↔
Number of students connected with employers.	7,500	6,784			↔

Progress data from the start of the contract in March 2019, up to 30th September 2019.

7 Update on the GCP Apprenticeship Service

7.1 The Quarterly Progress Report presented to Joint Assembly in September noted that we do not expect to see significant apprenticeship starts under the new Apprenticeship Service until the end of the second and beginning of the third quarter of the 2019/20 financial year, due to the time it takes to mobilise a new service. As of September 30th 2019, the service is now able to report 127 apprenticeship starts since March 2019, with that figure to increase once results from other training providers are fully analysed in the next period. The Apprenticeship Service has outlined a range of activities it will be undertaking in the next period to continue to drive apprenticeship starts.

7.2 The Apprenticeship Service estimates that 129 new employers have agreed to support an apprenticeship scheme to date; however, some confirmation of starts and validation of eligibility towards the target (e.g. confirming the apprentice is resident in the area) will occur in the next period. To the end of September, the service has directly met with 235 potential employers to discuss apprenticeships, in order to deliver against this target. There are 43 meetings booked in for October.

7.3 17 schools have been supported to date, to develop an apprenticeship delivery plan, including enhanced apprenticeship activity. We are confident the target for this KPI will be met in the next period.

7.4 The Apprenticeship Service have facilitated 6,784 student-employer engagements to date and will exceed the target set in the next period. This includes 3,666 students connected with employers in this period, through careers activities run with employers

and through post-GCSE options evenings in schools. In October, the service held its single-largest event, giving over 500 students the opportunity to meet with several apprentice employers (note: this will not be included in the figures presented above until the next period).

8 Allia Proposal – Delivering Training Opportunities for 12 Trainees

8.1 GCP officers have been approached by Allia, which is a Cambridge based social enterprise which seeks to help start-ups and provides charity bonds to fund social and specialist housing. They have partnered with Jimmy's Cambridge which is a charity based in the city and works with the local community, volunteers and other agencies to deliver 24/7 emergency accommodation for people who are homeless.

8.2 Having found a site at the Christ the Redeemer church on Newmarket Road, Allia's proposal is for six temporary units, five of which will be for people who are homeless with the remaining one unit for a voluntary resident warden to provide low level support and surveillance. The proposal is for the units to be situated on the site for between one and three years prior to the site being redeveloped. After this period the units will be relocated to another site within the area. Allia are working closely with a number of bodies to determine a suitable relocation site for the units.

8.3 As part of this proposal, the units are being built by the New Meaning foundation who are a social enterprise working across Cambridge and Buckinghamshire. The assembly and fit-out of each unit will be completed by 12 trainees who will learn on the job. Following this, each individual will be given the opportunity to undertake a full apprenticeship course run at Alconbury by Urban and Civic.

8.4 This proposal also provides an opportunity to trial this form of Modern Methods of Construction (MMC), more information on which can be found in the housing section.

8.5 Each unit costs £35k which includes the fabrication of the units, utilities connections on the site as well as a contribution to the upfront cost for the New Meaning Foundation, therefore the cost that Officers will be asking the Board to approve is £70k.

Smart Places

"Harnessing and developing smart technology, to support transport, housing and skills"

Project	Target Completion Date	Forecast Completion Date	Status		
			Previous	Current	Change
T-CABS (CCAV3 Autonomous Vehicle Project)	Dec 2020	Dec 2020			↔
Smart Panels – Phase 3 Extension	Mar 2020	Mar 2020			↔
Digital WayFinding – Phase 2 (Development)	Complete				
Digital WayFinding – Phase 3 (Development)	Jun 2020	Jun 2020			-
ICP Development – Phase 2	Complete				
ICP Development – Phase 3	Mar 2020	Mar 2020			↔
Mill Road Bridge Closure: Data Collection and Early Analysis	Complete				
Mill Road Bridge Closure: Ongoing Data Analysis	Oct 2020	Oct 2020			-
Fendon Road: Deployment of count & journey time sensors	Complete				
Data Visualisation	Mar 2020	Mar 2020			↔
Appy Way – Digitising Traffic Road Orders	Complete				
Digital Twins Phase One	Mar 2020	Mar 2020			-
New Communities Phase One	Jun 2020	Jun 2020			-

Progress reported up to 14th January 2020

9 T-CABS (C-CAV3 Autonomous Vehicle Project)

9.1 Previously reported issues with the supply chain have been resolved and a new vehicle chassis solution has been agreed. A prototype vehicle is being built using the new platform and the exterior panelling will be designed and manufactured in the coming months. The intention is to run engineering trials (non-passenger) by the end of April 2020. Development of the fleet management software, dispatch system and end user app continue on track for early testing in March 2020. Passenger trials remain on track to start in summer 2020.

9.2 Safety case work will be kicked off in January 2020 and an early draft is expected in April 2020. This process will involve consultation with the Risk Management Group established earlier this year.

10 Smart Panels – Phase 3 Extension

10.1 By the end of December 2019, the Pocket Smart Panel will have been accessed by over 1,500 clients (it should be noted that these are not necessarily individual users). Repeat usage of the product has increased since November, and latest analysis indicates that over 80 people each week are regularly using the product (regular usage in this case means that they have been active within the last 30 day period). These positive results suggest that travellers are finding the product useful, accessing it initially and then continuing to use it.

10.2 The Hauser Forum have installed their Smart Panel and we continue to support businesses and local authority partners who wish to install Smart Panels, engaging with them to gather feedback on all the existing products.

11 Digital Wayfinding – Phase 3 (Development)

11.1 An outline approach has been developed following meetings with various suppliers and potential stakeholders. This has allowed us to propose wayfinding solutions for Cambridge Central Station. These suggestions will be discussed with Abellio and Brookgate in January 2020. We hope to clarify an approach and schedule to begin implementation by June.

11.2 Engagement with Cambridge Biomedical Campus regarding wayfinding continues. Further detail of this engagement are provided in section 18 and include reference to approaches developed with the Smart Cambridge Team.

12 ICP Development – Phase 3

12.1 The post at the University of Cambridge Computer Labs which has been funded by Smart Cambridge (using funding from DfT) has now been filled. This allows us to continue our work to improve the visualisation of datasets ingested into the platform, making our information more user friendly. We also continue work to make the datasets held in the iCP publically available, including journey times and car parking information.

13 Mill Road Bridge Closure – Traffic Flow and Air Quality Monitoring

13.1 The data collected from the Mill Road Bridge Closure project has been updated on Cambridgeshire Insights, providing access to interested parties. Analysis from the traders survey has been provided (under a data agreement) to the Centre for Diet and Activity Research (CEDAR) along with air quality data for the last period. The data will be used to derive a more detailed understanding of the impacts of the closure. A final report is not expected until October 2020 which allows a full year of data to be considered in the findings.

13.2 Traffic sensors remain in place until September 2020 as planned. Smart Cambridge are collaborating with the sensor suppliers to improve accuracy information and learnings on sensor placement, which will benefit future projects.

13.3 An initial summary report has been produced and is available on the Smart Cambridge website. The report highlights the learning that we have gained so far in relation to the process of deployment, the limitations of the sensors and what types of analysis we can offer of the data collected. A similar report, also available on the same website, has been produced by the team at the City Council with regard to the air quality monitors deployed on Mill Road. Further analysis of the data collected will also be carried out as part of our collaboration with GeoSpock (see section 15). Visualisations of the Mill Road data are expected for delivery in early 2020.

14 Fendon Road – Deployment of Count and Journey Time Sensors

14.1 7 ANPR and traffic count sensors have been deployed in late 2019 as agreed with the cycling team, and will remain in place for 12 months, covering the period both during and

after the works. The data captured by these sensors allows the calculation of journey times as well as vehicle count data. While our work to facilitate the successful implementation of these sensors has been completed, we will continue to support the cycling team regarding sensor accuracy and data analysis recommendations over the next year.

15 Data Visualisation

15.1 Work packages have been agreed with Geospock (a local analytics company) to continue analysis of our existing Automatic Number Plate Recognition (ANPR) data, which can now be interpreted in greater detail using a new release of their software. In addition, work to ingest the Mill Road Bridge closure data (traffic and air quality) into the GeoSpock platform is in progress and expected to be complete by the start of January 2020. A work package has been defined to provide analysis of that data, thereby enabling greater insight into the impacts of the closure. These visualisations will be delivered to the Smart Cambridge team by March 2020.

16 **AppyWay – Digitising Traffic Road Orders**

16.1 Smart Cambridge has been working with AppyWay to digitise Cambridge's Traffic Regulation Orders ("TRO's" - which are the legal mechanism for governing the kerb) and build a management tool for creating or changing orders. Through Innovate UK funding and with developmental help from Cambridgeshire County Council and the Smart Cambridge team, Mapper has been built to address the challenges local authorities around the UK face today whilst also unlocking the TRO data that will enable the intelligent mobility solutions of the future. With standardised kerbside data available via smart APIs, fleet operators, transportation providers and mobility developers will be able to provide better services and solutions for Cambridge residents, businesses and visitors.

17 Digital Twins Phase One

17.1 Work with the Centre for Smart Infrastructure and Construction (CSIC) has been initiated on a University funded project to develop a 'digital twin' for the Cambridge Biomedical Campus, which will support modelling and policy development by bringing transport, air quality modelling and other infrastructure into one model. The first phase will look at what data is available, what data is needed and the approach to bringing lots of different data sets together.

18 New Communities Phase One

18.1 In early October 2019, Smart Cambridge and Cambridge Cleantech organised an event for planners and developers to explore the opportunity to deploy 'Smart' technologies in new communities. Following the workshop, we are working with planners and developers in more detail to understand the opportunities for 'Smart' technologies to support the planning system and to help develop better places. Initial work is focused on the North East Area Action Plan and opportunities to work with Urban and Civic on Waterbeach.

Transport

"Creating better and greener transport networks, connecting people to homes, jobs, study and opportunity"

19 Transport Delivery Overview

Project		Delivery Stage	Target Completion Date	Forecast Completion Date	Status		
					Previous	Current	Change
Ely to Cambridge Transport Study		Completed					
A10 cycle route (Shepreth to Melbourn)		Completed					
Cambridge Southeast Transport Study (formerly A1307)		Design	2025	2024			↔
Cambourne to Cambridge / A428 Corridor		Design	2024	2024			↔
Milton Road		Design	2021	2024			↓
City Centre Access Project		Design	2020	2020			↔
Chisholm Trail Cycle Links	Phase 1	Construction	2020	2020			↔
	Phase 2	Construction	2022	2022			↔
Cross-City Cycle Improvements	Fulbourn / Cherry Hinton Eastern Access	Construction	2019	2020			↓
	Hills Road / Addenbrooke's corridor	Completed					
	Links to East Cambridge & NCN11/ Fen Ditton	Completed (*see note*[2])					
	Arbury Road corridor	Completed					
	Links to Cambridge North Station & Science Park	Completed					
Histon Road Bus Priority		Design	2022	2021			↔
West of Cambridge Package		Design	2021	2021			↔
Greenways Quick Wins		Construction	2020	2020			↔
Cambridge South Station Baseline Study		Completed					
Residents Parking Implementation		Project Initiation	2021	2021			↔
Greenways Development		Completed					
Rural Travel Hubs		Project Initiation	2021	2021			↔
Travel Audit – South Station and biomedical campus		Completed					

[2] Project substantively completed and open and operating – minor path widening work to be completed in 2020.

20 Cambridge Biomedical Campus (CBC) Transport Needs Review – Update and Proposal

20.1 The CBC Transport Needs Review was presented to GCP Executive Board in March 2019, including a summary of the 47 potential measures identified to address transport needs of the CBC site. Of these, 7 measures have either been delivered or have become 'business as usual'.

20.2 A prioritisation exercise has been carried out on the remaining measures, involving key campus partners, and this has provisionally identified 22 'quick wins' which have been grouped into themes, outlined below. Further details can be found in **Annex 1.**

1. **Public Transport** – including new onsite interchange infrastructure, links to travel hubs (P&Rs), access arrangements, routing and services. These measures will be brought together in an overarching campus-specific bus strategy, which aligns with other local bus strategies which have or are being undertaken by the GCP, CPCA and the University. Once the CBC bus strategy is complete, detailed work will be required to prioritise interventions and identify funding.
2. **Cycling and Walking** – infrastructure and initiatives including routes to, from and within the campus, as well as cycle parking.
3. **Travel Hub (P&R) Capacity** – note, service improvements will be covered by the bus strategy**.**
4. **Wayfinding** – to, from and within the campus.
5. **Behaviour Change** – including interventions for staff, patients, visitors and contractors, also referred to as "soft measures".

20.3 Work has been undertaken on around half of the potential 'quick win' measures discussed above, including:

- A campus-wide safety audit of roads, pavements and cycling infrastructure: commissioned by CBC, the draft report is being reviewed by campus partners. It will help to prioritise and define a number of measures;
- Annual traffic count and staff travel surveys: these are underway and will provide updated evidence to support the programme;
- Travel Hub (P&R) capacity increases: Trumpington expansion to be complete in early 2020, and potential options for Babraham expansion being explored. Foxton rail P&R consultation has recently been completed;
- Walking and cycling improvements between Babraham P&R and CBC: these are being developed as part of the CSETS/A1307 Phase 1 work;
- Sites for additional onsite cycle parking: CUH has installed an additional 240 spaces during 2019. Further sites have been identified and some have been costed. Funding will need to be agreed before implementation can proceed;
- Development of Greenways relevant to CBC (Linton and Melbourn in particular);
- Implementation of 'soft measures' by all campus partners to include: car sharing, bike to work loans, season ticket loans etc.

20.4 Three potential barriers to the delivery of the measures identified in the CBC Transport Needs Review have been identified, and potential mitigations considered. These are outlined in the table overleaf.

Potential Barrier	Proposed Mitigation
To ensure momentum is maintained and work is appropriately coordinated, a project officer is required. Appropriate campus wide governance is also needed to ensure speedy decision making and allocation of funding.	The approach is described in Para 18.5 below
Current congestion levels mean that transport operators are sometimes unable to provide the services that the campus requires even where funding is available, or services are overly expensive due to the additional resources required to maintain the required service provision. In particular, there is a risk that the new H service may be reduced due to operator difficulties in running to timetable.	Mitigations include: • City Access project and other GCP schemes are working to resolve this; • Collaboration with the operators and relevant transport bodies.
Challenges associated with the electrification of transport solutions could present a barrier to progress.	Solutions will need to be developed in conjunction with relevant transport bodies.

20.5 The governance and resource barrier identified in the first line of the table above has been discussed with Cambridge University Health Partners (CUHP) senior management. Their commentary is as follows:

i) The CBC is often thought of as a single activity, but is in fact the location of a range of different organisations, in health services, academic science and education, and industry. CUHP co-ordinates the activities of landowners, developers, leaseholders and other tenants on the campus through a campus committee structure.

ii) CBC's Travel and Transport Group (TTG) co-ordinate members to address travel and transport issues associated with the campus. The TTG has identified and delivered a number of improvement schemes by co-ordinating work across CBC (identified in **Annex 1**).

iii) CUHP is currently leading a Governance Programme for the campus which aims to strengthen cross-campus working through the creation of a collective organisational vehicle, and by creating an organisational basis for the growth of the campus, beginning with the concessions available in the Local Plan. It is anticipated that a plan for implementation of this work will be in place by March 2020.

iv) The implementation of the above Programme will bring about a single entity for the GCP and other key partners to deal with for travel and transport policy and related infrastructure issues. Progress will be reported in early 2020.

v) CUHP is keen to explore the potential opportunities to work with the GCP to support the work currently in progress and the implementation of future schemes.

20.6 Alongside the work identified in 18.5 to resolve the governance and resourcing challenges, a more detailed programme of quick wins under the five themes listed in 18.2 is being developed collaboratively by the campus partners and GCP.

20.7 The Joint Assembly is asked to note the update on the CBC Transport Needs Review and the proposal to agree to continue to engage in this work.

21 GCP Allocation Towards the Removal of Park & Ride Parking Charges

21.1 At the 22 November 2017 Executive Board, the Board agreed to 'allocate 50% (£531,000) of the lost annual income resulting from the removal of the £1 parking charge at Park & Ride sites in the GCP area, from 1st April 2018' to Cambridgeshire County Council, and to review this at the end of 2019/20.

21.2 Given the increase in usage of the Park & Rides over the past two years, including an increase of 11.7% in the year to November 2019 compared to the previous year, as well as the commitment of partners to develop an integrated parking strategy in the next financial year, officers suggest continuing to allocate 50% (£531,000) of the lost annual income resulting from the removal of the £1 parking charge at Park & Ride sites in the GCP area from 1st April 2020 and to review this before the end of 2020/21.

22 2019/20 Transport Finance Overview (to 31st December 2019)

22.1 The table overleaf contains a summary of the expenditure to December 2019 against the budget for the year.

Project	Total Budget (£000)	2019-20 Budget (£000)	2019-20 Forecast Outturn Nov 19 (£000)	2019-20 Forecast Variance Nov 19 (£000)	2019-20 Budget Status		
					Previous	Current	Change
Cambridge Southeast Transport (formerly A1307)	140,735	7,647	5,500	-2,147			↓
Cambourne to Cambridge / A428 corridor	157,000	3,612	1,842	-1,770			↔
Science Park to Waterbeach (formerly A10 North Study)	2,600	2,067	60	-2,007			↔
Eastern Access	500	500	50	-450			↔
Milton Road bus priority	23,040	600	600	0			↔
City Centre Access Project	9,888	3,716	2,350	-1,366			↓
Chisholm Trail	14,269	4,276	4,276	0			↔
Cross-City Cycle Improvements **(see 22.2)**	8,934	-132	1,850	+1,982			↔
Histon Road Bus Priority	10,000	1,000	1,000	0			↔
West of Cambridge package (formerly Western Orbital)	42,000	3,000	4,700	+1,700			↑
Greenways Quick Wins	3,650	1,571	1,000	-571			↔
Programme Management & Early Scheme Development	3,200	703	508	-195			↓
Cambridge South Station	1,750	1,750	1,750	0			↔
Residents Parking Implementation	1,191	350	230	-120			↔
Rural Travel Hubs	700	150	25	-125			↔
Greenways Development	536	30	60	+30			↔
Total	**419,993**	**30,840**	**25801**	**-5,039**			↔

22.2 It should be noted that officers are currently seeking other funding sources to alleviate overspend against Cross-City Cycle Improvements.

22.3 The explanation for any variances is set out in the following paragraphs.

22.4 **Cambridge Southeast Transport (formerly A1307)**

It is now forecast that there will be a year-end underspend of £2.1m. This is due to planned construction being delayed by road space availability. The overall budget will be reviewed when Phase 2 estimates are finalised.

22.5 **Cambourne to Cambridge / A428 Corridor**

The current forecast is that there will be an underspend of over £1.78m by the end of the year. This is due to the revised GCP Executive Board meeting now scheduled on 19th February 2020 as well as the pre-election period in late March 2020.

22.6 **Science Park to Waterbeach (formerly A10 North Study)**

It is now forecast that there will be a year-end underspend of £2m. The increase is due to consultants being appointed later than originally planned.

22.7 **Eastern Access**

It is now forecast that there will be a year-end underspend of £450k. The increase is due to consultants being appointed later than originally planned. The overall budget for this project does not extend beyond Option Assessment and may need revising in 2020.

22.8 **Milton Road Bus Priority**

The budget forecast remains on target. It is currently forecast that the £600k budget will be spent by the end of the year. More spending will occur towards the last quarter of 2019/20 as detailed design work is progressed and surveys are commissioned.

22.9 **City Centre Access Project**

It is currently anticipated that a substantial proportion of the budget of £3.72m will be spent in 2019/20. However, there is a potential for underspend depending on the future scope for some individual work streams.

22.10 **Chisholm Trail**

This project is currently on track to spend the allocated budget of £4.28m by the end of the year. Construction work is underway on both Phase One and Phase Two.

22.11 **Cross-City Cycle Improvements**

There is likely to be an overspend of just over £1.98m by the end of the year, as the overall budget was spent in 2018/19. This overspend was due to issues around traffic management which heavily restricted working hours and extensive public utility plant diversions. Work on the last two projects is nearing completion, awaiting final sign off on two land agreements.

Options to generate further income are currently being looked at. It is also anticipated that a portion of the overspend will be refunded from advance payments made to utility companies.

22.12 **Histon Road Bus Priority**

The Executive Board have agreed to increase the project budget to £10m based on the construction cost estimate provided by Skanska. The increased costs reflect the increase in project scope since its inception.

It is currently forecast that the £1m budget will be spent by the end of the year. Current spend reflects work done on the detailed design phase. Mobilisation and construction work is now underway which will be reflected in the final quarter costs.

22.13 **West of Cambridge Package (formerly Western Orbital)**

The forecast variance outturn reflects the GCP Projects Board (28/08/19) decision to purchase the land required to deliver the scheme.

The forecast is based on the expectation that c£2.7m will be spent on acquiring 4 parcels of land in March 2020. There is, however, a risk that this may not be concluded until the new financial year.

22.14 **Greenways Quick Wins**

The Oakington to Cottenham project has not proved to be a Quick Win as multiple plots of private land are required to build a new path. This means that there is now a predicted underspend of £571k. This project will be part of a funding bid to Highways England's 'Designated Funds' being developed by Cambridgeshire County Council and Highways England, so it is anticipated that its delivery will be funded, and will take place after April 2020.

22.15 **Programme Management and Early Scheme Development**

It is currently anticipated that there is likely to be an underspend of £195k by the end of 2019/20. This is due to a number of activities being extended in to the next financial year.

22.16 **Cambridge South Station**

At this stage of the financial year it is anticipated that the £1.75m budget will be spent. GCP is currently working with the DfT to understand when the DfT wish to draw down the funding.

22.17 **Residents Parking Implementation**

As the programme of work depends on support from local residents there is the potential for some schemes not to progress which could result in an underspend of up to £120k this year.

22.18 **Rural Travel Hubs**

The majority of this year's spend will focus on developing the Whittlesford Parkway Transport Masterplan, with an underspend of £125k currently anticipated.

22.19 **Greenways Development**

Higher priority public consultations have delayed the final Greenways consultations into the 2019/20 financial year. There is likely to be an overspend of £30k this financial year to cover costs for project team staff time, consultation materials, consultant support and promotions.

Economy and Environment

23 Local Grid Constraints

23.1 As has been previously reported, the Economy and Environment Working Group has been considering the constraints that the energy grid within Greater Cambridge may pose on sustainable economic growth in to the future.

23.2 Given the GCP's role in facilitating further sustainable economic growth the Board agreed there may be a role for the GCP, potentially alongside other stakeholders, in alleviating these constraints on the Grid and unlocking business growth that may otherwise be stalled.

23.3 Officers commissioned a report which found that the Grid is approaching full capacity and requires significant investment to enable further connections. Initial findings suggest that this capacity constraint has the potential to slow the delivery of housing and economic development unless action is taken to speed up the delivery of new Grid capacity.

23.4 The Executive Board previously agreed to allocate £40k to undertake further work on this issue. On this basis, UK Power Networks (UKPN) have been commissioned to undertake an engineering study, which will provide the GCP with a number of options to increase capacity within the local network.

23.5 The headline reports of the study present a number of interventions that the GCP could fund which would go some way to resolve the current capacity constraints in Greater Cambridge. Officers continue to engage with UKPN and are working together to understand the impact of individual intervention(s) and which individual intervention(s) would deliver the best outcome for the area.

23.6 The results of the study, alongside a number of options and next steps were planned to be presented to the Joint Assembly and Executive Board during this meeting cycle. However, given the higher than expected number of interventions raised in the last report officers believe it is prudent to do some further work to refine the options. A range of options will be presented to the Executive Board and Joint Assembly in June 2020.

24 GCP Budget Setting 2020/21

24.1 The attached spreadsheet (**Annex 2**) sets out officers' proposed draft GCP budget for 2020/21.

24.2 Officers propose the following changes to previously agreed budgets, or new allocations. Proposals assume that any underspend against a given budget line will be rolled over into the 2020/2021 budget for that line, unless otherwise specified.

24.3 **Cambridge Science Park to Waterbeach Corridor**

In line with the Future Investment Strategy agreed in March 2019, provisionally allocate £50m towards the Cambridge Science Park to Waterbeach Corridor project. Of this, allocate a total 20/21 budget of £236k.

24.4 **Eastern Access**

In line with the Future Investment Strategy agreed in March 2019, provisionally allocate £50m towards the Eastern Access corridor project. Of this, allocate a total 20/21 budget of £532k.

24.5 **Greenways Quick Wins & Cross-City Cycle Improvements**

It is forecast that there will be an underspend on the 2019/20 'Greenways Quick Wins' budget (forecast £571k underspend currently). Given the 'Greenways Quick Wins' have now been completed, it is proposed that the remaining budget is reallocated to 'Cross-City Cycle Improvements'.

24.6 **Developing 12 Cycling Greenways**

Allocate £75k towards Greenways development, in order to complete the project in 2020/21.

24.7 **Cross-City Cycle Improvements**

Allocate £2,332k to complete the final Cross-City cycling projects in 2020/21. As referenced in 22.2, officers are currently assessing further funding sources to alleviate the overspend against this project.

24.8 **Central Programme Co-Ordination**

Broadly in line with last year's budget, allocate £550k towards the central programme co-ordination function of the GCP for 2020/21.

24.9 **Engagement and Communications**

In line with last year's budget, allocate £88k to support the central communications function of the GCP.

24.10 **Evidence, Economic Assessment and Modelling**

Allocate £150k towards evidence building, economic assessment and modelling activities for 2020/21. This will support the design and implementation of the GCP Programme's assessment criteria to 2025.

24.11 **Affordable Housing**

Broadly in line with last year's budget, allocate £30k towards GCP activities on affordable housing.

24.12 **Cambridgeshire County Council Costs**

In line with last year's budget, allocate £32.5k towards Cambridgeshire County Council costs.

24.13 **GCP Formal Meeting Support Costs**

Allocate £10k for the GCP's formal meeting support costs.

24.14 **Towards 2050**

In line with last year's budget, allocate £100k for 2020/21 for the continued dedicated support from the Shared Planning Service.

24.15 **Smart Cambridge**

Allocation is to be confirmed subject to the outcome of the Future Mobility Zone bid, which is due by early March 2020. The bid hopes to deliver funding to harness new and emerging mobility models to support the GCP's aim of creating a world class public transport system. If the bid is successful, this would have a significant effect on the funding decision the Board may wish to make.

25 Funding Assumptions

25.1 **Government City Deal Investment Fund**

As part of the City Deal with Government, it was agreed that Government would allocate up to £500m to Greater Cambridge projects in five yearly instalments and subject to two (2020 and 2025) Gateway Reviews.

The GCP is currently awaiting a decision on its first Gateway Review, which is due by the end of the current financial year. If successful, the GCP will unlock a further £200m, to 2025, of funding to deliver the projects in Greater Cambridge outlined in **Annex 2**. Should the funding not be forthcoming in to the Greater Cambridge area the large scale projects listed will not come forward. In that scenario the Executive Board will need to undertake a rigorous scheme prioritisation process.

Should the first Gateway Review be successful, it is anticipated that there will be a further Gateway Review in 2025, worth an additional £200m.

25.2 **S106 Position**

In line with due process, every financial year S106 estimates are reviewed. The s106 estimated profile assumes s106 receipts of c£75m. As s106 negotiations are progressed, this figure will be continue to be further refined.

25.3 **New Homes Bonus (NHB) Position**

New Homes Bonus was introduced in 2011 to provide an incentive for local authorities to encourage housing growth in their areas. In 2019/20, Cambridgeshire County Council, Cambridge City Council and South Cambridgeshire District Council each allocated 30% of their NHB allocations for the GCP area to GCP projects. Officers are in the process of confirming allocations for 2020/21 (final budget figures subject to this process).

The Government has made a new round of NHB allocations for 2020/21. It is the Government's intention to consult on the future of the housing incentive in spring 2020. Officers will factor this into future funding assumptions.

26 Funding Shortfall

26.1 The presented profiled costs and funding are for the whole GCP programme. Across all currently identified schemes, this demonstrates a shortfall of c£36m. This assumes the GCP is successful in achieving £400m further funding through its two Gateway Reviews (at the end of 2019/20 and 2025/25 respectively) and that s106 and NHB allocations remain in line with current assumptions.

26.2 Given the allocations presented in the budget, all of the GCP's current and profiled potential future funding is fully committed.

26.3 As it currently stands the GCP's projected local contribution (s106 and NHB) to match-fund Government grant is £110m. The City Deal commits the GCP to match-fund the Government's grant in its totality. As further s106 contributions come forward, the local match should increase accordingly. It is the Government's expectation that this match-funding commitment remains over the course of the GCP's investments (c15 years). The Board should consider these assumptions as part of its planning and decision making for future investments and development.

26.4 Should the currently profiled schemes remain on target the Joint Assembly and Executive Board may wish to consider the potential, in future years, to borrow against projected GCP income streams. This would be subject to formal agreement from the GCP's accountable body (Cambridgeshire County Council).

Note to reader – RAG Explanations

Finance Tables

- **Green**: Projected to come in on or under budget
- **Amber**: Projected to come in over budget, but with measures proposed/in place to bring it in under budget
- **Red**: Projected to come in over budget, without clear measures currently proposed/in place

Indicator Tables

- **Green**: Forecasting or realising achieving/exceeding target
- **Amber**: Forecasting or realising a slight underachievement of target
- **Red**: Forecasting or realising a significant underachievement of target

Project Delivery Tables

- **Green**: Delivery projected on or before target date
- **Amber**: Delivery projected after target date, but with measures in place to meet the target date (this may include redefining the target date to respond to emerging issues/information
- **Red**: Delivery projected after target date, without clear measures proposed/in place to meet the target date

Annex 1 – CBC Transport Study – Status of Quick Win Intervention

Theme	Nr	Intervention(s)	Provisional Lead *(and support)*	*Key Outputs*	Discussion/Detail	Scope defined?	Stage
Public transport	1	CBC Bus Strategy to include: • Bus Hub / Interchange at the West of CBC (6) • Reconfiguration of Addenbrooke's Bus Station (7) • Bus service pattern Review to Accommodate Off-Peak Working Hours (9) • Central Spine Road for Buses (16) • Demand Responsive Bus Service Around CBC Campus (17) • Permitted Right Turn for Buses Adrian Way (8) • P&R services improvements (associated with 18)	UoC *(GCP, CCC, CUH, CBC Partners & Bus Operators)*	• Agree brief • Agreed procurement specification • Strategy • Implementation roadmap	Once brief of work agreed, a budget will be required to procure support to deliver. Wide ranging and large piece of work. GCP/CPCA/CCC to lend technical support for budget estimate and brief development.	Partial (full definition will result from procurement spec)	Underway: pre-procurement
Walking & Cycling	8	Permitted Right Turn for ~~Buses and~~ Cycles from Adrian Way	CCC Cycle Projects *(CBC Partners)*	• Design (CCC have drawings) • Programme of work	Bus element has been dropped from intervention as originally described as this will be captured in Bus Strategy.	Yes	Underway as some plans produced which need to be revisited
	29	Bring Cycle Parking Expansion Forward	CBC Partners *(CCC Cycle projects)*	• Plans for additional cycle parking on site: locations, numbers, designs and costs	CBC partners have a lot of these plans already. Just need funding source(s). May need a prioritisation process to increase VfM where not all can be delivered	Yes	Underway: potential sites identified and more detailed discussions scheduled
	10	Safer Routes to Bus Stops	CBC partners *(CCC, GCP & Smart Cambridge)*	A new Active Travel Group on Campus, with responsibility for practical Active Travel measures and functions (inc. Safety Audits, wayfinding etc.)	Would require budget, ToR etc. Some work has been initiated already via the safety audit.	Partial	Planning (early stage)
	37	Audit of Pedestrian and Cycle Routes and Connectivity Requirements within CBC	CBC partners *(CCC, GCP)*	Report	Will expand the work undertaken by the UoC during 2018/19	Partial	Planning (early stage)
	38	Segregated Cycle Routes On-site	TBC	• Design • Programme of work		Partial	Planning (early stage)

Theme	Nr	Intervention(s)	Provisional Lead *(and support)*	*Key Outputs*	Discussion/Detail	Scope defined?	Stage
	39	Monitoring the Cycle Demand on an Annual Basis	TBC	Annual report		Yes	Underway: implementation (of 2019 surveys)
	35	Local Connections to the West	CCC/GCP	Tube Map style map for cycling routes around site	Must link to GCP/CCC/CPCA work ongoing GCP are currently developing a schematic for the future vision for cycle connectivity. CBC is likely to require a more detailed and specific development of this work.	Partial	Underway although early stage
	36	Greenways Project Implementation and Connection with CBC	GCP *(Campus partners)*	• Implementation of routes • Integration with CBC campus	Campus partners have engaged with relevant Greenway consultations	Yes	Underway: High level design/ prioritisation
P&R	18	Expanding Parking Capacity at Existing Park and Rides to Accommodate Growth	CCC/GCP *(CBC Partners, Bus Operators, CPCA)*	Infrastructure: additional Capacity at: Trumpington and Babraham	More work required to assess need at Milton & Newmarket (not QW's), Capacity increase underway at Trumpington and proposals for Babraham),	Yes (with respect to infrastructure)	Underway: implementation (Trumpington and Babraham P&R capacity increases)
	20	Extend Existing Patient Courtesy Bus to Babraham Park and Ride	TBC	Service increase (number of buses AND frequency) at: Trumpington, Babraham & Madingley		No	TBC
	21	Service Directly from Milton, Newmarket and Madingley Park and Rides to Serve CBC[1]	TBC	Direct services in place	Will be considered as part of the UoC Bus Review. New service from Papworth to CBC stops at Madingley. C2C work needs to be included.	Partial	Some aspects underway or planned
Interactive Wayfinding	46	Travel Advice Centre (Virtual)	GCP/Smart Cambridge *(CBC partners)*	Digital, interactive wayfinding screens at key locations around campus. Could display bus information and wayfinding	Smart Cambridge could lead this. Needs Campus partners to input into key destinations for wayfinding. Needs to be flexible as campus alters and builds out.	Partial	Underway although early stage
Behaviour change	42	Personalised Travel Planning	CBC Partners	Best practice sharing (via T&T Group)	Monitoring work getting underway	Yes	Monitoring underway

Theme	Nr	Intervention(s)	Provisional Lead *(and support)*	*Key Outputs*	Discussion/Detail	Scope defined?	Stage
	43	Car Sharing	CBC Partners	Monitoring of progress for all campus partners		Yes	Monitoring underway
	44	Staff Car Share database	CBC Partners			Yes	Monitoring underway
	45	Pool Cars/Car Club	CBC Partners			Yes	Monitoring underway

ANNEX 2

GCP BUDGET

EXPENDITURE	Agreed Budget £000	Proposed Budget £000	Actual Spend 2015/16 £000	Actual Spend 2016/17 £000	Actual Spend 2017/18 £000	Actual spend 2018/19 £000	Forecast Spend 2019/20 £000	Budget 2020/21 £000	Future Years Budget £000
Infrastructure Programme Investment Budget									
Cambridge South East (A1307)	140,735	140,735	157	175	353	2,153	5,500	10,000	122,397
Cambourne to Cambridge (A428)	157,000	157,000	268	1,485	1,871	1,588	1,842	4,500	145,446
Science Park to Waterbeach (formerly A10 North study)	2,600	52,600	67	72	391	3	60	236	51,771
Eastern Access	500	50,500					50	532	49,918
West of Cambridge Package	42,000	42,000	240	416	717	1,972	4,700	1,817	32,138
Milton Road bus and cycling priority	23,040	23,040	188	238	339	287	600	116	21,272
Histon Road bus and cycling priority	10,000	10,000	199	181	46	509	1,000	7,209	856
City Centre Access Project	9,888	9,888	255	566	1,438	1,672	2,350	2,290	1,317
Travel Hubs	700	700			84	57	25	100	434
Residents Parking implementation	1,191	1,191			114	175	230	350	322
FIS Allocation - Public Transport Improvements		75,000							75,000
Cycling									
Chisholm Trail cycle links	14,269	14,269	235	679	849	1,493	4,276	3,710	3,027
Greenways Quick wins	3,650	3,079			0	2,079	1,000	0	0
Developing 12 cycling greenways	536	611			256	250	60	45	0
Cross-city cycle improvements	8,934	11,266	257	864	2,966	4,979	1,850	350	0
Cambridge South Station	1,750	1,750			0		1,750	0	0
Programme management and early scheme development -TBC	3,200	3,200	355	781	802	559	508	195	0
*Madingley Road**		170						170	0
*Fulbourn Greenway**		6,000						500	5,500
*Waterbeach Greenway**		8,000						200	7,800
COMPLETE - A10 Cycle route - Frog End Melbourn	553	553		511	42				
COMPLETE - Travel Audit - South Station and biomedical campus	150	150			88	112			
Operational budgets	0								
Central Programme Co-ordination	2,394	2,817	111	391	728	517	520	550	0
Engagement & Communications	427	516			251	89	88	88	0
Skills	2,907	2,907	47	188	205	84	1,206	900	277
Evidence, economic assessment and modelling	590	666			31	246	239	150	0
Affordable Housing	170	200		10	0	44	65	81	0
Cambridgeshire County Council costs	93	126			31	31	31	33	0
South Cambridgeshire District Council costs	80	80			40	40	0		
Towards 2050	260	360			52	148	60	100	0
Smart Cambridge	2,270	2,270		271	391	596	1,012	**TBC**	0
Energy		25,040					15	25	25,000
GCP Formal Meeting Support costs	40	50					40	10	0
COMPLETE - Cambridge Promotions Agency	150	150	60	90	0				
COMPLETE - Housing Delivery Agency	400	400		200	200				
COMPLETE - Cambridge Promotions	40	40			40				
Total Expenditure	**430,517**	**647,324**	**2,439**	**7,118**	**12,325**	**19,683**	**29,077**	**34,257**	**542,475**
INCOME									
City Deal grant	300,000	500,000	20,000	20,000	20,000	20,000	20,000	40,000	360,000
S106 contributions - TBC	44,500	74,500			7,874	2,000	2,000	2,000	60,626
New Homes Bonus									
NHB - Cambridge City	14,934	15,874	1,986	3,166	2,385	2,238	1,651	1,583	2,865
NHB - South Cambs	11,056	10,985	1,683	2,633	1,570	1,204	742	771	2,382
NHB - CCC	6,567	6,840	917	1,485	1,023	860	599	645	1,311
Interest accrued on grant funding	2,042	2,042	0	80	149	291	253	309	960
Total income	**379,099**	**610,241**	**24,586**	**27,364**	**33,001**	**26,593**	**25,245**	**45,308**	**428,144**
NET OVERALL GCP BUDGET	**-51,418**	**-37,133**	**22,147**	**20,246**	**20,676**	**6,910**	**-3,832**	**11,051**	**-114,331**

* = schemes costs are estimated, pending Board approval.

EXECUTIVE BOARD FORWARD PLAN OF KEY DECISIONS

Notice is hereby given of:

- Decisions that that will be taken by the GCP Executive Board, including key decisions as identified in the table below.
- Confidential or exempt executive decisions that will be taken in a meeting from which the public will be excluded (for whole or part).

A 'key decision' is one that is likely to:

a) Result in the incurring of expenditure which is, or the making of savings which are, significant having regard to the budget for the service or function to which the decision relates; or
b) Be significant in terms of its effects on communities living or working in the Greater Cambridge area.

Executive Board: 19th February 2020	**Reports for each item to be published: 7th February 2020**	**Report Author**	**Key Decision**	**Alignment with Combined Authority**
City Access and Public Transport Improvements	To receive an update on the project; feedback from the Citizens' Assembly and consider next steps.	Isobel Wade	No	CA LTP Passenger Transport / Interchange Strategy
Greenways	To receive an update on the project and agree next steps.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy
GCP Quarterly Progress Report	To monitor progress across the GCP work streams, including financial monitoring information.	Niamh Matthews	No	N/A
Cambourne to Cambridge Better Public Transport Project	To receive an update on the project and agree the next steps.	Peter Blake	Yes	CA LTP Passenger Transport Strategy
A10 Waterbeach to Cambridge North Access Corridor	To receive an update on the project and agree the next steps for the scheme.	Peter Blake	No	CA LTP Passenger

				Transport / Interchange Strategy
Eastern Access Corridor	To receive an update on the project and agree the next steps for the scheme.	Peter Blake	No	CA LTP Passenger Transport / Interchange Strategy
Whittlesford Travel Hub	To consider the response to the public consultation and the next steps in project delivery.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy
Executive Board: 25th June 2020	**Reports for each item to be published 15th June 2020**	**Report Author**	**Key Decision**	**Alignment with Combined Authority**
GCP Quarterly Progress Report	To monitor progress across the GCP work streams, including financial monitoring information.	Niamh Matthews	No	N/A
Cambridge South East Transport Scheme	To receive details of the response to the public consultation on the shortlisted routes and sites; the proposed Outline Business Case; and final proposals for the scheme.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy
Milton Road Bus, Cycling and Walking improvements	To consider and award the construction contract.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy
Foxton Rail Station Parking	To consider feedback from the public consultation and agree the preferred option.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy
Madingley Road Cycle and Walking Project	To consider feedback from the public consultation, agree the preferred option and approve the detailed design.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy

Executive Board: 1st October 2020	Reports for each item to be published 21st September 2020	Report Author	Key Decision	Alignment with Combined Authority
City Access and Public Transport Improvements	To consider proposed programme of measures.	Peter Blake	No	CA LTP Passenger Transport / Interchange Strategy
GCP Quarterly Progress Report	To monitor progress across the GCP work streams, including financial monitoring information.	Niamh Matthews	No	N/A
Executive Board: 10th December 2020	**Reports for each item to be published 30th November 2020**	**Report Author**	**Key Decision**	**Alignment with Combined Authority**
GCP Quarterly Progress Report	To monitor progress across the GCP work streams, including financial monitoring information.	Niamh Matthews	No	N/A
Cambridge South West Travel Hub	To consider the full business case and request permission to progress to the construction phase.	Peter Blake	Yes	CA LTP Passenger Transport / Interchange Strategy

Corresponding meeting dates

Executive Board meeting	Reports for each item published	Joint Assembly meeting	Reports for each item published
19th February 2020	7th February 2020	30th January 2020	20th January 2020
25th June 2020	15th June 2020	4th June 2020	22nd May 2020
1st October 2020	21st September 2020	10th September 2020	28th August 2020
10th December 2020	30th November 2020	19th November 2020	9th November 2020

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake –Director of Transport, Greater Cambridge Partnership

CAMBOURNE TO CAMBRIDGE BETTER PUBLIC TRANSPORT PROJECT

1. Purpose

1.1. The A428/A1303 Cambourne to Cambridge (C2C) corridor is one of the key radial routes into Cambridge and suffers considerably from congestion during peak periods, particularly on the approach to the city and at the junction with the M11.

1.2. The route has seen significant increases in traffic over the last decade and large development sites along this corridor, including West Cambridge, Bourn Airfield and Cambourne West, mean that pressure on already congested roads and the limited public transport service is set to rise.

1.3. Current conditions on the corridor include: long delays on the eastbound A1303 particularly on the Madingley Road from the Madingley Mulch Roundabout to M11 junction in the morning peak period, and increasing levels of congestion westbound in the evening peak period; as well as significant journey time variability, particularly eastbound in the morning peak and westbound in the evening peak periods.

1.4. The paper reviews the technical work and public consultation undertaken to date contributing to the production of the Outline Business Case (OBC) – see Appendix 1. Work on the detailed design of the scheme will continue in the next phase of development and will continue to involve local stakeholders.

2.0 Background

2.1 The C2C corridor has been identified by the Greater Cambridge Partnership's (GCP's) Executive Board as a priority project for development in the first five years of the GCP's transport programme.

2.2 The project is made up of three key elements: a public transport link between Cambourne and Cambridge, a new Park and Ride facility off the A428/A1303 to supplement the existing Madingley Road Park and Ride, and new cycling and walking facilities.

2.3 Project development was conducted in two phases, Phase 1 running from (and including) Madingley Mulch roundabout into the city and Phase 2 continuing the route west of Madingley Mulch roundabout on to Cambourne, with proposals for a new Park and Ride facility along the A428 being developed in parallel. The OBC is for a single scheme and both phases are expected to be constructed concurrently, with construction currently anticipated to take place from 2022, with an opening date in late 2024.

2.4 Since the C2C project's inception in 2014, work has progressed toward delivering the OBC. The OBC uses the five cases required by the HM Treasury Green Book for major investments – Strategic case, Economic Case, Commercial Case, Financial Case and Management Case. See Appendix 1.

2.5 A Non-Technical Summary Report (see Appendix 2) presents an overview of the project, approach to option development and assessment and scheme delivery.

2.6 The OBC concludes that there is a strong strategic case to undertake a major transport infrastructure project from C2C based on current and projected transport demand along the corridor, and in line with GCP objectives to promote sustainable economic growth and reduce congestion.

2.7 Route options have been identified and evaluated including those that use the existing highway (on-road), new alignments (off-road) to the north or south of the existing corridor, and hybrids which use both existing and new alignments. Options have progressed through a series of assessment and refinements, including three public consultations. Options Appraisal Report (OAR 1) and OAR 2 set out the options development process leading to a recommended alignment for Phase 1. OAR 3 (Appendix C to OBC) develops this further by assessing refinements to the Phase 1 proposals, and setting out the options development process for both Phase 2 and the assessment of alternative Park and Ride proposals. These reports include details of route assessment, modelling and analysis. The various OARs are important documents that sit alongside the OBC.

2.8 This report to the Joint Assembly provides a summary of work carried out on development of the OBC since presentation of the Interim Report in October 2018. The Assembly is asked to consider the report and attached business case, and comment on the findings of the proposed route alignment.

2.9 The full OBC considers a single scheme between Cambourne and Cambridge, including Phase 1, Phase 2, and the proposed new Park and Ride, in order to seek approval to progress towards applying for planning consent and powers for construction of the works.

2.10 In addition to the development of recommendations for Phase 2 and the location of the Park and Ride site, a number of refinements to the Phase 1 alignment, recommended in October 2018, have been proposed in response to stakeholder engagement. These are as follows:

- Revised alignment past Coton to increase distance to nearest properties and to minimise visual impact.
- Revised alignment through West Cambridge to meet business requirements of the University.
- Selection of Adams Road rather than Rifle Range at the eastern end of scheme to reflect further Green Belt review amongst other issues.

3. Strategic Case

3.1 The National Infrastructure Commission's (NIC) report on the Cambridge – Milton Keynes – Oxford Growth Corridor concluded that improvements in east-west transport connectivity along the corridor are necessary to underpin the area's long term economic success, and alleviate the area's "chronic undersupply of homes [which] could jeopardise growth, limit access to labour and put prosperity at risk". It estimates that infrastructure investment could support the delivery of up to 1 million new homes in a broad corridor between Oxford and Cambridge. This level of development will inevitably place additional pressure on the

A428/A1303 and surrounding routes. Calling for City-scale transport infrastructure to enable growth, the NIC focuses on:

"maximising the opportunities associated with the development of East West Rail (EWR) and the Oxford-Cambridge Expressway – integrating mass rapid transit with these schemes to enable effective first/last mile connectivity, in a way that enhances the value of these strategic infrastructure projects".

3.2 The NIC has identified the Cambridge – Milton Keynes – Oxford arc as a national priority stating that its world-class research, innovation and technology can help the UK prosper in a changing global economy.

3.3 Through City Deal investment in transport and infrastructure, the GCP seeks to bring forward schemes to connect people to places of employment and allow communities to grow sustainably in the coming years, by creating better and greener transport networks, reducing congestion and making better use of limited road space by prioritising sustainable transport.

3.4 The GCP delivery programme is based on the policy framework established by the local planning and transport authorities. These include the adopted Local Plans for Cambridge City and South Cambridgeshire (2018) and emergent transport policy being established by the Cambridgeshire and Peterborough Combined Authority (CPCA), in particular the compatibility of the project with the proposed Cambridgeshire Area Metro (CAM) - a mass rapid transit scheme. Local Plan policies for the strategic developments of sites along the C2C corridor require High Quality Public Transport (HQPT) to link new homes to employment and services in and around Cambridge.

3.5 The Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) was prepared in parallel with the development of the Local Plans and was agreed in March 2014. The strategy provides a plan to manage the rising population and increasing demand on the travel network by shifting people from cars to other means of travel including public transport, walking and cycling. Policy within the TSCSC requires a range of infrastructure interventions on the St Neots and C2C corridor as a key part of the integrated land use and transport strategy responding to levels of planned growth.

3.6 The Transport Modelling Report (2015) supporting the Cambridge and South Cambridgeshire Local Plans and TCSC concluded:

- sustainable transport measures, in particular HQPT facilities are necessary to support delivery of the plan;
- such public transport routes need to be able to bypass queues and congestion to offer reliable and swift journeys; and
- The Transport Strategy will help to make the City and key destinations more accessible and should reduce the amount of car growth.

3.7 The Cambridgeshire and Peterborough Combined Authority **(**CPCA) was established in March 2017 and is led by an elected Mayor and Board comprising of the constituent local authorities. The key ambitions for the CPCA include:

- Doubling the size of the local economy;
- Accelerating house building rates to meet local and UK need; and
- Delivering outstanding and much needed connectivity in terms of transport and digital links.

3.8 The CPCA is responsible for transport infrastructure improvement and the Local Transport Plan. The CPCA also established the Cambridgeshire and Peterborough Independent Economic Review (CPIER). The review provides a robust and independent assessment of the Cambridgeshire and Peterborough economy and the potential for growth. One of the key conclusions of the CPIER was "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".

3.9 The CPCA published a first draft Cambridgeshire and Peterborough Local Transport Plan (CPLTP) in June 2019. Following consultation, a final version will be concluded in the coming months. The CPLTP replaces the Interim Local Transport Plan which was produced in June 2017 and is based upon the pre-existing Cambridgeshire Local Transport Plan (LTP3) and the Peterborough Local Transport Plan (LTP4).

3.10 The goals of the CPLTP are to deliver a transport system that delivers economic growth and opportunities, provides an accessible transport system and protects and enhances the environment to tackle climate change together. There are ten objectives which have been formed to underpin the delivery of the goals relating back to the economy, environment and society.

3.11 The route along the A1303/A428 from Cambridge City centre towards Cambourne, St Neots and Bedford has been highlighted as a strategic project to help make travel by foot, bicycle and public transport more attractive than private car journeys, alleviating congestion and supporting the region's growth.

3.12 With a house price to earnings ratio of around 13:1 in Cambridge, reflecting shortfalls in supply, demand for housing in locations like Cambourne and St Neots continues to grow. Along the C2C corridor, around 11,500 additional homes are planned in Cambourne West, Bourn Airfield, and North West Cambridge. Development is estimated to support 13,400 additional jobs, leading to increasing pressure on the already heavily congested A1303 approaching M11 junction 13 and the city centre. A further source of pressure on the C2C corridor will come from 3,800 new homes which are planned for the St Neots East site.

3.13 As such, to meet this growing demand, the vision of the C2C Project as defined in the business case is:

"To connect existing and new communities along the A428/A1303 to places of employment, study and key services to enable the sustainable growth for Greater Cambridge. We will deliver this through improved, faster and more reliable HQPT services, together with high quality cycling and walking facilities serving a new Park and Ride site to the west of Cambridge."

4. Part of the Wider Network

4.1 The project is part of the GCP's Transport Programme, investing devolved City Deal funding in a comprehensive package of measures to tackle congestion through the creation of a world class transport system.

Cambridgeshire and Peterborough Combined Authority's (CPCA) - CAM

4.2 In October 2018, an independent review of alignment between the C2C scheme and the CPCA plans for a CAM, undertaken by consultants Arup and commissioned by the CPCA, concluded the following key findings:

- The process undertaken to date to determine the route is robust and identified the optimal solution for the corridor.
- The route should be reclassified as a CAM route.
- The vehicles operating along the route should comply with the principles of the CAM being a rubber-tyred, electrically powered vehicle.
- The route must continue to be designed to align with the overarching CAM network, providing high quality public transport on dedicated routes.
- The route is connected into a tunnelled CAM network, thereby providing a high frequency, pollution free public transport option into and across Cambridge centre and the entire CAM network.

4.3 To align with the CAM, the scheme developed by GCP will need to deliver:

- A HQPT system using rapid transit technology on dedicated routes.
- High frequency, reliable services delivering maximum connectivity.
- Continued modal shift away from car usage to public transport.
- Capacity provided for growth, supporting transit-oriented development.
- State of the art environmental technology, with easily accessible, environmentally friendly low emission vehicles such as electric/hybrids or similar.
- A fully integrated solution, including ticketing and linkages with the wider public transport network to maximise travel opportunities.

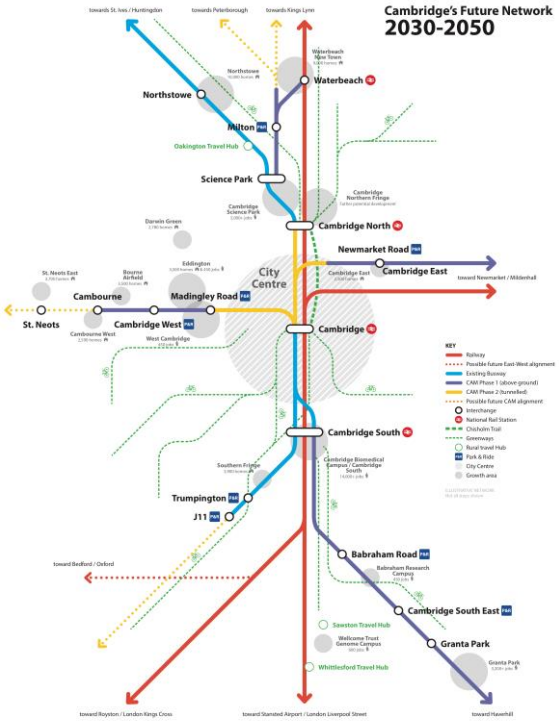
4.4 At a CPCA meeting on 31st October 2018 the CPCA Board agreed to support the recommendations of the "Arup Report" and agreed that the C2C scheme should be progressed by the GCP as an essential first phase of developing proposals for the CAM. GCP has continued to work closely with CPCA to ensure alignment of the developing proposals.

4.5 The CAM project proposes an expansive metro network that seamlessly connects Cambridge City Centre, key rail stations (Cambridge, Cambridge North and the future Cambridge South), major City fringe employment sites and key 'satellite' growth areas, both within Cambridge and the wider region.

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

4.7 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.

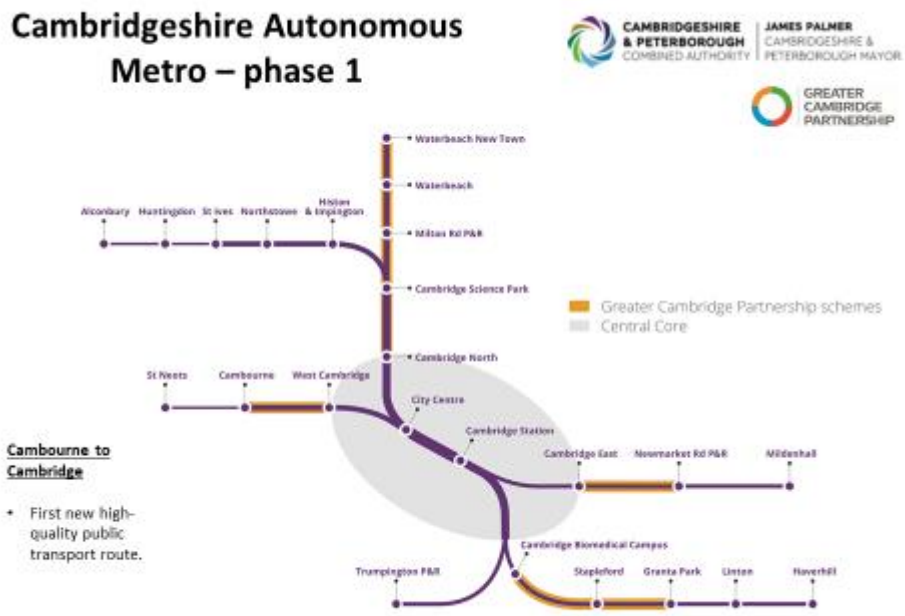
Figure 1 – Cambridge Future network



4.8 As set out in Figure 1, as part of the Cambridge future network, GCP's arterial routes, including C2C, will provide a step change offering a viable public transport alternative for quicker and more reliable journeys to key destinations in and around Cambridge, as well as safe and segregated cycling and pedestrian routes.

4.9 The GCP routes will form the first phase of the Combined Authority's CAM project. The CPCA supports the development of the C2C project as part of the CAM network and engagement with the CPCA continues on the integration of the C2C and CAM projects. Figure 2 outlines the wider CAM network and the GCP schemes as the first phase of delivery.

Figure 2 – CAM Network (CPCA)



City Access

4.10 In the City Centre, GCP's City Access project is proposing measures to reduce reliance on car travel and free up the city centre's congested road space, to run better public transport services.

4.11 The objectives of the City Access scheme complement the C2C project by seeking to improve conditions for sustainable transport within the City Centre, thereby benefitting users of the C2C scheme either through improved journey times for public transport or better connectivity to pedestrians and cyclists. City Access will also complement C2C by providing an alternative to car journeys for trips from new developments served by the scheme.

Comberton Greenway

4.12 GCP is developing a network of Greenways to increase levels of cycling and walking and to benefit users, including horse-riders and those with disabilities, through identifying and improving local travel routes. Greenways are generally defined as attractive linear corridors away from traffic and suitable for cycling and walking and can be important wildlife corridors.

4.13 The Comberton Greenway will complement the C2C project as it develops improved pedestrian and cyclist routes with a segregated path continuing beyond the proposed bus route.

Madingley Road Cycling Improvements

4.14 As part of the phase 1 public consultation for the C2C scheme, consultees suggested that there should be better walking and cycling provision along the Madingley Road section of the route within the public highway.

4.15 The subsequent occupation of the Eddington site as well as potential expansion of the West Cambridge site strengthens the case for complementary cycling improvements along Madingley Road, building on those already secured via the planning process.

4.16 As such, in the context of adherence to policy and as a response to the public consultation, GCP initiated the development of a separate cycling project to improve cycling provision on Madingley Road. The scheme supports C2C objectives by providing better connectivity to pedestrians and cyclists travelling into the city and making cycling a more viable and attractive alternative to car use for communities to the west.

East West Rail

4.17 Since adoption of the South Cambridgeshire Local Plan, and as part of the Cambridge-Milton Keynes-Oxford Arc project, further development work has been undertaken on the concept of EWR to re-establish a rail link between Cambridge and Oxford, and to improve rail services between East Anglia and central and southern England, including enhanced rail connections with national mainline services. Work has progressed on the western section between Oxford, Aylesbury and Bedford.

4.18 The EWR Company are currently working with Network Rail to develop route options for a Central Section between Bedford and Cambridge. Five options for the EWR route between Bedford and Cambridge were consulted on in early 2019, with a final preferred option expected to be announced in 2020.

4.19 Two of the five options released for consultation include proposals for a new rail station to serve Cambourne. If one of these options were to be selected and a station were to be provided in Cambourne, it would offer another attractive mode of travel from C2C to the City Centre. The EWR scheme could therefore be considered complementary to C2C as it would offer good connections for those in Cambourne travelling to destinations easily accessible from the Cambridge stations.

4.20 However, any new rail station would not offer the same level of local service access to areas along the A428/A1303. Neither would it serve other housing and employment locations along the corridor such as Bourne Airfield and West Cambridge. The C2C route would also support 'last mile' journeys for commuters from surrounding villages using public transport, cycling or walking and via a Travel Hub to enable access to EWR from Bourn Airfield and the surrounding area.

4.21 EWR focuses substantially on longer term growth beyond the Local Plan period and not the immediate and worsening issues of congestion and lack of connectivity for expanding communities west of Cambridge.

Oxford – Cambridge Expressway - Black Cat to Caxton Gibbet

4.22 The A428 Black Cat to Caxton Gibbet scheme aims to cut congestion and increase capacity and journey time reliability between Milton Keynes and Cambridge , creating a 10 mile dual carriageway with new junctions, roads and bridges to improve reliability, decrease delays and significantly improve journey times. The project forms part of the proposed Oxford to Cambridge Expressway to create a high-quality east-west link between Oxford and Cambridge, via Milton Keynes and Bedford.

4.23 Even with delivery of the Black Cat to Caxton Gibbet section of A428 improvements, a HQPT Route is necessary linking C2C and supporting delivery of the Local plan. The C2C scheme is planned for completion in 2024 in order to connect growing communities and tackle the immediate issue of worsening congestion along the A1303.

5. Technical Work – Key Findings

Transport Constraints

5.1 Existing car mode share and car ownership within the A428/A1303 corridor is high, and future growth is expected to generate additional demand for car use in this area.

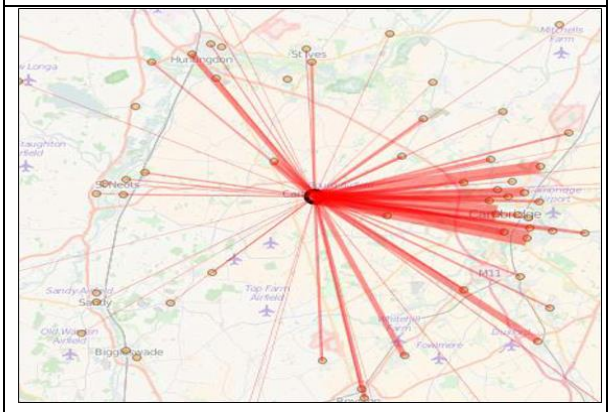
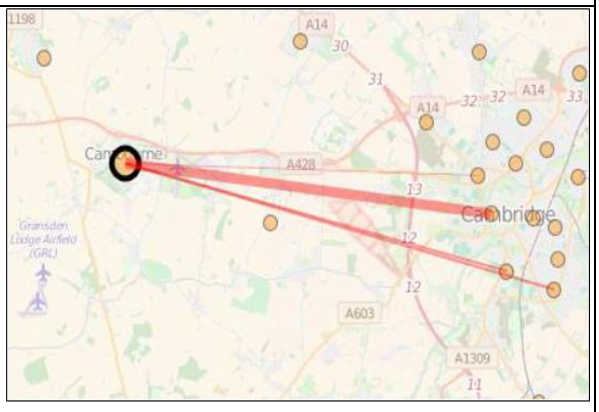
5.2 Trafficmaster data shows that AM peak hour traffic speeds are 75% slower than night time average speeds on the route between the Madingley Mulch Roundabout and M11 Junction.

5.3 Considering planned growth, between 2011 and 2031, car trips along the A428/A1303 corridor eastbound are forecast to increase by 14% in the AM Peak hour, 82% in the Inter-peak period and, 37% in the PM Peak period. Without intervention this could lead to a further deterioration in traffic speeds and reliability of journey times.

5.4 Travel to work data for key origins along the C2C corridor also illustrate the high level of car use along the route, with the car mode share for residents of Cambourne being particularly high (65%). This suggests that, by providing an attractive and viable alternative to the car such as C2C, there is scope for a further modal shift to more sustainable options.

5.5 Travel to work data has also been used to identify trends in travel patterns along the corridor, including key origins/destinations and mode choice (see Figure 3). C2C presents a key opportunity for growth areas to be better connected to key employment centres and encourage future sustainable travel rather than continued reliance on the car.

Figure 3 – Travel to Work destinations from Cambourne (ONS 2011)

By car	By bus
	

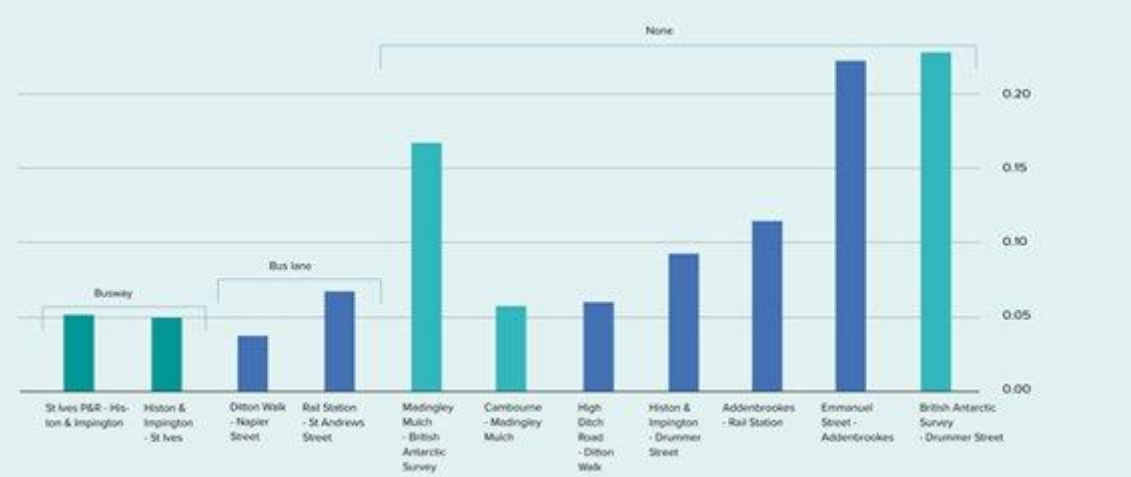
5.6 Residents of Cambourne and surrounding villages currently have limited options to use public transport due to the low level of service and current unreliability. Only the Madingley Road Park and Ride attains a 'turn up and go' frequency of one bus every 10 minutes.

5.7 In the absence of substantial bus priority in the corridor, congestion and delays mean journeys of around 10 miles can take over an hour during peak times. Buses therefore offer no competitive advantage over private cars in terms of journey times and reliability.

5.8 Figure 4 illustrates the reliability challenges along this corridor and how it compares to other corridors where bus priority is provided, and for the existing Cambridgeshire Guided Busway alignment. Using a Reliability Ratio, this shows that the existing Cambridgeshire Guided Busway performs better than the non-busway corridors, meaning that the infrastructure is delivering journey times that are more consistent.

5.9 Two sections of the C2C route, from Madingley Mulch to Drummer Street, are among the three worst performing sections from this example of reliability performance along key radial corridors in Cambridge.

Figure 4: Reliability comparison of non-segregated routes vs segregated routes



5.10 The existing cycling network between Cambourne and Cambridge has sections of segregated links of uneven quality but is discontinuous and does not in total provide a high quality segregated route which would cater for the potential increased modal share of cyclists along the corridor.

5.11 Therefore, HQPT, plus the provision of additional cycling and walking facilities, has a key role in providing an attractive and competitive alternative to car use, which would alleviate congestion, poor journey time reliability and delay. Crucially, such interventions will help to accommodate future growth planned to the west of Cambridge, improve access to housing and employment sites alike, and improve quality of life in the local communities.

Planning Constraints

5.12 A substantial level of housing and employment development is planned, or is already under development, along the C2C corridor include Cambourne West, Bourn Airfield, West Cambridge and North West Cambridge (Eddington).

5.13 Based on current plans, both those within the current Local Plan or well established through planning applications or known to be emerging, there are around 11,700 additional houses planned and around 13,400 additional jobs along the C2C corridor. Around 50% of all housing planned (c. 6,000 houses) would be directly linked to Cambridge City centre and other key employment locations via the C2C project.

5.14 The jobs, assuming an average GVA per worker figure of £61,800 per worker[1], would generate approximately £827.5m of GVA per annum.

5.15 Crucially, two significant new planned developments (Cambourne West and Bourn Airfield) are, in housing terms, judged to be fully dependent upon the C2C project given the clear policy position within the adopted Local Plan and as supported by Section 106 commitments and ongoing negotiations. The Bourn Airfield New Village Supplementary Planning Document (SPD) was adopted by South Cambridgeshire Council on 2 October 2019. The adopted SPD can be viewed here. Whilst some housing development may come forward incrementally before the scheme is fully implemented, policy is clear that the scheme is needed to facilitate sustainable development along the corridor.

5.16 The C2C project has been recognised in the Local Plans and local transport strategy as a key project to help address these infrastructure constraints on growth by linking Cambridge to growth areas to the west. The provision of a HQPT service supporting journeys to key employment sites presents a viable alternative to car use/purchase for residents in new developments.

6. Developing the Business Case

6.1 Development of the C2C project commenced in 2014 with initial public consultation on high-level options undertaken in 2015. The established method of progressing major transport projects such as C2C is via a 'business case' which assesses the overall case for public investment by measuring the public benefits and costs of different options.

6.2 A C2C Local Liaison Forum (LLF) was formed and convened to regularly review and contribute to progress as part of the scheme development process.

6.3 Following presentation of the initial stage of the business case, the Strategic Outline Business Case (SOBC), the GCP Executive Board agreed in principle in October 2016 that a segregated route for C2C best meets the strategic objectives of the City Deal and the City Deal Agreement, given the wider economic benefits, and a commitment was made to undertake further work.

6.4 Throughout the course of the scheme's development there have been significant efforts to review and assess alternative routes as proposed by stakeholders, including the Local Liaison Forum. Updates were provided to the GCP Executive Board in July 2017 on the development of an LLF-conceived on-road option (Option 6) and further review of Park and Ride sites along the corridor and, in October 2017, the GCP Executive Board agreed that public consultation be undertaken as part of the further development of the business case.

6.5 A second public consultation on options for a Phase 1 route running between Madingley Mulch Roundabout and the city, together with an accompanying Park and Ride site, was undertaken between 13th November 2017 and 29th January 2018.

6.6 As part of the options assessment, alternative versions of an on-road and off-road route for Phase 1 were developed and compared. Option Appraisal Report 1 presented an assessment and analysis of option development to date, up to this point.

6.7 Further assessment, modelling, stakeholder input and consultation results contributed to Option Appraisal Report 2, informing recommendations presented to members at the December 2018 GCP Executive Board. Board members noted assessment and

[1] East of England Forecasting Model (EEFM 2017, accessible at https://cambridgeshireinsight.org.uk/eefm/

recommendation presenting the off-road Phase 1 route as the best performing against the project's objectives, and approved continuing work to further develop an end-to-end route on this basis. As part of this, ongoing ecological surveys have been undertaken. Baseline air quality surveys have also been undertaken at locations agreed with the local environmental health officers, and noise surveys are due to commence in January 2020. Three Technical Notes on the air quality conditions in Adams Road, Coton and Hardwick have been produced. Further ecological surveys are also planned for spring 2020 if a preferred scheme decision is made by GCP in February 2020.

6.8 A third consultation on options for a Phase 2 route running from Madingley Mulch roundabout and on to Cambourne was undertaken in February and March 2019.

6.9 Consultation findings, OARs and supporting reports are available on the C2C webpages.

6.10 To provide assurance of robust evaluation of route options, two technical notes were published in May 2019 in response to stakeholder requests to:

- Explore 'quick-win' options along Madingley Hill. Viable projects to avoid land take and significant environmental impact and minimising input from, or impact on, third parties, restricting options to a short section of public transport lane, extension of cycling improvements and review of signal timings.
- Provide further clarification on why a northern alignment via Girton was previously discounted. GCP has written to and met with Highways England to put the case for work to upgrade to Girton Interchange and enable movement between west and south. Papers are available on the LLF C2C section on the GCP website.

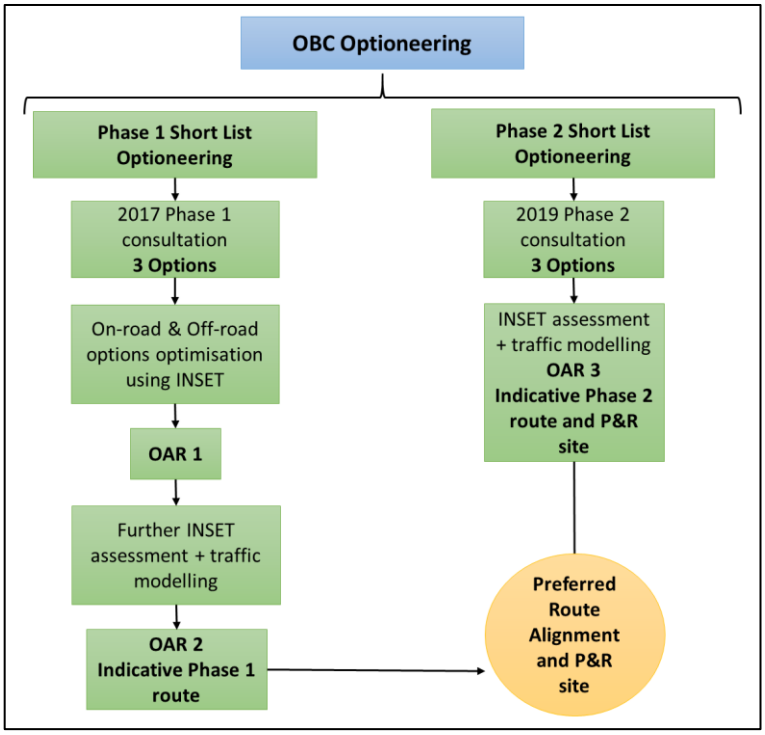
6.11 Further work has also been undertaken to review and consider a hybrid (on and off-road) option proposed by a Technical Sub-Group of the LLF. This, however, was not pursued further because its focus was on a solution which would be on-road for the most congested and most environmentally sensitive section of the corridor, constrained by limited road space, along Madingley Road past the Sites of Special Scientific Interest (SSSI) and the American Cemetery.

6.12 Ongoing assessment, modelling, stakeholder input and consultation results, presented in OAR Part 3, has contributed to the completion of the OBC presenting the recommended, end-to-end route and Park and Ride site.

7. Basis of Selecting and Refining an Option

7.1 Figure 5 illustrates the optioneering process carried out in identifying a preferred option.

Figure 5: C2C OBC Optioneering Process

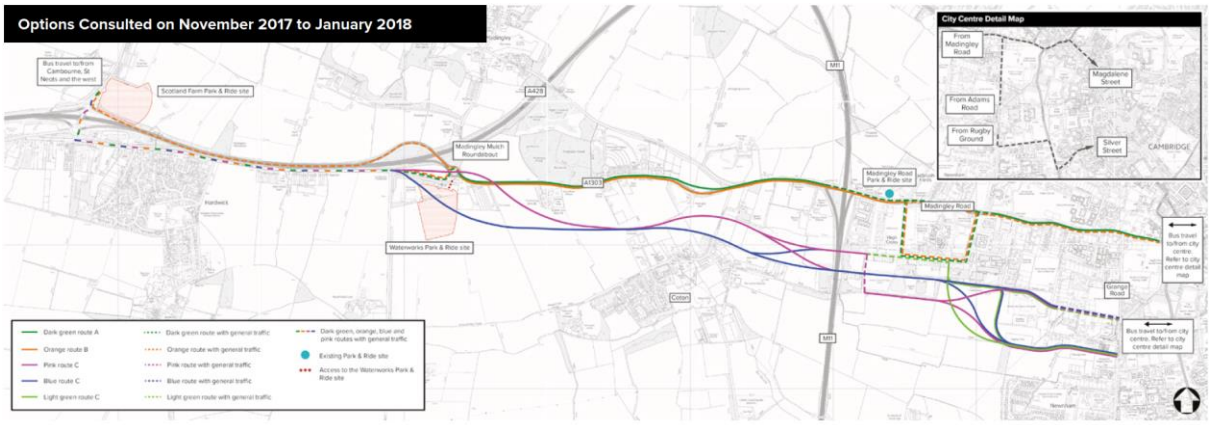


7.2 Option development and appraisal for the Phase 1 route alignment, Grange Road to Madingley Mulch roundabout, was undertaken in two stages.

7.3 The first stage involved consultation on three options. The definition of the three options consulted on in 2017 was as follows and as shown in Figure 6:

- Option A: An on-road option which includes the introduction of an inbound bus lane on Madingley Road between Madingley Mulch roundabout and Lady Margaret Road;
- Option B: An on-road tidal bus lane on Madingley Road running between Madingley Mulch roundabout and the new entrance to Eddington (High Cross); and
- Option C: An off-road public transport route running between Madingley Mulch roundabout and Grange Road, Cambridge.

Figure 6: Phase 1 Options



Source: Consultation leaflet, 2017-2018, (© Crown Copyright. All Rights Reserved. OS License Number 100023205.2018)

7.4 The options were also assessed against each other to generate an 'optimised' on-road option that reflected Option A and some of the Option B suggested improvements to outbound traffic, and a single specific off-road route alignment from Option C, in order to refine the number of variations within each option down.

7.5 Stage 2 of the options assessment process for the Phase 1 route alignment involved the assessment of these 'optimised' options, with the incorporation of each of the proposed Park and Ride sites, against both a Do Minimum scenario and an Illustrative Comparator.

7.6 The definitions of the options as part of Stage 2 were as follows:

- Do Minimum – Committed Schemes
- Low Cost a – Recommended optimised on-road Phase 1 + Park and Ride at Waterworks
- Low Cost b – Recommended optimised on-road Phase 1 + Park and Ride at Scotland Farm
- Do Something 1a – Recommended off-road Phase 1 Madingley Mulch Roundabout to Grange Road + Park and Ride at Waterworks
- Do Something 1b – Recommended off-road Phase 1 Madingley Mulch Roundabout to Grange Road + Park and Ride at Scotland Farm
- Illustrative Comparator – Recommended off-road Phase 1 and Phase 2 Cambourne to Grange Road Park and Ride at Waterworks for comparative purposes

7.7 The options were evaluated, using INSET multi-criteria analysis, against a series of assessment criteria grouped by the following themes:

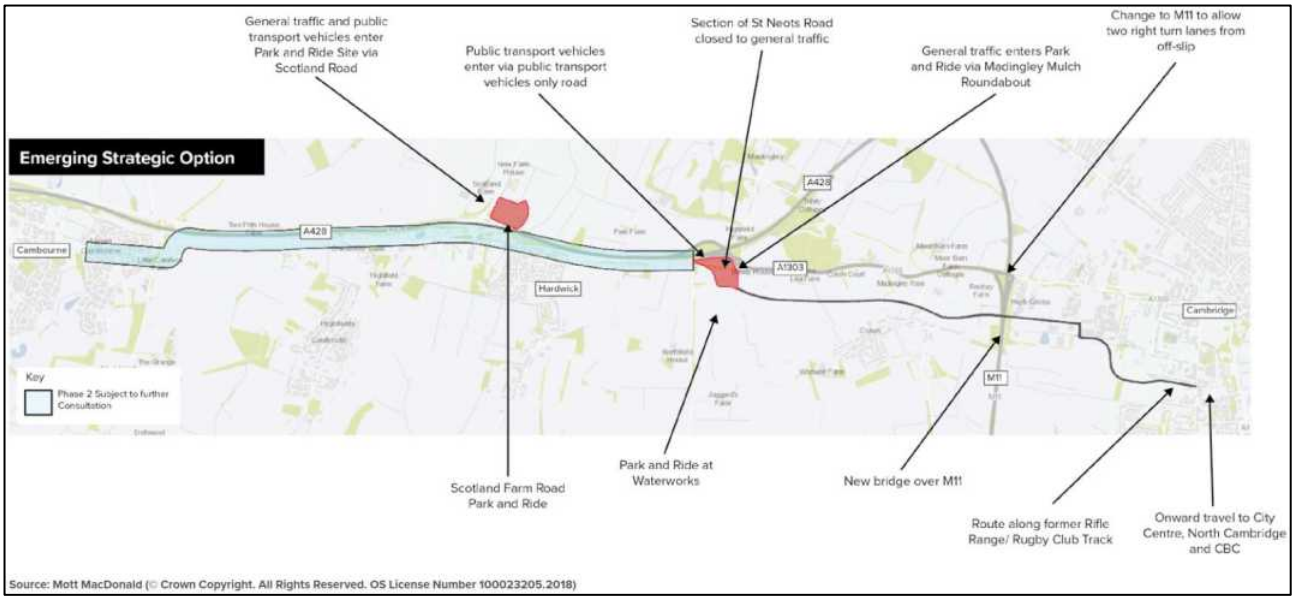
- Policy fit.
- Contribution to economic growth.
- Contribution to improved transport network.
- Contribution to quality of life.
- Scheme deliverability.
- Stakeholder support.

7.8 The results of the optioneering for Phase 1 are shown in Table 1. They show that, for Phase 1, the off-road solution with a Park and Ride site at Waterworks was the best performing, whilst the Illustrative Comparator demonstrated the merit of implementing the full scheme in order to deliver the maximum benefits and meet the scheme objectives.

Table 1: Phase 1 INSET Assessment Results

Option	INSET Scoring Summary Ranks
Do Minimum	Ranked 6th
Low Cost a	Ranked 5th
Low Cost b	Ranked 4th
Do Something 1a	Ranked 2nd
Do Something 1b	Ranked 3rd
Illustrative Comparator	Ranked 1st

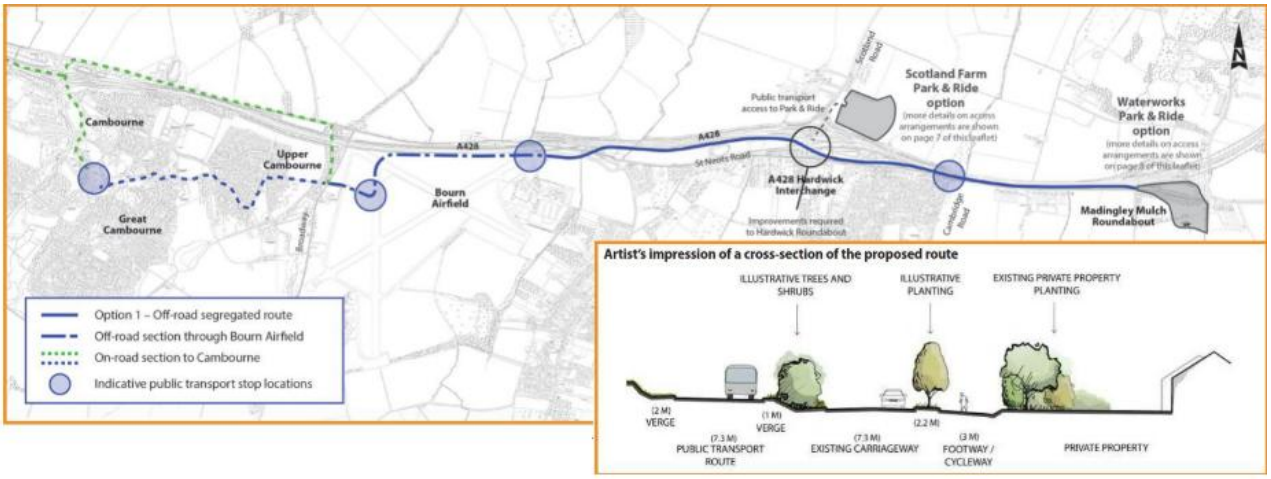
Figure 7: Emerging Strategic Option – Phase 1 Route Alignment



7.9 Phase 2 route alignment options, from Madingley Mulch roundabout to Cambourne, included three options, with each option including the Phase 1 preferred route alignment. The definition of the three options (each with a variation for the two Park and Ride sites) for Phase 2 is as follows and shown in Figures 8, 9 and 10:

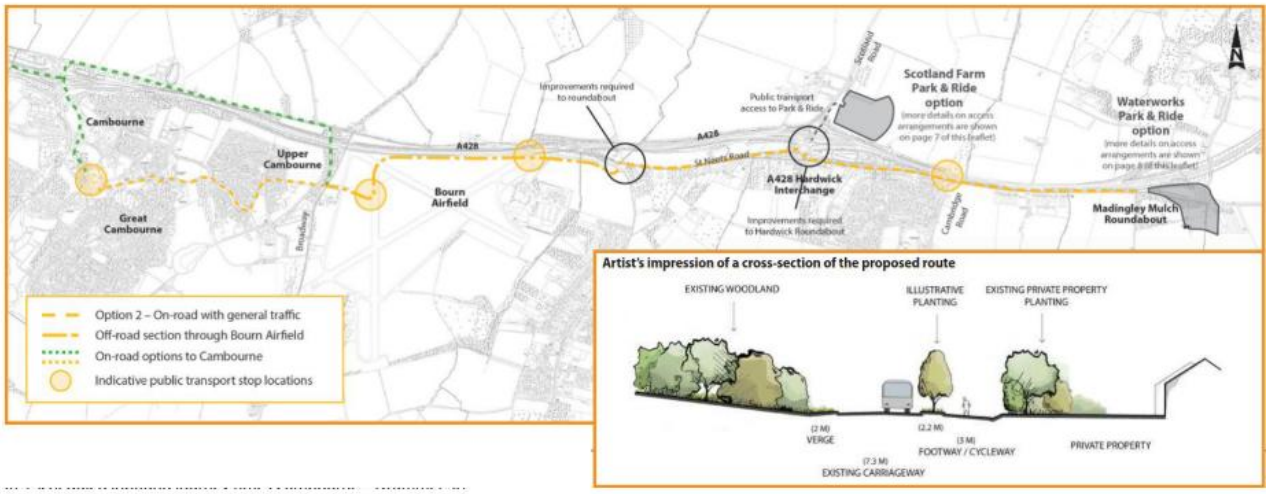
- **Option 1 a and b:** Off-road segregated route. A new public transport route adjacent to the A428 and St Neots Road. The route would be entirely off-road with minimal interaction with general traffic, except at junctions.
- **Option 2 a and b**: On-road with junction improvements. Public transport vehicles would run on-road along St Neots Road with general traffic east of the Bourn roundabout. There would be basic junction improvements.
- **Option 3 a and b:** On-road with public transport priority lanes. Public transport vehicles would run on-road along St Neots Road in priority lanes running in both directions.

Figure 8: Phase 2 – Option 1: Off-Road Segregated Route



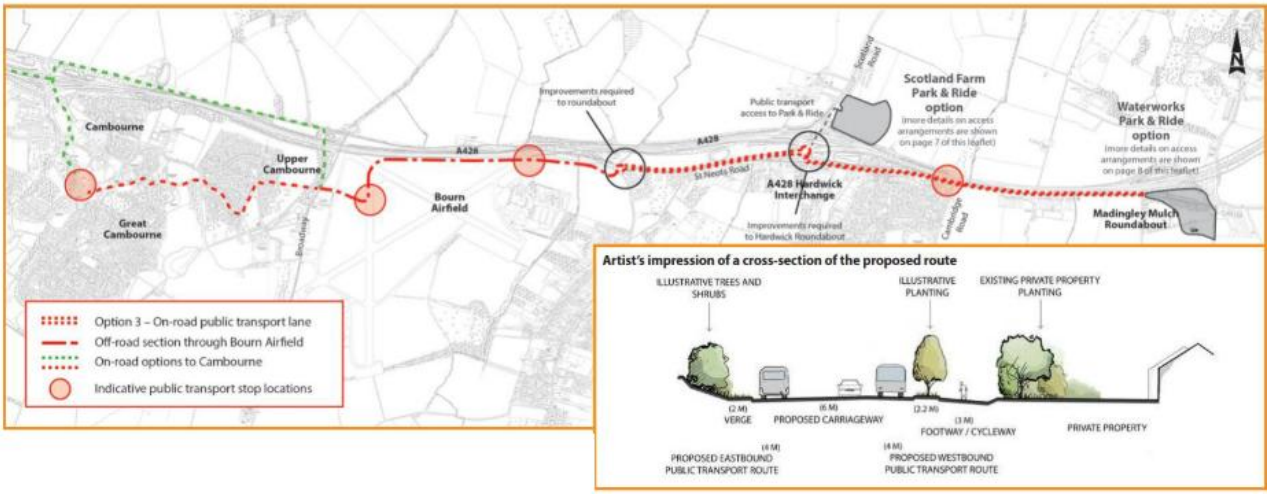
Source: February to March 2019 consultation leaflet

Figure 9: Phase 2 - Option 2: On-Road Junction Improvements



Source: February to March 2019 consultation leaflet

Figure 10: Phase 2 – Option 3: On-road with Public Transport Priority Lanes



Source: February to March 2019 consultation leaflet

7.10 These options were all assessed against the same criteria as the Phase 1 options. The results of the optioneering for Phase 2 are shown in Table 2. They illustrated that for Phase 2 the off-road solution with a Park and Ride site at Scotland Farm was the best performing.

Table 2: Phase 2 INSET assessment results

Option	INSET Scoring Summary Ranks
Option 1a	Ranked 2nd
Option 1b	Ranked 1st
Option 2a	Ranked 6th
Option 2b	Ranked 5th
Option 3a	Ranked 4th
Option 3b	Ranked 3rd

- The Phase 1 and Phase 2 options assessment, based on the INSET assessment, concluded that the-off road option is the only solution that presents the potential of a segregated route for mass rapid transit that is close to population centres, and with potential capacity to meet the development pressures along the corridor.

Benefit to Cost Ratios/Wider Economic Impacts (WEI)

7.11 In addition to the INSET assessment of the options, an initial assessment of the value for money (VfM) of the different options was carried out using traffic modelling outputs and appraisal of the economic performance of the schemes. This resulted in a series of initial Benefit to Cost Ratios (BCRs) for each option to provide a comparison of the VfM. The adjusted BCRs for the options from Phase 2, which each included the off-road alignment from Phase 1, are presented in Table 3 below.

Table 3: Adjusted Benefit Cost Ratios

	Option 1a	Option 1b	Option 2a	Option 2b	Option 3a	Option 3b
Benefit Cost Ratio	0.31	0.33	0.36	0.34	0.32	0.35

Source: Mott MacDonald

7.12 Whilst Option 2a – On road with Scotland Farm Park and Ride, is the best performing option with regards to this initial VfM assessment, the close similarity between each option does not provide a conclusive indication of which is best performing. Therefore, the results from the INSET assessment must still be taken into account which indicate an off-road solution as the best performing.

7.13 Additionally, due to the strategic case and need for the scheme to support future housing developments and economic growth, the consideration of the wider economic impacts of the options must be taken into account.

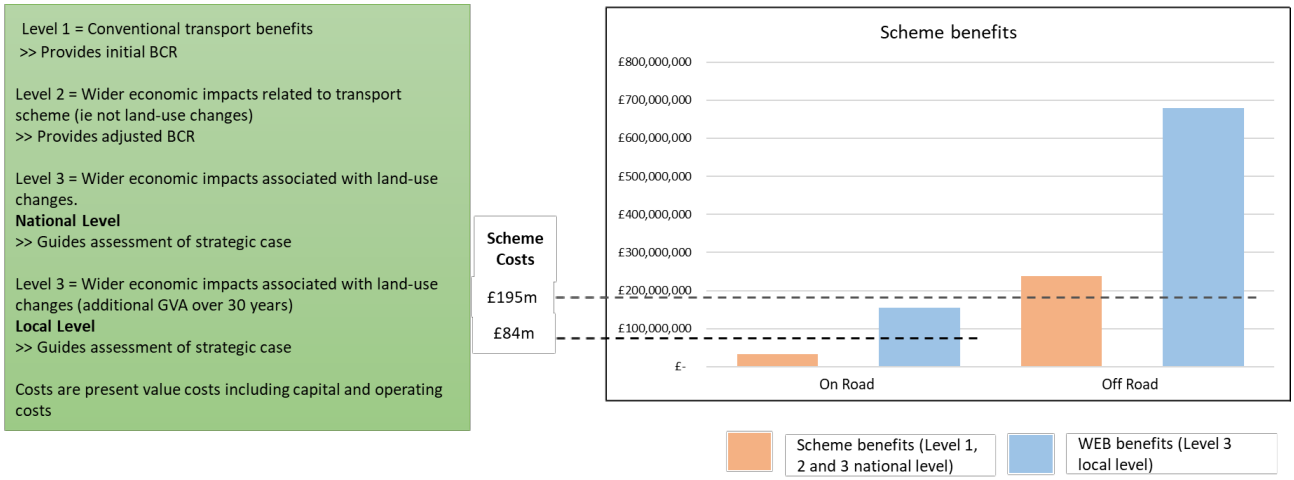
7.14 Therefore, the on and off-road options were assessed for their impact on wider (non-transport) economic growth, expressed as Gross Value Added (GVA). GVA measures the total value of goods and services. This assessment found that a new segregated off-road alignment for public transport would bring significant wider economic benefits.

7.15 Figure 11 summarises the findings from the Value for Money assessment of the off road vs on road options for both Phase 1 and 2, and includes the relative benefits of the on and off-road options against the current scheme costs to demonstrate how the off-road option has a greater value for money in delivering wider economic impacts.

7.16 When considering the level of GVA benefit, the on-road option would have a local benefits BCR of 1.86, whilst the off-road option would have a local benefits BCR of 3.48.

7.17 The conclusion of the options assessment, therefore, is that, taking into account all elements of assessment – INSET, initial VfM assessment and WEI assessment, an off-road route is the best performing solution that provides for delivery of the long-term transport objectives of both the GCP and the Combined Authority and is best aligned with the emerging CAM concept. For further detail on the assessment detail, refer to OAR 2 and 3.

Figure 11: On-Road vs Off-Road Wider Economic Impacts



Role of Consultation in Developing and Assessing Options

7.18 Throughout the scheme's development, there has been significant and continuing effort to engage with stakeholders and members of the public in order to inform, consult, address concerns and, wherever possible, reflect feedback in developing plans.

Stakeholder Input

7.19 In addition to 3 public consultations, activities have included:

- Regular LLF meetings, including representation from Stagecoach and workshops with representatives from the Local Liaison Forum, forming a 'Technical Group' covering subjects including modelling, Wider Economic Impacts and Environmental Scoring and Mitigation.
- Multiple and continuing representations at community meetings including local Parish Council meetings, drop-ins and area committees.
- Meetings with local businesses and landowners.

Public Consultations

7.20 Three public consultations have contributed to scheme development.

7.21 Each consultation has taken a multi-channel approach to promote and seek feedback including through traditional and online paid-for, owned and earned media, community engagement events in key or high footfall locations along the route and through the wide-spread distribution of around 15,000 consultation leaflets. Drop-in events held across the area enabled people to have their say in person and provided the opportunity to question transport officers and consultants. Quantitative data was recorded through a formal questionnaire and information booklet.

7.22 An initial 2015 public consultation presented six high-level options for public transport infrastructure improvements along the C2C corridor. Of 2,193 responses, Options Area 1

Central (bus lane from Madingley Mulch Roundabout to Cambridge via Madingley Road) and Area 2 Central (Bus only route from Cambourne to Bourn Airfield) received majority support (66.8% and 58.1% respectively). Almost half (46.1%) of respondents approved of a new Park and Ride site near the Madingley Mulch roundabout. Other headline findings included 70.3% respondents agreeing in principle to better bus journeys between Cambourne and Cambridge and reliable journey times as being key to making bus travel a better alternative to the car by over half (50.7%) of respondents.

7.23 Three options for the Phase 1 route and two Park and Ride sites were consulted on in 2017/18 via online and print questionnaire, events and focus groups. In total 2,049 respondents replied to the consultation. Headline results included a preference for the Scotland Farm (54%) Park and Ride location. Although there was no overall majority, route B (on-road tidal bus lane) was the most popular route option (40%). Option C, off-road, was preferred by 33% of respondents.

Phase 2 Consultation Findings

7.24 Between 04 February and 31 March 2019 the GCP held a third public consultation on three route options for the Phase 2 section of the route, from Madingley Mulch to Bourn Airfield and on to Cambourne and for updated proposals for Park and Ride sites (moving the Waterworks site further up the hill in response to stakeholder feedback).

7.25 From 968 responses, just under half of respondents (48%) indicated that 'Option 1: off-road' would be their preferred choice. 20% preferred 'Option 3: on-road with public transport priority lanes.' 19% preferred 'Option 2: on-road with junction improvements' and 9% indicated that they didn't want any of the options.

7.26 For the choice of Park and Ride site, the majority of respondents (63%) preferred 'Option A – Scotland Farm'.

7.27 A large number of detailed comments were received. Of these, the issues that were highlighted most compared to previous consultation rounds for the route included:

- The impact of the proposals on residents of St Neots Road, Hardwick from increased traffic and loss of vegetation.
- The need to consider the implications of the East-West rail proposals from the EWR Company.
- The need for wider public transport network to be developed to improve accessibility for villages around the route.
- The possibility of locating a Park and Ride site closer to or within Cambourne.

7.28 Responses were also received on behalf of 35 different groups or organisations. All of the responses from these groups were made available to board members in full and published alongside the results of the public consultation survey on the GCP website - https://www.greatercambridge.org.uk/cambourne-to-cambridge.

7.29 See Appendix 3 - C2C Phase 2 Consultation Summary Report.

Stakeholder Working Groups

7.30 Two working groups were established in May 2019 for organisations representing Landscape, Heritage and Ecology (LHE) and Non-Motorised Users (NMU) and continue to meet regularly to contribute to scheme design. Working group members include CamCycle, the National Trust, Cambridge Past, Present and Future and the British Horse Society. As a result of

representation in the Landscape, Heritage and Ecology Working Group, route refinements between Coton village and Madingley are ongoing to see if minor changes to the alignment could have benefit to the potential impacts on the landscape of that section of the scheme. This is intended to reduce the impacts on land that is covered by a Covenant to protect the landscape that is held by the National Trust.

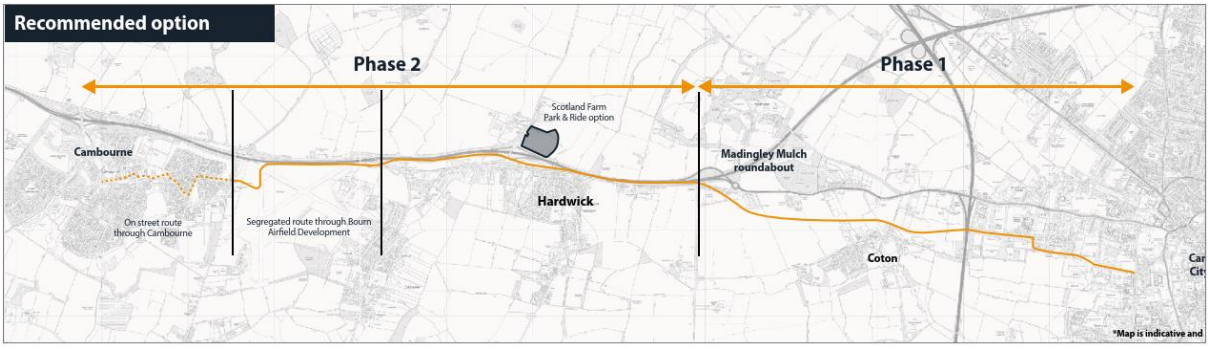
7.31 More recently, LHE and NMU working groups have devised GCP Working Group Design principles (Appendix 4 and 5) to adopt on C2C and all GCP transport schemes. The objective of the principles is to ensure GCP projects go above and beyond minimum requirements in scheme development and delivery.

7.32 OBC Appendix H – Statement of Community Involvement provides further stakeholder engagement information and full consultation summary reports.

8. The Preferred Option

8.1 The preferred option for the C2C project is the off-road alignment for Phase 1 and Phase 2 with Scotland Farm as the preferred Park and Ride site – see Figure 12.

Figure 12 – Preferred Option



Source: Mott MacDonald (© Crown Copyright. All Rights Reserved. OS License Number 100023205.2018)

8.2 At the end of Phase 1 appraisal, the Waterworks site was the highest scoring Park and Ride option, but at this stage, the assessment did not fully consider Phase 2 alignments. At the end of Phase 2 appraisal, Scotland Farm has emerged as the preferred site, reflecting both technical appraisal and strong public opinion.

8.3 See section 9 for route alignment and scheme proposal.

Preferred Option Value for Money

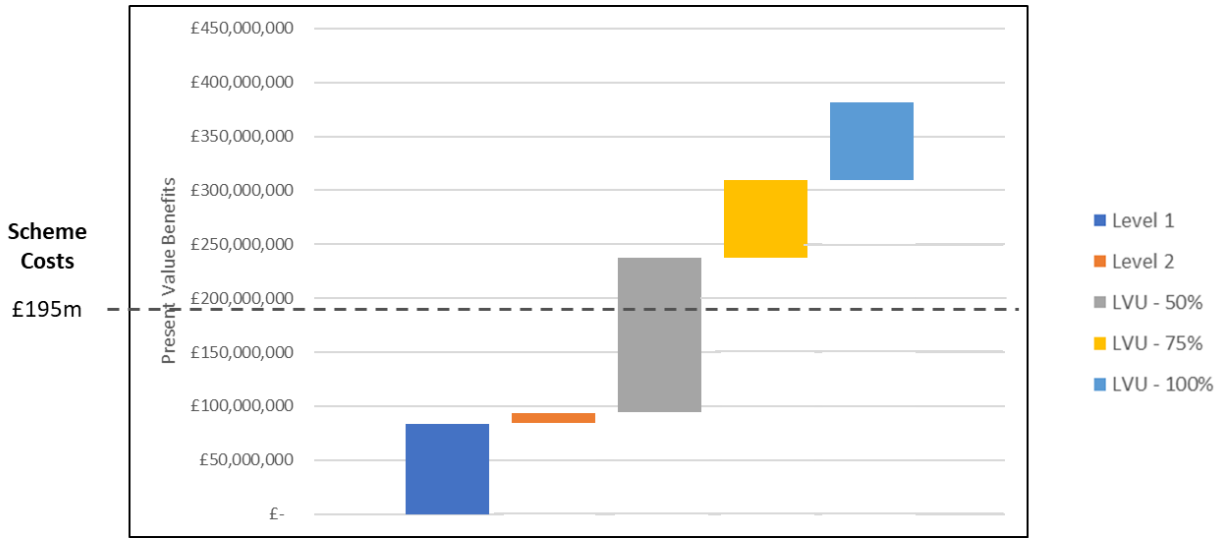
8.4 The Value for Money of the C2C project takes into consideration all appraisal and assessment work undertaken to date to arrive at the emerging scheme that is shown to present the best VfM. This takes into account the monetised impacts vs the project costs presented as a BCR, as well as the findings from any qualitative and non-monetised assessments.

8.5 The role the C2C scheme plays in unlocking and supporting future housing and economic growth is a key element of the strategic rationale for the scheme. Therefore, in establishing the final VfM position of the C2C project, the role of Wider Economic Impacts (which are not part of a standard BCR) should be considered central to examining the case for investing in the scheme.

8.6 Whilst the scheme has an initial BCR of 0.43, and adjusted BCR of 0.48, when taking into account the additional wider economic impacts and, in particular, the land value uplift (LVU)

brought about by the scheme (£458m in Land Value Uplift - see table 4), the total BCR is 1.22 when considered at a national level. This is assuming only 50% of the calculated LVU is actually achieved. If the full value is realised, then the total BCR would rise to 1.95. This additional benefit brought about by the scheme is illustrated in Figure 13.

Figure 13: C2C Benefits Build Up



8.7 Considering the C2C scheme's wider economic impacts at a local level (i.e. the benefits accruing to Greater Cambridge) further increases the VfM.

8.8 The C2C project would help to connect growing communities, whilst enabling them to evolve and access the increasing number of jobs and opportunities in the city and on its periphery. Accounting for these Greater Cambridge level benefits, the strategic economic benefits of the scheme are as follows:

- £102.8m direct GVA per annum
- £676.1m in total GVA over 30 years
- A total 'local BCR' of 3.48

Other Key Benefits

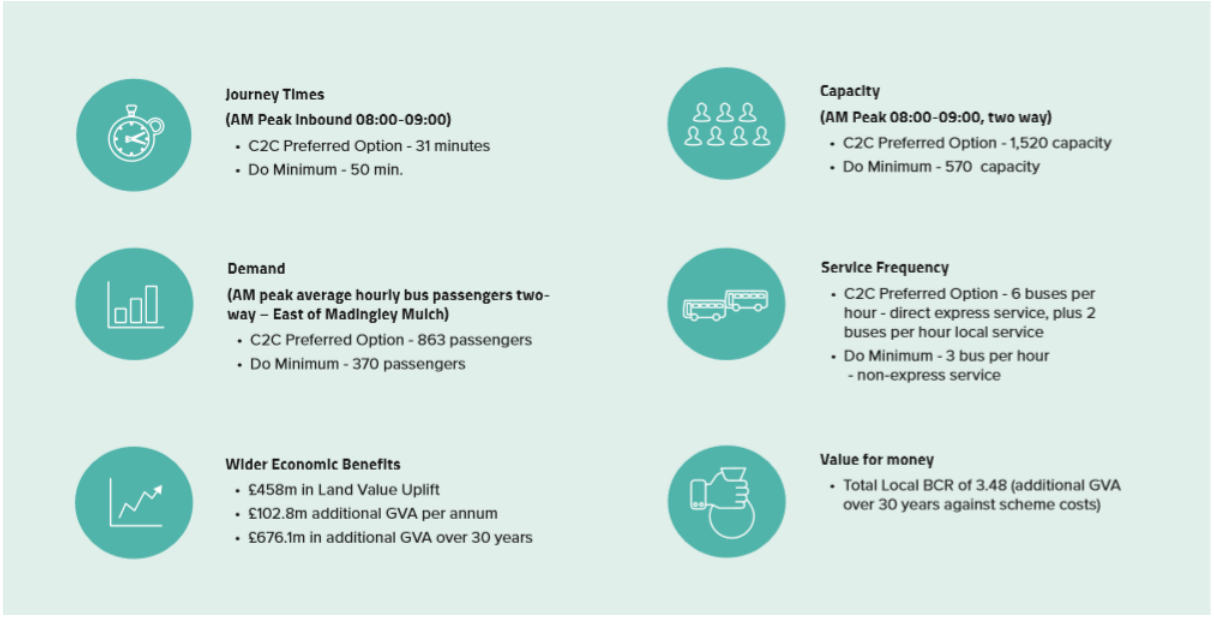
8.9 In summary, the C2C project will offer the following benefits shown in Table 4 and Figure 14 (all benefits shown for forecast year 2036):

Table 4: C2C preferred option benefits vs Do Minimum (DM)

Benefit	C2C preferred option	DM
Journey times (Cambourne to Drummer Street) (inbound)	• **30 mins -** AM Peak (08:00-09:00) • **26 mins** - Inter Peak (10:00-16:00) • **30 mins** - PM Peak (17:00-18:00)	• **53 mins** - AM Peak (08:00-09:00) • **28 mins** - Inter Peak (10:00-16:00) • **38 mins** - PM Peak (17:00-18:00)
Demand (peak average hourly bus passengers two-way – East of Madingley Mulch)	• **863** passengers - AM Peak • **233** passengers - Inter Peak • **320** passengers - PM Peak	• **370** passengers - AM Peak • **248** passengers - Inter Peak • **231** passengers - PM Peak
Service Frequency	• **6 buses per hour -** (10 min interval) direct express service between Cambourne High Street and central	• **3 buses per hour -** (20 min interval) non-express service between

Benefit	C2C preferred option	DM
	Cambridge, via the new Park and Ride site. • Local service running in parallel **2 buses per hour** (30 min interval).	Cambourne High Street and central Cambridge. •
Bus passenger Capacity (AM Peak 08:00-09:00, two way)	• **1,520** capacity	• **570** capacity
	• Demand with the scheme is forecast to increase by 233% by 2036, with capacity increasing by 267%, therefore catering for the additional demand.	
Journey time reliability	• C2C estimate at delivering £536,000 (2010 prices) in additional benefit from reliability improvements. • Using Reliability Ratios, the existing Cambridgeshire Guided Busway sections perform better (0.06) than the non-busway sections of the A428 (0.15), meaning that the infrastructure is delivering journey times that are more consistent.	
Wider economic impacts	• **£102.8m** direct GVA per annum • **£676.1m** in total GVA over 30 years • **£458m** (2019 prices) in Land Value Uplift	• None
Environmental	• Reduction in levels of private vehicle use will lead to: • Improved air quality in the Cambridge City Centre AQMA. • Design principles to support an increase in biodiversity • Leisure and Amenity enhancements with delivery of walking and cycling route • Social benefit with an overall reduction in private car use.	• Higher levels of traffic compared to current levels, resulting in greater levels of congestion, resulting in: • Poorer air quality in the Cambridge City Centre AQMA. • Worsening of the setting of the SSSI and American Cemetery.

Figure 14



Journey Reliability

8.10 A key aspect of the C2C scheme is its ability to deliver reliable journey times for those using it. Results of the appraisal of the preferred off-road option show that it has the potential to deliver £536,000 in additional benefits over a 60-year period.

8.11 In addition to the economic appraisal of the reliability benefits of the C2C preferred option, a quantitative assessment of the benefits of delivering a fully segregated public transport route was undertaken by examining the reliability ratios for the existing Cambridgeshire Guided Busway and non-busway services within Cambridge as outlined in Figure 4. This data is derived from observed journey time variability in line with DfT guidance.

8.12 The Reliability Ratios show that the existing Cambridgeshire Guided Busway sections perform better than the non-busway sections, meaning that the infrastructure is delivering journey times that are more consistent.

8.13 The urban sections of services 1, 4 and B have higher reliability ratios, so journey times are more variable. Two sections of the C2C route, from Madingley Mulch to Drummer Street, are among the three worst performing sections.

Environmental Impact

8.14 Overall there is likely to be a minor to moderate adverse effect on the environment along the route corridor which will be mitigated by: route refinement to minimise impacts; sensitive landscape design; high value habitat creation to ensure positive biodiversity net gain is achieved; and providing mitigation for noise from existing sources along the A428. In addition, the NMU path will increase wellbeing by increasing access to the countryside and facilitating more people moving away from vehicles to cycling, walking and horse riding. These measures will reduce the impact of the scheme on the environment and will lead to some benefit in places.

8.15 The precise mitigation requirements will be identified through engagement with stakeholders and the project team during the Environmental Impact Assessment that would be completed on the approved scheme to support the planning approval process.

8.16 The impact on the Green Belt will be mitigated by landscape planting that screens the route from local communities where practical to achieve this. This will improve over time as the planting schemes mature, reducing the impact on the Green Belt.

8.17 Whilst it is always preferable to avoid any impacts on the Green Belt, in the case of C2C, impact is inevitable. The National Planning Policy Framework establishes that “certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. These include:

(c) local transport infrastructure which can demonstrate a requirement for a Green Belt location”

8.18 The C2C scheme has been developed to provide linkage from new settlements located outside the Green Belt to the City of Cambridge. Given the need to connect development outside the Green Belt to the city, some degree of impact on the Green Belt is inevitable.

9. Bus Strategy

9.1 A bus strategy has been developed to use the C2C route for travel from Cambourne to key employment destinations in and around Cambridge (see Appendix F to OBC). This has been drawn up with reference to other GCP schemes such as the Cambridge South East Transport Scheme, and also ongoing work on the City Centre Access Strategy, but also noting the need to be compatible with future opportunities such as CAM and any potential changes to bus operating models such as franchising. The strategy will feed into the CPCAs Bus Task Force work.

9.2 The routes are based on realistic service numbers and anticipated demand. This approach builds upon the successful approach adopted as part of the Cambridge Guided Busway scheme which has delivered a significant increase in service and patronage.

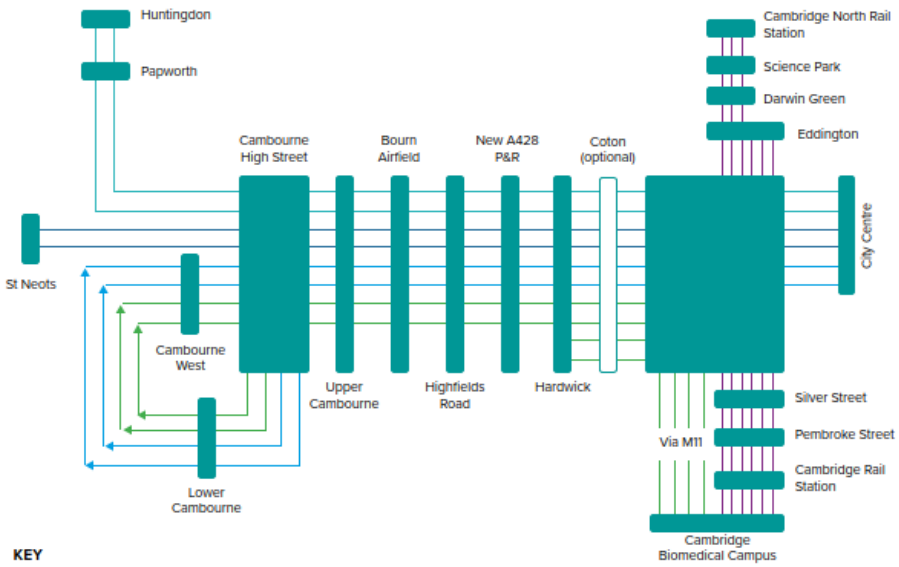
9.3 Existing bus services would have the option of using the new public transport route, providing they comply with clean vehicle standards. For example, the X5 would be likely to use the new route. The Citi 4 has been assumed to continue to serve existing stops on the A1303.

9.4 The proposed bus strategy has three direct express services:

1. C2C to City Centre at 10-minute interval service (six buses per hour).
2. Cambourne to Biomedical Campus at 30-minute interval service (two buses per hour).
3. A428 Park and Ride site to Biomedical Campus at 30-minute interval service (two buses per hour during peak periods).

9.5 The proposed bus network is shown in schematic form in Figure 15 below:

Figure 15 – Schematic Proposed Bus Network



KEY

Huntingdon - Papworth - Cambourne - Cambridge City Centre (two buses per hour).

St Neots - Cambourne - Cambridge City Centre (two buses per hour).

Cambourne - Cambridge City Centre (two buses per hour).

The above routes combine to provide six buses per hour (10-minute headway) between Cambourne High Street and Cambridge City Centre.

Cambourne - Cambridge Biomedical Campus (two buses per hour between Cambourne High Street and Cambridge City Centre).

Planned enhancement of existing "universal" route Cambridge Biomedical Campus - Eddington (six buses per hour) with extension to Darwin Green, Cambridge Science Park and Cambridge North Rail Station (three buses per hour).

10. Scheme Proposal

10.1 The design approach and quality of new segregated HQPT infrastructure has and will continue to be informed by principles agreed by the GCP Executive Board in October 2016 (supplemented by LHE and NMU working group principles, as above) – namely:

- Location of public transport infrastructure – respecting the urban and rural context for example through assessing proximity to and the relationship with the existing built up areas.
- Testing accessibility from the start to the end of journeys through the centres of employment (e.g. Cambridge West) and housing (e.g. Bourn Airfield) and the environmental effects with a view to integrating with existing infrastructure and minimising impacts.
- Siting – positioning of infrastructure to minimise visual intrusion on the existing landscape through considering issues such as ground levels, slopes and other natural features and also minimising impact on important features such as ecological and heritage assets.
- Design – the materials, features and introduced landscaping that will form the new infrastructure and achieve high quality design, minimising environmental impacts consistent with delivering the scheme's objectives, and integration with existing infrastructure and the ends of the route and along it.

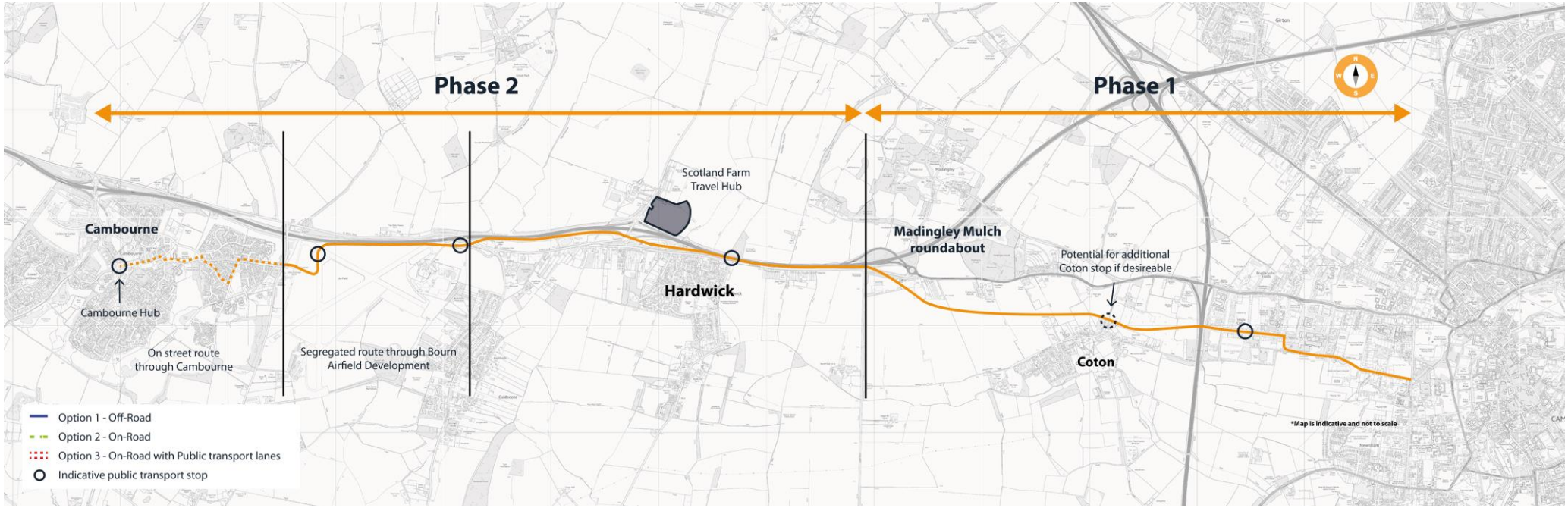
10.2 The end-to-end Recommended Route Option is illustrated at Figure 16.

10.3 The Phase 1 alignment has been modified since the report to the 2018 Executive Board to reflect the following:

- Amended line in Cambridge West to follow West Cambridge Masterplan and detailed operational issues
- Selection of Adams Road rather than Rifle Range track as access to Grange Road to minimise Green Belt issues, address access constraints, restricted visibility when turning into Grange Road from the Rifle Range, and to provide future-proofing
- Revisions to alignment around Coton (still being refined in dialogue with stakeholders)

10.4 A final alignment will be subjected to a detailed Environmental Impact Assessment, which would definitively assess the impact and potential benefit of mitigation options.

Figure 16 – Recommended Route Alignment



10.5 Salient features are as follows from west to east:

Cambourne

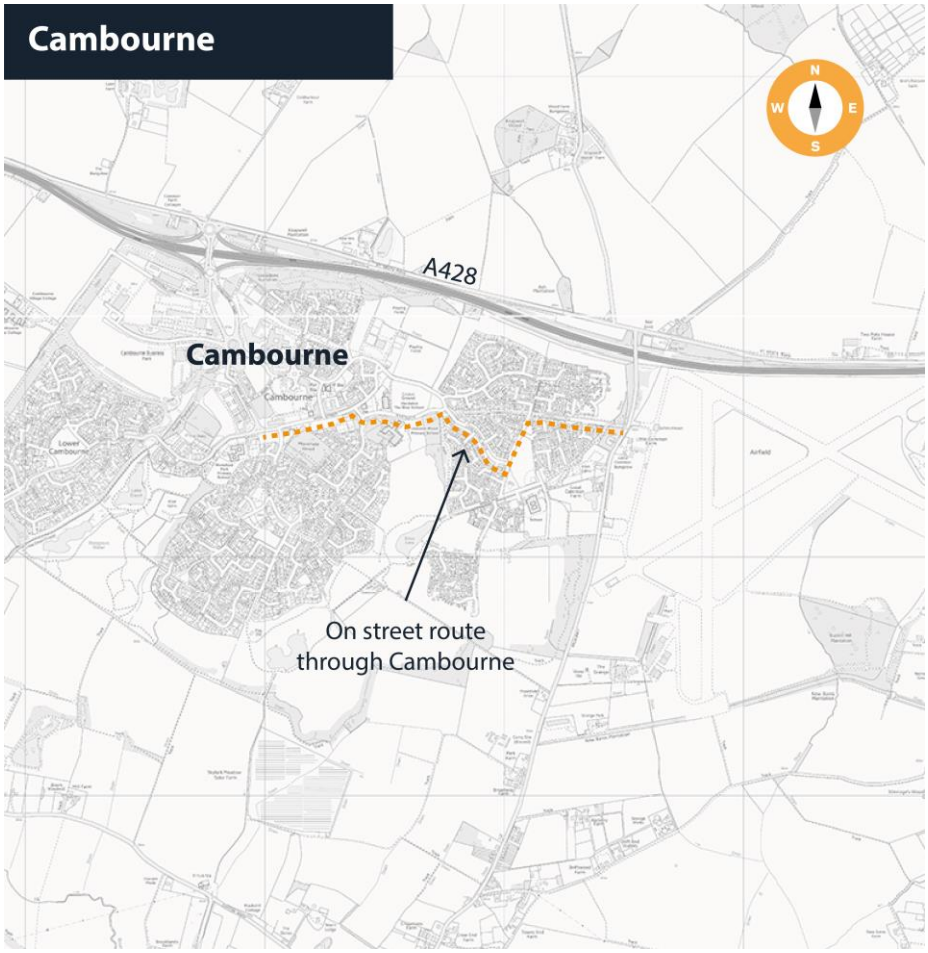
10.6 With the exception of a bus gate and short section of bus route west of the Broadway, the first section of the route is on-road through Cambourne. Should CAM require less manoeuvrable vehicles in due course, a new route would be created at that stage.

10.7 Routes, including via Cambourne West, have been developed and included in the traffic modelling assessments.

10.8 Work is also underway, liaising with South Cambridgeshire District Council and Cambourne Town Council, to investigate potential provision of a further Travel Hub at a future date.

10.9 If a Cambourne Station is provided as part of East-West rail then the Travel Hub might be located at the station and the C2C scheme would support last mile journeys for train commuters.

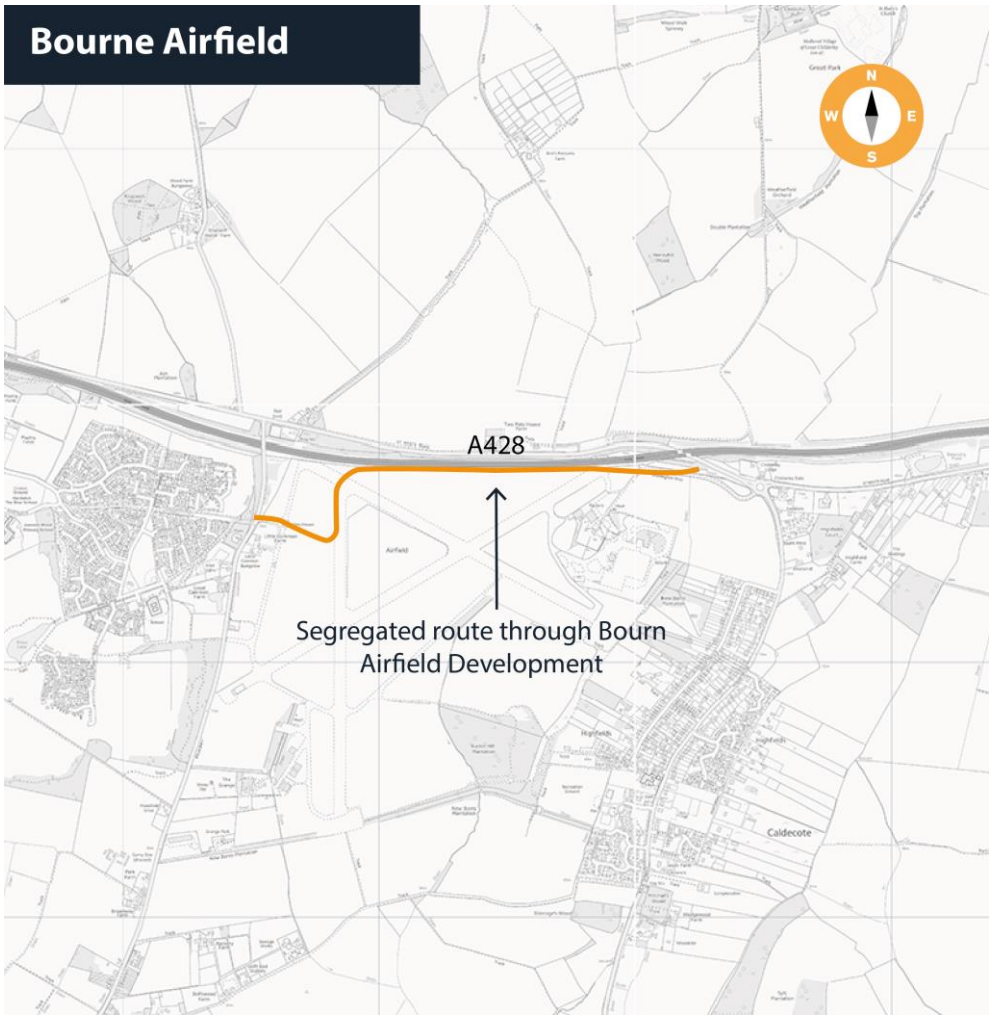
Figure 17 – Cambourne Route Section



Bourn Airfield

10.10 The route continues off-road passing through Bourn Airfield on a corridor defined in the Supplementary Planning Document along the A428 as far as Scotland Farm, agreed in October 2019. Two stops are proposed.

Figure 18 – Bourne Airfield Route Section



Scotland Farm

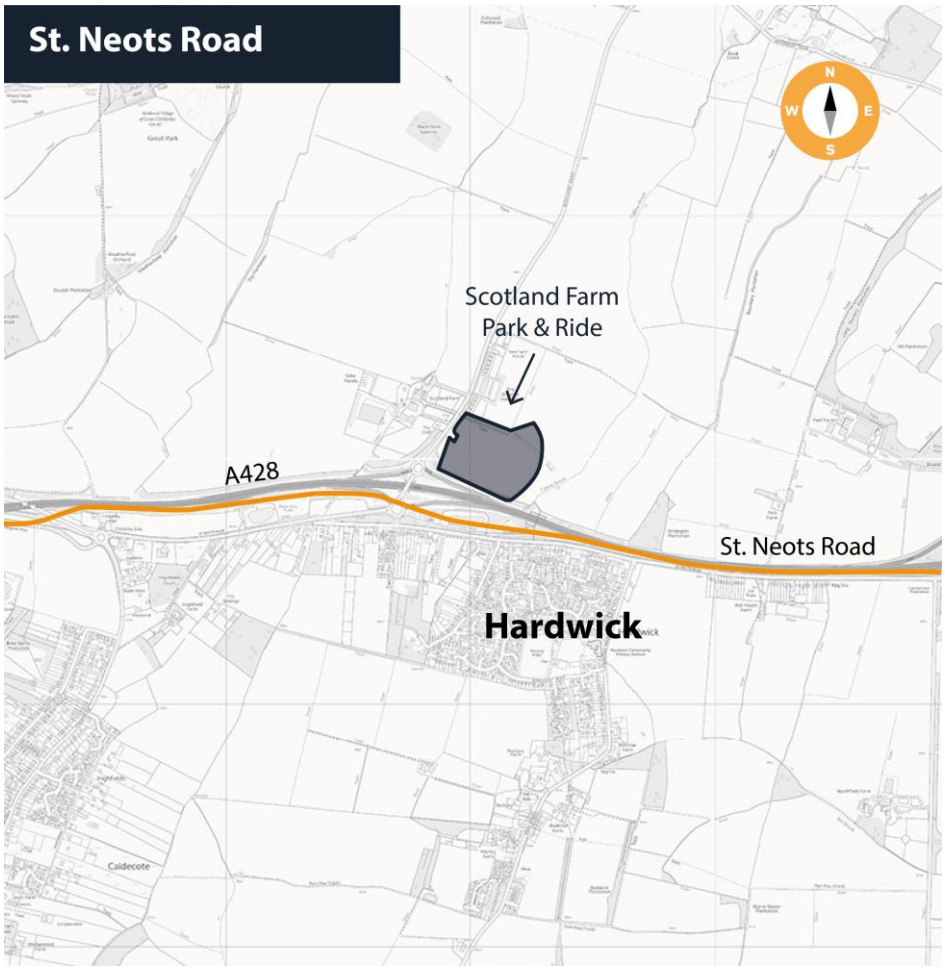
10.11 A Park and Ride site will be provided at Scotland Farm. Responding to input from local residents, local traffic management will be provided on Scotland Road in order to ensure access, and to deter 'rat-running' through Dry Drayton, and a new cycle and pedestrian route into Dry Drayton will be created.

St Neots Road

10.12 The route will continue from Scotland Road off-road but largely parallel to the St Neots Road. There will be a loss of trees and vegetation in this location but new planting will be provided to partially offset the impact.

10.13 Proposals would improve the current A428 noise barrier which is poorly provided and in places in a state of disrepair through provision of a well-designed noise barrier to ensure a net decrease in traffic noise.

Figure 19 – St Neots Road and Scotland Farm Route Section



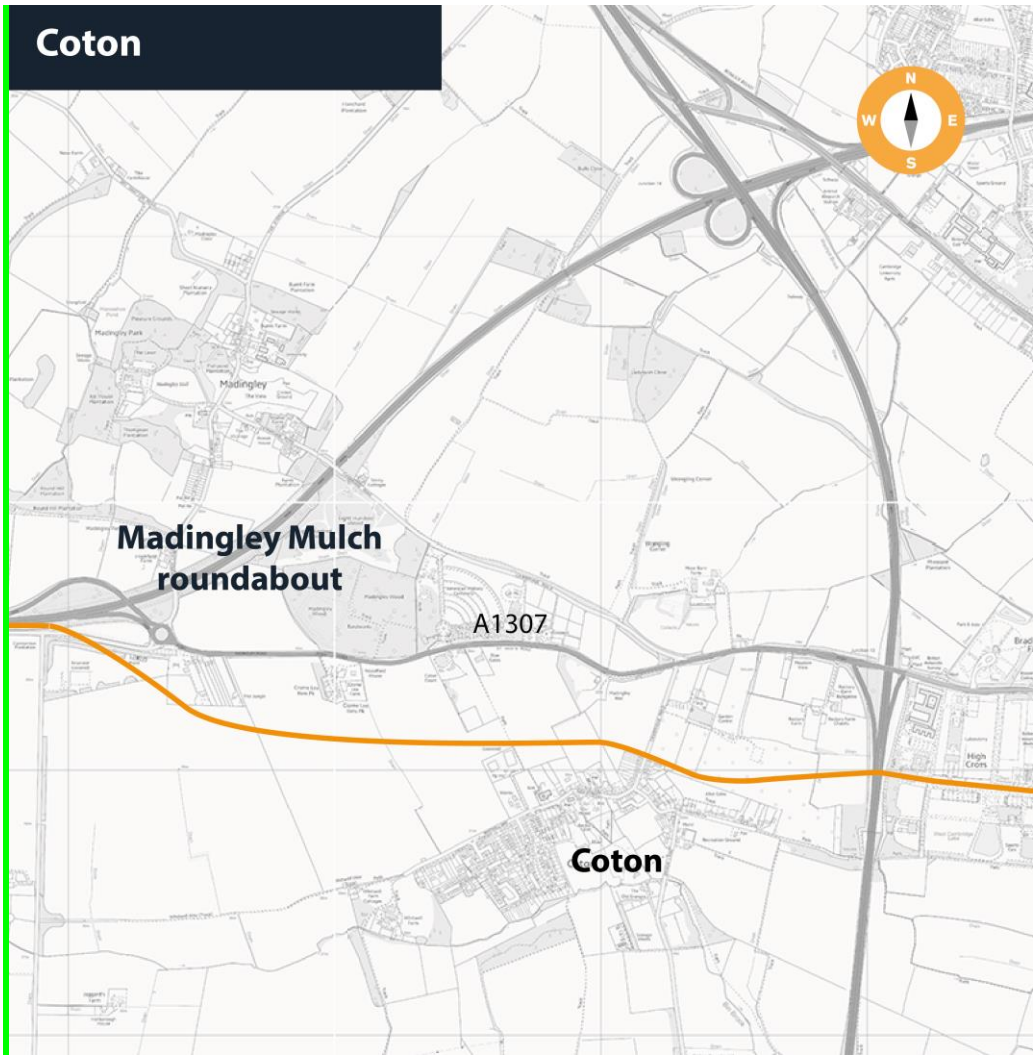
Coton

10.14 Since December 2018, work has been ongoing to further assess and refine the Phase 1 route involving key stakeholders including local residents and LHE and NMU working groups.

10.15 From the Water Works site near to Madingley Mulch roundabout the route then crosses to the south side of the A1303 to the north of water storage tanks on the edge of Coton where it crosses the Cambridge Road. As a result of discussions with local residents, Cambridge Past Present and Future and the National Trust, the route alignment to the north of Coton Village is proposed to move further north to a distance of 40-50 metres from the nearest houses.

10.16 Work will continue beyond the current stage of scheme development to refine the alignment and investigate bunding options to hide infrastructure from view. Where fields are severed there will be an opportunity to retain more suitable areas of land for future use, such as the creation of new wildlife habitats as part of the commitment to a net biodiversity gain.

Figure 20 – Coton Route Section



West Cambridge

10.17 The proposed route cuts through the Coton Orchard and crosses the M11 on a new bridge passing into the West Cambridge campus and along Charles Babbage Road before cutting through the campus to the south, and along the existing line of the cycle route to Adams Road.

10.18 Whilst on the basis of analysis undertaken prior to the Dec 2018 Executive Board meeting, the Rifle Range Track had been the highest performing option, further concerns were raised regarding the potential impact on the green belt, reflected in research undertaken by LDA Design Consulting: see A428 Cambourne to Cambridge Segregated Bus Route: Consideration of Green Belt Issues Report, Appendix 1LC J to the End of Stage Report.

10.19 In order to investigate the green belt issue further, GCP commissioned a second LDA assessment of the options, reflecting more detailed alignments – see Cambourne to Cambridge Interim Planning Assessment. This new research has concluded that, despite amendments to the alignment through Grange Field to minimise its impact, the Rifle Range option would lead to greater harm to the green belt than the Adams Road option.

10.20 Further dialogue with landowners on the Rifle Range route also identified a number of access requirements which, whilst not insurmountable, would each lead to a degree of disruption to the route. Adams Road has a carriageway width of approximately 8m with footways either

side that are generally between 1m and 2m in width, giving an overall width of between 10m and 12m. The Rifle Range also has a width of 10m at its narrowest point.

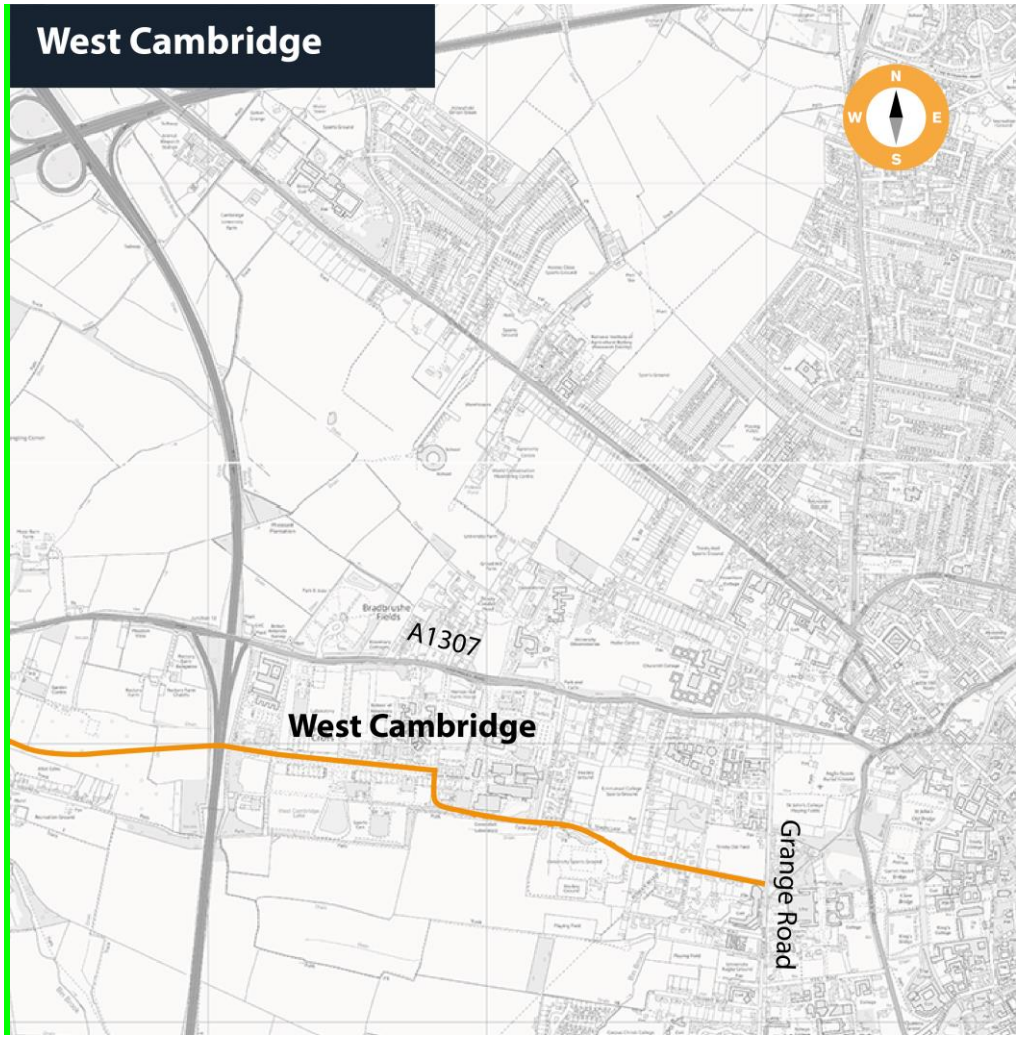
10.21 As a result, the preferred alignment has been updated to travel down Adams Road in order to minimise land take of green belt land through the West Fields.

10.22 In addition, as the first phase of the proposed CAM, the update addresses concerns raised by a number of stakeholders that the section of route running into the City Centre would become redundant when metro vehicles enter an underground tunnel at West Cambridge.

10.23 Taking on board feedback from local stakeholders, on Adams Road, the entrance from Wilberforce Road to the north will be blocked. Advisory bus lanes will be marked on Adams Road and advisory cycle lanes will replace current car parking. At the end of Adams Road, buses will proceed onto Grange Road and thereafter to the City Centre and other destinations such as the Station and Cambridge Biomedical Campus.

10.24 A non-motorised user route will run along the corridor from the east of Cambourne to the west of Adams Road. As part of the Comberton Greenway project, a segregated route for non-motorised travel is proposed to continue via the Rifle Range Track, with an alignment following West Fields' boundaries to minimise intrusion.

Figure 21 – West Cambridge Route Section



11. Environment considerations/commitments

11.1 GCP intends that electric vehicles would be used at the earliest opportunity, aligned with the preferred mode for the CAM scheme. Any interim mode required will be minimum Euro VI standards or better to ensure a minimal impact on air quality.

11.2 A biodiversity net gain assessment will be completed once the preferred route is identified and there will be a requirement for GCP to deliver a minimum of 10% gain, with the objective of achieving 20% gain.

11.3 A significant number of environmental surveys and assessments have been undertaken and are available on the GCP website, covering wildlife habitats along the route for animals including reptiles, bats, breeding and wintering birds, badgers, barn owls, reptiles, water voles and invertebrates.

11.4 Further ecological surveys and baseline noise surveys will continue into 2020 to inform the emerging final scheme design, and to be used in the Environmental Impact Assessment.

11.5 Engagement with Natural England is being undertaken on the results of the surveys.

11.6 Initial air quality reports for communities and villages in closer proximity to the route (Hardwick, Adams Road and Coton) propose a negligible impact on air quality.

11.7 A final scheme design will be subject to a full Environmental Impact Assessment.

11.8 GCP will continue to work with LHE and NMU stakeholder groups to develop scheme design.

11.9 GCP have committed to replacing and improving the, now aged, acoustic barrier along the A428 where the route would remove a belt of trees between the A428 and St Neots Road.

12. Delivering a Scheme

Financial Case

12.1 Further refinement of option costs has been carried out since the SOBC and 2017 stage of project development. The current estimated capital cost of the current off-road option is £160.5m, of which £37.7m is anticipated from Section 106 contributions from other third parties such as the developers of the Bourn Airfield site and West Cambridge. The predicted costs and third-party contributions are shown in Table 5 and builds upon the estimates previously provided for the Phase 1 works.

12.2 It should be noted that the financial case does not include Optimism Bias (currently 44%), which is used within the economic appraisal, but does include a risk allowance of 25%.

Table 5: C2C Funding Profile – Preferred Option (£000's)

Funding source	2014-19	2020	2021	2022	2023	2024	Total
City Deal	£3,214	£8,661	£10,568	£42,977	£49,354	£7,714	£122,488
Developer Contributions (S106)				£19,000	£19,000		£38,000
TOTAL	**£3,214**	**£8,661**	**£10,568**	**£61,977**	**£68,354**	**£7,714**	**£160,488**

12.3 The estimated high level scheme costs at this stage of the project's development are based on a number of assumptions and exclusions, which are detailed within OBC Appendix Q. As would be expected there are some differences to the costs that were presented in the SOBC (£141.7m) and subsequent reports, there are multiple reasons for this which include the following:

- Level of detail of schemes – the options have been developed further enabling the costs to be further refined;
- Option alignment work for Phase 2 (formally Option 3a) which has implications on costs;
- Information and data – further information on utilities, land assembly has been obtained; and
- Further indicative design work specifically related to the recommended option.

Funding

12.4 Funding for the project is intended to be sourced through the GCP, supplemented by third party developer contributions through S106. City Deals provide a funding framework for central government and local partners to agree investment programmes, centred on the promotion of local economic growth and development. The total scheme costs for the scheme of £160.5m are deemed affordable based on successfully securing funding from the identified funding sources.

12.5 The estimated developer contributions shown above are dependent upon on-going assessments and negotiations and so are indicative at this stage. However, it is currently anticipated that between 20% and 25% of the scheme costs can be attributed to development and contributions secured accordingly.

Commercial Case

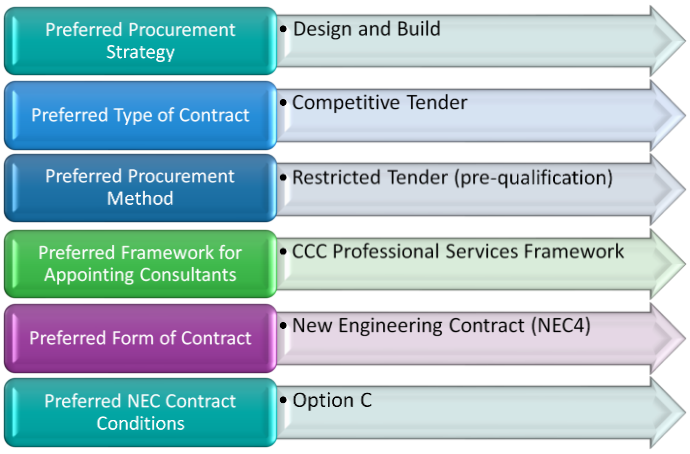
12.6 The Commercial element of the business case covers a range of commercial factors related to delivery of options. Examples are the issues associated with procurement, contractual risk etc. In the SOBC it was concluded that these commercial factors did not significantly differentiate between the options.

12.7 An initial procurement work stream has commenced for each option as currently defined there is a clear commercial strategy for the range of options currently under consideration. The procurement strategy will be influenced by further developments in options, for example around vehicle guidance technology which would be further developed at the OBC stage in order to establish the applicable process for the application of powers and consents.

12.8 Operational and maintenance considerations will also form part of the final Commercial Case but at this stage do not offer a basis of differentiation between options.

12.9 Figure 22 sets out the emerging procurement route for the C2C scheme.

Figure 22: C2C Procurement Route Summary



Management Case

12.10 The Management section of the business case focuses on project delivery and management/ governance arrangements in place. The management case also considers the planning process and legal powers necessary to undertake to build a scheme. This is based on a review of previous projects delivered by GCP authorities, such as Cambridgeshire County Council and lessons learnt.

12.11 Broadly, as stated in the SOBC, the management case does not differentiate in terms of the options under consideration.

12.12 The GCP includes a governance structure via the Executive Board and a standard approach to project management including a standard project control framework. A project management team exists with defined roles and responsibilities. A series of commercial contracts are in place with third party suppliers (designers, consultants, legal advisors etc.) which are managed by the project team. The GCP Joint Assembly reviews projects at the strategic level prior to recommendations being presented to the Executive Board. An Assurance Framework exists between central Government and GCP in terms of project prioritisation and delivery.

12.13 The management case also identifies the key risks and mitigations for the project. It also reviews the process of public consultation and engagement. Public and stakeholder consultation is essential to ensure that the various aspirations of the general public and key stakeholders are taken into account throughout development and delivery of the project and to manage the communication and flow of information relating to the project. A communication plan sets out how this process is managed, identifying key stakeholders and how engagement is managed including the facilitation of a project specific Local Liaison Forum.

13. Summary

13.1 This report provides an update on the development of the Business Case and the development of a recommended Option for the C2C project. The report summarises outcomes of stakeholder engagement and public consultations on developing options and the technical assessment work carried out in the context of the Government's '5 Cases' business case methodology.

13.2 The Business Case assessment reaffirms the findings of the previous stages, that there remains a strong strategic case to undertake a major transport infrastructure project from C2C based on both current and projected transport demand along the corridor, and given the GCP objectives to promote sustainable economic growth and reduce congestion.

13.3 The Strategic Case demonstrates a proposed off-road segregated alignment for HQPT will provide significant transport benefits over bus priority on the existing highway and is consistent with the CPCA's CAM proposal.

13.4 The C2C scheme is necessary to support the delivery of a number of residential settlements within the Greater Cambridge Local Plan and engagement on this scheme, both with Stakeholders and members of the public, has been significant and far beyond the level expected for a scheme such as this.

13.5 The scheme is underpinned by strong environmental design principles to ensure net gain or betterment of the natural environment as part of the design process. Design principles agreed with local stakeholder groups are outlined in Appendix 4 and 5.

13.6 The report also sets out a recommended alignment for a rapid transit route between Cambourne and key destinations in and around the city, and presents a bus strategy for regular services.

13.7 The report recommends a Park and Ride site location at Scotland Farm.

13.8 Further assessment work and refinement will continue to be aligned with the development of CAM.

14. Next Steps and Milestones

14.1 The next steps in the development of the project include the key elements set out in Table 6 below.

Table 6: Indicative Programme

Task	Commentary	Timescale
OBC to Executive Board	The Board will be presented with the Full OBC for selection of a single preferred option between Cambourne and Cambridge and a Park and Ride site.	February 2020
Prepare and submit application for statutory consent	The power to construct the scheme is likely to come from a Transport and Works Act Order which would be determined by the Secretary of State for Transport. This process is likely to include a Public Inquiry directed by an independent Inspector. Work to be undertaken will include Environmental Impact Assessment as well as Transport Assessment, Road Safety Audit etc. This will draw on further work to be done on scheme design including mitigation measures and further stakeholder engagement.	Submit application Mid 2020 with a determination period estimated of around 18 months – completed in late 2021
Seek authority to construct project	Following the completion of the statutory permissions stage, the Board will be presented with the Final Business Case for approval. This will trigger the construction of the project.	2021 depending on statutory powers process
Opening of the scheme to operational services	Planned opening	Planned for 2024

15. List of Appendices (https://greatercambs.filecamp.com/s/qPIODPJ6PFVX33L5/fo)

Appendix 1	OBC - Strategic case, Economic case, Commercial case, Financial Case and Management Case and Appendices including Appendix C Option Appraisal Report 3 and Appendix F Bus Strategy Report - https://greatercambs.filecamp.com/s/N3Ok8LEwxGZeW18O/fo
Appendix 2	Non-Technical Summary Report - https://greatercambs.filecamp.com/s/SX3FTm0utbzFTi1V/fo

Appendix 3	C2C Phase 2 Consultation Summary Report - https://greatercambs.filecamp.com/s/93TQ8ABGnWE2xG4r/fo
Appendix 4	NMU Working Group Design Principles - https://greatercambs.filecamp.com/s/v1ZbfGCfjpiVoRuX/fo
Appendix 5	LHE Working Group Design Principles - https://greatercambs.filecamp.com/s/oBF20ODteowHCyLV/fo

16. Background Papers

Option Appraisal Report 1	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Option%20Appraisal%20Report%20Part%201.pdf
Option Appraisal Report 2	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Option%20Appraisal%20Report%20Part%202.pdf
National Infrastructure Commission's (NIC) report	https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/
Local Plan for Cambridge City	https://www.cambridge.gov.uk/local-plan-2018
Local Plan for South Cambridgeshire	https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018/
Transport Strategy for Cambridge and South Cambridgeshire (TSCSC)	https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/cambridge-city-and-south-cambs-transport-strategy
Draft Cambridgeshire and Peterborough Local Transport Plan (CPLTP)	https://cambridgeshirepeterborough-ca.gov.uk/assets/Transport/Draft-LTP.pdf
East of England Forecasting Model 2017	https://cambridgeshireinsight.org.uk/eefm/
Madingley Road Quick Wins Options Outline Technical Note	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/C2C%20LLF%20Technical%20Note%20-%20Madingley%20Road%20Quick%20Wins%2014-05-2019.pdf
Northern route technical note	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/C2C%20LLF%20Technical%20Note%20Northern%20Route%2022-05-2019.pdf

Bourne Airfield Supplementary Planning Document	https://www.scambs.gov.uk/bournairfieldSPD
Cambourne to Cambridge Segregated Bus Route: Consideration of Green Belt Issues Report	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Appendix%20L1c.pdf
Cambourne to Cambridge Interim Planning Assessment	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Cambourne%20to%20Cambridge%20interim%20planning%20appraisal%2010%20Sep%202019.pdf
Environmental surveys and assessments including initial air quality assessments	https://www.greatercambridge.org.uk/transport/transport-projects/cambourne-to-cambridge/cambourne-to-cambridge-background/

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report to: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake – Transport Director, Greater Cambridge Partnership

BETTER PUBLIC TRANSPORT - WATERBEACH TO NORTH EAST CAMBRIDGE PROJECT

1.0 Purpose

1.1. The Waterbeach to North East Cambridge corridor is one of the key radial routes into Cambridge. It suffers considerably from congestion during peak times, particularly at the Cambridge end. There are also sites of planned or potential large development, such as Waterbeach barracks and Science Park expansion which will place considerable additional pressure on the corridor.

1.2. The corridor has been identified by the Greater Cambridge Partnership's (GCP's) Executive Board, as a priority project for developing public transport, walking and cycling improvements, linked to the development of proposals for a regional rapid mass transit solution. The scheme forms part of GCP's high quality public transport network and phase one of the Cambridgeshire Area Metro (CAM).

1.3. This report sets out the background and rationale for the Better Public Transport Project, the technical work and engagement to date and the proposed programme going forward.

2.0 Key Issues and Considerations

2.1 The project is designed to develop measures to ensure that planned housing and employment growth can be accommodated without increasing levels of vehicular traffic on this northern approach to Cambridge by making public transport journeys more reliable and attractive. This is in line with the GCP's objectives, which include reducing congestion and encouraging people to use more sustainable forms of transport.

2.2 The Executive Board will be asked to note the work to date and to consider the next stage of work including the Consultation and Engagement Strategy:

a) Further informal public and stakeholder engagement in early 2020 to finalise the Options Appraisal Report (OAR) stage.
b) Formal public consultation in summer 2020 to inform the Strategic Outline Business Case (SOBC) which will allow a preferred set of measures to be presented for approval.

2.3 The proposed consultation strategy allows for a smoother, more condensed study programme. This is important given the interrelation with other GCP studies, which are progressed beyond SOBC stage, and the CAM.

2.4 Engagement will be ongoing throughout the Study, with key stakeholder groups helping to inform option identification and development. Informal public and stakeholder engagement

at Options Appraisal stage will ensure that early views are captured, including the provision for members of the public to comment using ConsultCambs.

3 Background and Project Rationale

3.1 The Waterbeach to North East Cambridge study area forms part of the wider A10 Ely to Cambridge Corridor which is one of key radial routes into Cambridge from the north of the City. It suffers considerably from congestion during peak periods. This congestion poses significant challenges in terms of future development along the corridor, in particular planned development to the north of Waterbeach and at North East Cambridge, located either side of Milton Interchange (see plan in Appendix A):

a) **New Town to the north of Waterbeach** will include up to 11,000 new dwellings (based on figures provided by promoters of the site, or 8,000 based on Local Plan guidance) and other associated infrastructure and uses[1].
b) **North East Cambridge** has been identified for significant potential future development, including intensification of development at Cambridge Science Park and development of the land to the east of Milton Road, known as Cambridge Northern Fringe East, where HIF funding has been allocated for relocation of the existing sewage works. Between them these developments could provide up to 17,000 new homes and 14,000 new jobs.
c) Alongside these major developments there are also a number of existing employment developments within the A10 corridor including Cambridge Research Park. Planned developments in the Greater Cambridge area and beyond will also increase travel demand along the corridor.

3.2 A previous Study commissioned by the GCP looked at high-level options for improving transport connections along the A10 between Ely and Cambridge. The Cambridge and Peterborough Combined Authority (CPCA) are separately progressing a study focusing upon highway improvements along the A10. This GCP Study will focus on the requirement to undertake additional work on public transport and Non-Motorised Users (NMUs), including pedestrian, cycle and equestrian) connections only.

3.3 This project will also include integration with the CAM proposals, which are currently being developed by the CPCA, as well as the future public transport network being developed as part of other GCP work.

Project Scope

3.4 This project covers the A10 corridor between the northern edge of the land allocation for the planned New Town north of Waterbeach in the north and North East Cambridge in the south as shown in Appendix A

3.5 There are a number of options within the scope which will continue to be investigated through the Options Appraisal stage including:

a) Segregated Bus rapid transit options (such as a transit way) with adjacent NMU/cycle/pedestrian track. (Bus route options need to consider cycle and equestrian needs along an adjacent cycle track (urban areas) or bridleway (rural), as per the CGB);

[1] A Spatial Framework and Infrastructure Delivery Plan (SPD) for the site was adopted by South Cambridgeshire District Council in February 2019.

b) Integration with CAM;
c) On road bus priority options;
d) Connections for sustainable modes between Cambridge Northern Fringe East and Cambridge Science Park;
e) Additional or relocated Park & Ride / interchange capacity;
f) Cycle and pedestrian links including both strategic and local options (and consideration of other NMUs);
g) Measures to physically integrate into other City Deal proposals such as the Waterbeach Greenway and Chisholm Trail; and
h) Combinations of the above.

Proposed Programme

3.6 This phase of the Study is proposed up to SOBC. The overall programme for the Study is shown in Appendix B. Key dates are as follows:

a) Technical review and gap analysis – Complete;
b) Informal Stakeholder and Public Engagement - Commenced;
c) Option Appraisal Report – Early 2020;
d) Draft SOBC Report – Summer 2020; and
e) Formal Public Consultation – Summer 2020.

Proposed Consultation and Engagement Strategy

3.7 Engagement with key stakeholders such as developers, CPCA, Cambridgeshire Shared Planning Service and Highways England has already taken place.

3.8 Informal stakeholder and public engagement will continue in early 2020 to enable key stakeholders and other interested parties to feed into the Option Appraisal process. This will include focussed workshops / meetings with:

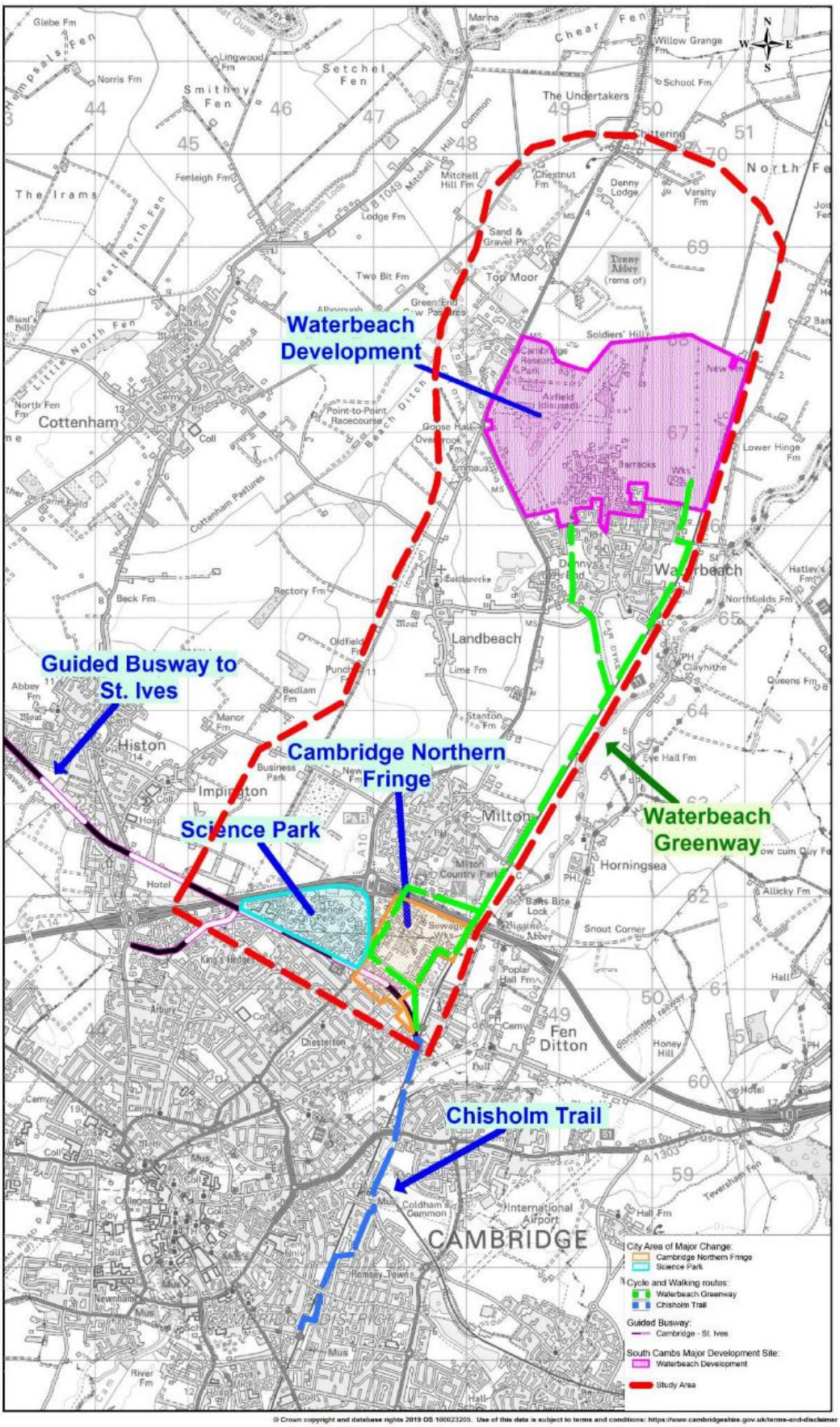
a) Developers of New Town to the North of Waterbeach and North East Cambridge sites;
b) CPCA, Cambridgeshire Shared Planning Service and Highways England;
c) Resident groups, such as New Town to the North of Waterbeach Association.

3.9 Alongside this, ConsultCam will be used to publish basic information about the study and allow any interested parties to comment in free form text. Formal public consultation will follow to inform the selection of a preferred option during the SOBC process, it is envisaged that this will take place in summer 2020.

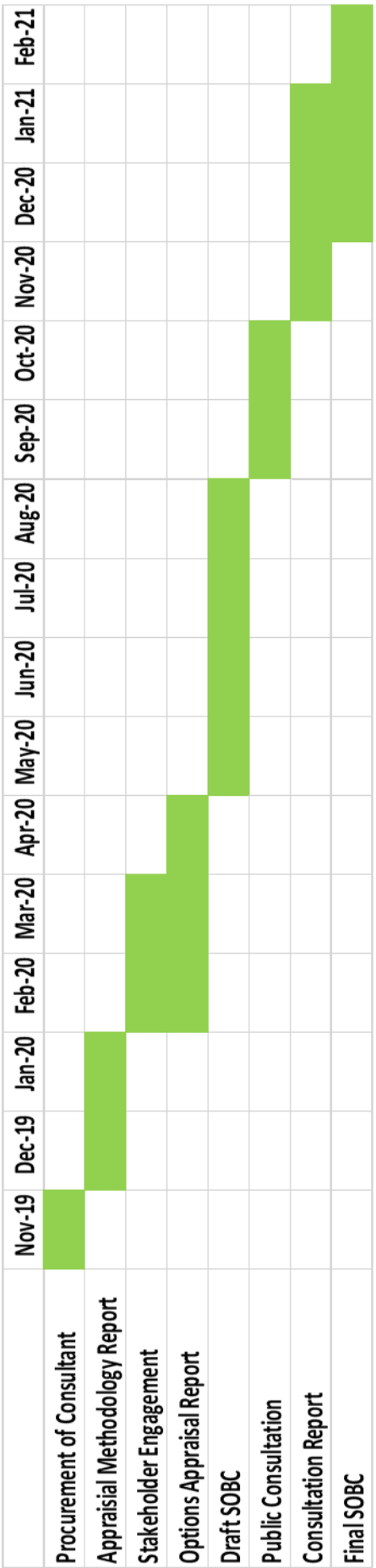
4 Next Steps

4.1 Following this Board Meeting the project will complete the Options Appraisal and informal stakeholder and public engagement stages. The Options Appraisal will be presented for approval to the June 2020 Executive Board meeting.

Appendix A: Study Area



Appendix B: Study Programme



GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report to: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake, Director of Transport, Greater Cambridge Partnership

BETTER PUBLIC TRANSPORT – EASTERN ACCESS PROJECT

1. Purpose

1.1. The East Cambridge corridor is a key radial route in to Cambridge. It suffers considerably from congestion during peak times, particularly at the Cambridge end. There are also sites of planned or potential large development, such as the Wing development and land north of Cherry Hinton.

1.2. The corridor has been identified by the Greater Cambridge Partnership's (GCP's) Executive Board, as a priority project for developing public transport, walking and cycling improvements, linked to the development of proposals for a regional rapid mass transit solution. The scheme forms part of GCP's high quality public transport network and phase one of the Cambridgeshire Area Metro (CAM).

1.3. This report sets out the background and rationale for the Better Public Transport Project, the technical work and engagement to date and the proposed programme going forward.

2. Key Issues and Considerations

2.1 Existing congestion on the eastern approaches to the city, including Newmarket Road, poses significant challenges in terms of future development in the East Cambridge Area. The key aim of the project is to ensure that planned housing and employment growth can be accommodated without increasing levels of vehicular traffic in Cambridge, by making public transport journeys more reliable and attractive. This is in line with the GCP's objectives, which include reducing congestion and encouraging people to use more sustainable forms of transport.

2.2 The Executive Board will be asked to note the aims and objectives of the Study and to approve the Consultation and Engagement Strategy based on:

a) Further informal public and stakeholder engagement in early 2020 to finalise the Options Appraisal Report (OAR) stage.
b) Formal public consultation in Autumn 2020 to inform the Strategic Outline Business Case (SOBC) which will allow a preferred set of measures to be presented for approval.

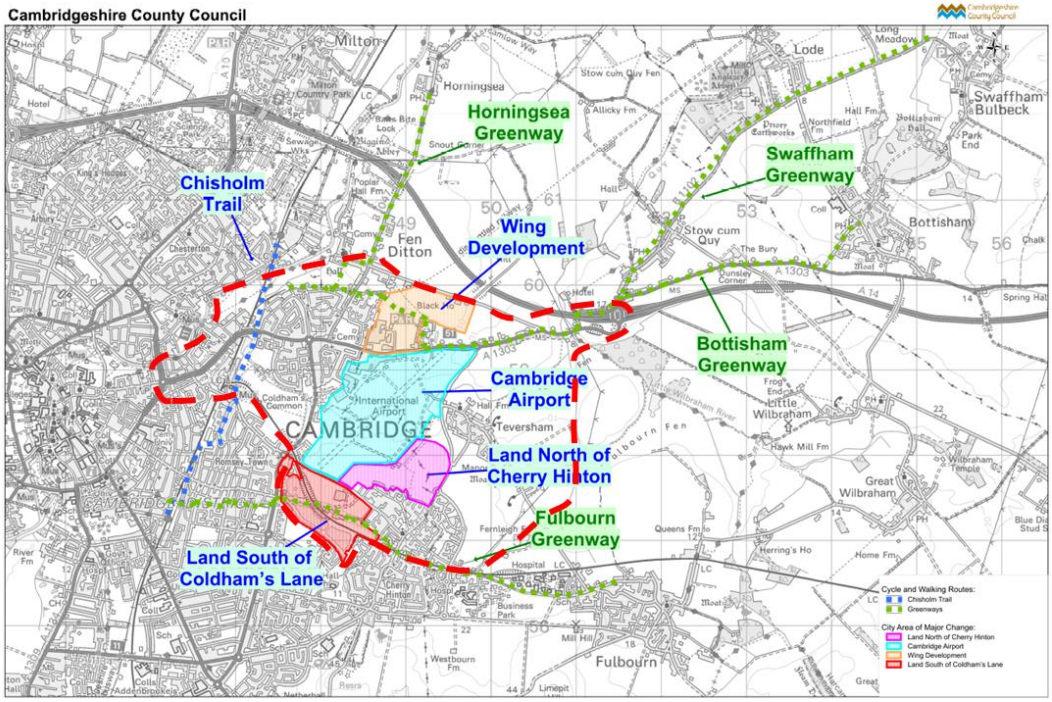
2.3 The proposed consultation strategy allows for a smoother, more condensed Study Programme. This is important given the interrelation with other GCP studies, which are progressed beyond SOBC stage, and the CAM.

2.4 The GCP is likely to undertake significant public consultation as part of other studies in early 2020, and the Cambridgeshire and Peterborough Combined Authority (CPCA) plans to consult on CAM in February 2020. Streamlining the consultation process for this Study will relieve internal resourcing pressures and ensure that members of the public are not being continuously consulted. Mechanisms are in place to ensure coordination of consultation and engagement between various workstreams.

2.5 The Joint Assembly is invited to review and comment on the approach as set out in the report.

3. Background and Project Rationale

3.1 The Cambridge Eastern Access study area consists of the A1134/A1303 Newmarket Road between Quy Interchange and Elizabeth Way, including the areas to the north and south of Newmarket Road if appropriate, within the approximate red line shown below. The corridor provides the main access into Cambridge from the east and connects with the Strategic Road Network (SRN) at A14 Junction 35. Newmarket Road Park and Ride is located approximately 500m west of the junction with Airport Way and is accessed off the A1303. A larger version of this plan is shown in Appendix A.



3.2 The land either side of Newmarket Road is currently occupied by residential and commercial properties including significant trip generators such as Cambridge Retail Park, Cambridge United, Marshall Land Rover Cambridge, hotels and Tesco Superstore. It also provides access to Abbey Leisure Centre (via Whitehill Road). As a result of these uses, Newmarket Road is heavily trafficked throughout the day and week, including at weekends. In addition to being heavily trafficked Newmarket Road is physically constrained by the developments present on either side of the road. Existing congestion along Newmarket Road poses significant challenges in terms of future development in the East Cambridge Area. Development at Wing (1,800 consented dwellings) and Land to the North of Cherry Hinton (1,200 proposed dwellings) has progressed. Alongside these new developments, planned developments in the Greater Cambridge area and beyond will further increase travel demand along the corridor.

3.3 Historic technical work in this corridor was undertaken over the period 2006-2011 including: Cambridge East Transport Strategy (November 2006); Eastern Gate Development Framework Supplementary Planning Guidance (2011); and Transport and Cambridge Transport Innovation Fund Study (2006). This work provides a background for this Study, although it is noted that the transport environment and policy in Cambridge have changed significantly since this work was undertaken. Technical consultants will review and update this information.

3.4 The project focuses on improving journeys to and from the east, along the Newmarket Road corridor, by public transport and for Non-Motorised Users (NMU: pedestrian, cycle and equestrian). The project integrates with the CAM proposals, which are currently being progressed by the CPCA, as well as the future public transport network being developed by other GCP work, including links to North East Cambridge and to the Cambridge Biomedical Campus.

Project Aims and Objectives

3.5 A key aim of any intervention within the corridor is to ensure that planned employment and housing growth can be accommodated without increasing levels of vehicular traffic in Cambridge. As a result the existing and future needs of residents, businesses and housing developments in the corridor must be considered.

3.6 Options identified and selected as part of this piece of work will be focussed on making public transport journeys more reliable and attractive. This will include the consideration of safe, segregated or on-road routes and extension or relocation of Park and Ride provision as appropriate. Provision for NMUs will be inherent in all options considered.

Project Scope

3.7 The Study covers a broad corridor around the A1303 Newmarket Road, between the A14 and Elizabeth Way, as well as surrounding areas including the Cambridge Airport site.

3.8 There are a number of options within the scope of this Study which will need to be investigated through the optioneering stage as follows:

a) Segregated Bus rapid transit options;
b) On road bus priority options including bus lanes;
c) Integration with CAM;
d) Connections for sustainable modes across and between existing commercial properties and developments as well as to, from and between new developments;
e) Additional or relocated Park & Ride / interchange capacity;
f) Cycle and pedestrian links including both strategic and local options (and consideration of other NMUs);
g) Measures to physically integrate into other City Deal proposals such as the Chisholm Trail and the Horningsea, Bottisham and Swaffhams Greenways; and
h) Combinations of the above.

Proposed Programme

3.9 This Phase of the Study is proposed up to SOBC. The overall programme for the Study is shown in Appendix A. Key dates are as follows:

a) Technical review and gap analysis – complete;
b) Option Appraisal Report – Spring 2020;
c) Draft SOBC Report – Summer / Autumn 2020; and
d) Formal Public Consultation – Autumn 2020.

Proposed Public Consultation Strategy

3.10 Engagement with key stakeholders such as developers, CPCA, Cambridgeshire Shared Planning Service and Highways England is underway as part of the project.

3.11 Informal stakeholder and public engagement stage will continue in early 2020 to enable key stakeholders and other interested parties to feed into the Option Appraisal process. This will include:

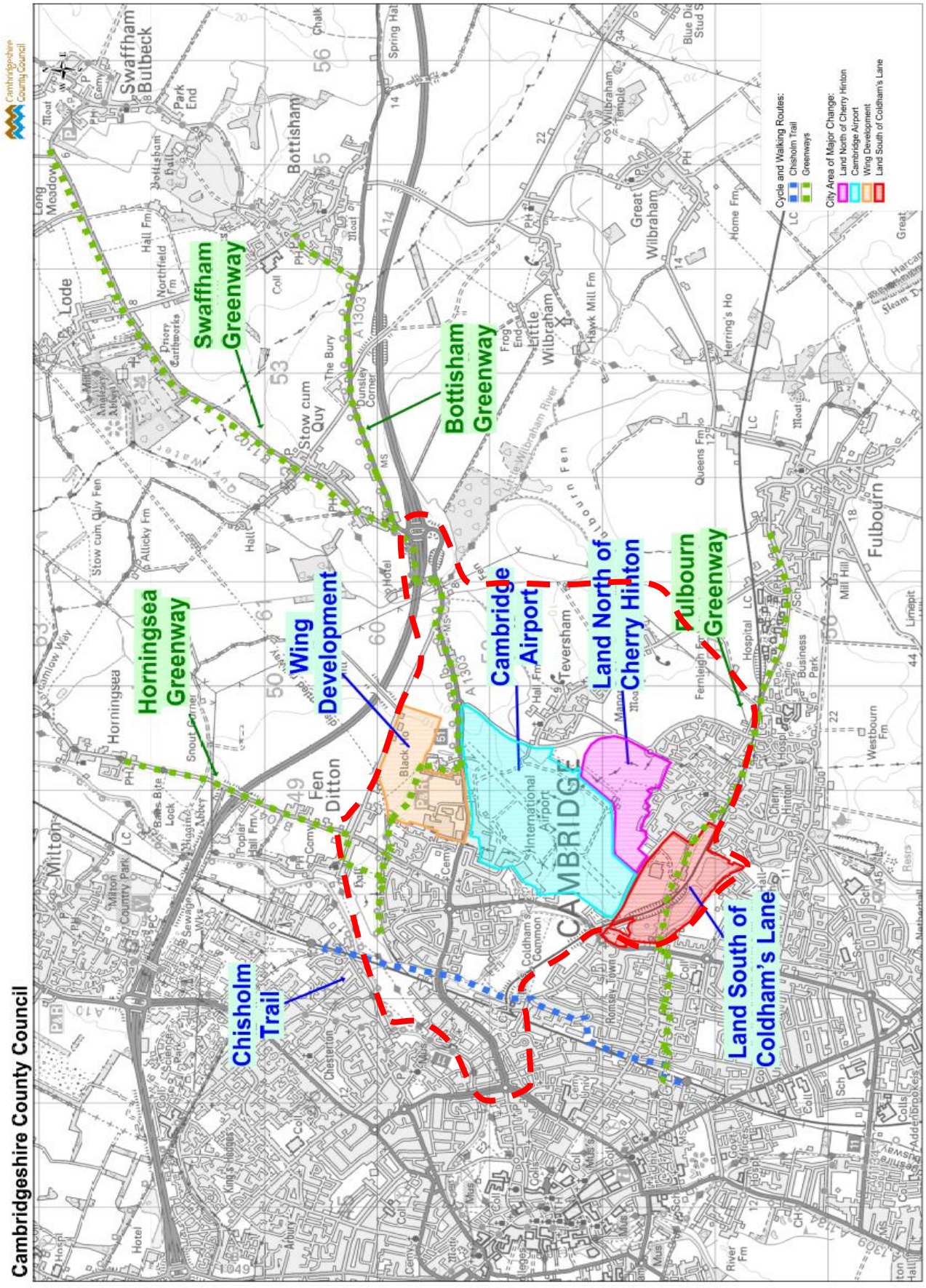
a) Local developers and land owners;
b) CPCA, Cambridgeshire Shared Planning Service and Highways England;
c) Transport providers;
d) Businesses, and business representative organisations;
e) Residents, residents groups, and commuters;
f) Service providers; and
g) Interest groups.

3.12 Alongside this, ConsultCambs will be used to publish basic information about the study and allow any interested parties to comment in free form text. Formal public consultation will follow to inform the selection of a preferred option during the SOBC process using the typical engagement methods. It is envisaged that this will take place in autumn 2020.

4. Next Steps

4.1 Following this Board Meeting the project will complete the Options Appraisal and informal stakeholder and public engagement stages. The Options Appraisal will be presented for approval to the June 2020 Executive Board meeting.

Appendix A: Study Area



GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report to: Greater Cambridge Partnership Joint Assembly 30th January 2020

Lead Officer: Peter Blake –Transport Director, Greater Cambridge Partnership

WHITTLESFORD STATION TRANSPORT INFRASTRUCTURE STRATEGY

1. Purpose

1.1. The Whittlesford Travel Hub will allow more people to access sustainable transport networks. It aims to reduce the level of private car usage between Cambridge and the surrounding villages by providing and enhancing links to sustainable transport options, and by enabling connections between neighbouring villages and towns.

1.2. The Whittlesford Travel Hub supports the Greater Cambridge Partnership's (GCP) vision of creating better, greener transport networks, connecting people to homes, jobs and study, and supporting economic growth.

1.3 This report updates on the outcomes of a public consultation exercise and considers the next steps in delivering the proposed transport infrastructure.

2. Background

2.1 Whittlesford was initially identified as a potential site for a pilot rural travel hub. However, due to the level of usage, the range of issues and the number of planned developments in the area the Executive Board agreed that a comprehensive transport masterplanning exercise should be undertaken. Consultants, WYG, were subsequently appointed to undertake a masterplanning exercise study.

2.2 The study Stage 1 Baseline Report highlights the current situation in the area surrounding Whittlesford Station and identifies a long list of improvement options. The Stage 2 report sets out proposals, the delivery of which will see the creation of a modern, accessible transport interchange. This report identifies the following key issues:

- Lack of step free access between platforms.
- The safety and functioning of Station Road East.
- Poor accessibility of the station by bus.
- Congestion and severance issues on the A505.
- Quantity, quality and location of parking provision.
- Sustainable transport access from Duxford.

2.3 The long list of schemes identified in the Stage 1 Report has been assessed in Stage 2, in line with the overarching objectives of the Masterplan and the specific issues to be addressed at the station site to provide a preferred package of measures to transform the capacity and connectivity of the station site. The Stage 1 and 2 reports are available as background documents.

2.4 The Executive Board will be asked to note the responses from the public consultation; support a draft delivery plan for setting out key roles and responsibilities for each individual project within the Whittlesford Station Transport Investment Strategy (WSTIS) as a basis for further engagement with key stakeholders; support further work as detailed in section 7 of the report; and support further dialogue with the County Council to explore the implications of an application for decriminalised parking enforcement powers for South Cambridgeshire.

3. Public Consultation

3.1 A public consultation on the Stage 2 schemes was undertaken during June/July 2019. Analysis of over 300 consultation responses shows a robust consultation with the majority of respondents supporting the idea of improvements to the area around the station (90%) and the proposed package of measures (65%). The majority of respondents agreed with the level of priority given to all of the 'high priority' schemes and most of the 'medium and longer priority' schemes.

3.2 Respondents were less clear on their agreement with the following 'medium priority' schemes:

- Reduced speed limit on the A505.
- Signalised crossing on the A505 at Moorfield Road.
- Public realm enhancements on Station Road West.
- Signalisation of the A505 / A1301 McDonalds roundabout.
- Signalisation of the A505 / Moorfield Road junction.

They were also less clear on their agreement with the following 'longer term priority' schemes:

- Autonomous vehicle link to the Wellcome Genome Campus.
- Contraflow cycle lane along Royston Road.

3.3 Analysis of the detailed comments identified the following key issues:

- Cycling, pedestrian and public transport improvement related schemes to have a higher priority.
- Debate about signalisation schemes impact on traffic flow/congestion and the need for crossings.
- Debate about the need for more car parking spaces from redevelopment of the station car park.
- The need for the improvements to accessibility that the lift and new footbridge scheme would provide.

3.4 A report detailing the full analysis from the public consultation and the associated appendices are available on the GCP website:

https://www.greatercambridge.org.uk/asset-library/whittlesford-transport-masterplan-consultation-report-oct-2019.pdf

https://www.greatercambridge.org.uk/asset-library/whittlesford-transport-masterplan-consultation-report-oct-2019-appendices.pdf

4. Addendum Report

4.1 Since the completion of the Stage 2 report, further significant development proposals within the station catchment area have emerged which will have implications for future station patronage levels. These include the expansion of the Genome Campus, the garden community development proposed by Uttlesford District Council and the appeal for the Agri-Tech development adjacent to the A1301 in Hinxton. Therefore, an addendum report has been prepared by consultants, WYG, to update its original study work.

4.2 The update work has used three alternative methodologies, specifically using forecasts provided by Greater Anglia, trend-based forecasts and development-based projections focusing on commuting trips and all potential additional trips via the station (see Table 1 below). This suggests that Whittlesford Station is set to be subject to significant growth in passenger numbers from 2017/18 levels. Whilst alternative methodologies have been applied in seeking to quantify the exact extent of growth, it is clear that all demonstrate large increases in projected future demand to use the station.

Table 1: Station Patronage Projections (up to 2033)

Methodology	Annual Passenger Numbers	% Change
Greater Anglia Trajectory	855,000 (using 2016/17 data)	+59%
	910,000 (using 2017/18 data)	+69%
Trend Based Forecast	895,000	+66%
Development Proposals – Commuting Trips	725,000 (low rail modal split))	+35%
	1,245,000 (high rail modal split)	+131%
Development Proposals – All Trips	840,000 (low rail modal split)	+56%
	2,020,000 (high rail modal split)	+275%

4.3 The update work has also reflected on how business parks within the primary station catchment area and the Imperial War Museum, Duxford, could be served by bus services in the future. The addendum report is available on the GCP website: https://www.greatercambridge.org.uk/asset-library/whittlesford-parkway-masterplan-addendum-january-2020.pdf

5. Key Issues and Considerations

A505 Multi-Modal Study

5.1 Acting as agents for the Cambridgeshire and Peterborough Combined Authority, the County Council has commissioned a multi-modal study for the A505 between Royston and Granta Park (A11). In the context of planned housing and economic growth, the study will consider current and future multi-modal travel demand in the period to 2031 and to 2050, including the potential for rail station and services capacity improvements. Therefore, the study will have implications for the WSTIS and the early outcomes from the study are expected in the autumn of 2020.

Signalisation and Congestion

5.2 The consultation has also identified concerns that further signalisation on the A505 will increase congestion. Some of the interventions within the WSTIS are also proposed as mitigation measures for development sites such as the Agri-Tech site and, as a consequence, have been modelled to assess their impacts on delays. GCP officers will review this modelling work and commission further work, if required, to fully evaluate the impact associated with the traffic signal proposals in the WSTIS. This work will need to dovetail with any modelling work undertaken as part of the A505 multi-modal study.

Public Transport

5.3 One of the key current deficiencies at Whittlesford Station is the lack of infrastructure to facilitate bus access. Initial discussions with Stagecoach suggest that it would be willing to serve the station with the Citi 7 (Cambridge-Duxford-Saffron Walden corridor) service if a bus turning circle was provided off Station Road. The Addendum report reflects on how business parks within the primary station catchment area and the Imperial War Museum, Duxford, could be served by bus services and further engagement with Stagecoach and the business parks is planned to achieve greater clarity and certainty on how the station will be served by scheduled bus services in the future. This will need to be a pre-requisite for any funding decision on the proposed bus access improvements.

Parking

5.4 Local concerns have been expressed over the current lack of parking enforcement in the streets surrounding Whittlesford Station and its implications for the future as the station becomes busier in response to planned growth. Similar issues have emerged through the recent consultation on a proposed travel hub at Foxton. The pressures on police resources brings into question whether the responsibilities for parking enforcement would be better placed with the County Council through an application for decriminalised parking powers for South Cambridgeshire. Earlier work by the County Council suggests that this would require some level of support funding to make it financially viable. Further dialogue with the County Council is recommended to explore this issue not only from the perspective of Whittlesford Station but in the context of wider highway network management issues associated with GCP projects.

Station Road (East) Pedestrianisation

5.5 The consultation also highlighted some concern over the impact that pedestrianisation could have on access for local residents and businesses. Further engagement is planned to explain how local access needs would be catered for within any pedestrianised environment.

6. Draft Delivery Plan

6.1 A draft delivery plan (see Appendix 1) has been prepared which sets out the key roles and responsibilities for individual transport projects in the WSTIS and identifies potential funding sources along with project dependencies. This will form the basis for further engagement with stakeholders and developers to support the delivery of individual projects. The Whittlesford Station Transport Delivery Plan (WSTDP) will need to be a dynamic document requiring regular updating in light of the A505 study and key future planning developments

and decisions. Going forward the GCP will seek to work collaboratively with key stakeholders on the delivery of the WSTIS, as set out in the draft WSTDP.

7. Next Steps and Milestones

Delivery Plan

7.1 Further engagement with key stakeholders is planned over the spring/summer period to secure 'buy-in' to the draft WSTDP and to gain greater clarity over individual project funding sources and delivery timetables.

Public Transport

7.2 One of the key current deficiencies at Whittlesford Station is the lack of infrastructure to facilitate bus access. As an early delivery priority it is recommended that further work is undertaken to prepare outline designs and cost estimates for a bus interchange with road widening and signalisation of the Station Road (East) junction to improve A505 access/egress for buses.

7.3 Further engagement with Stagecoach, business parks and the Imperial War Museum is planned to achieve greater clarity and certainty on how the station will be served by scheduled bus services in the future, building on the initial ideas set out in the addendum report. This will need to be a pre-requisite for any funding decision on the implementation of proposed bus access improvements. Initial discussions with Stagecoach suggest that it would be willing to serve the station with the Citi 7 (Cambridge-Duxford-Saffron Walden corridor) service if a bus turning circle was provided off Station Road.

Future Local Engagement

7.4 Local councillors, parish councils and the local rail user group will be updated regularly to ensure that there is clarity over how the WSTDP is evolving; a local community working group will be established to serve as a vehicle for this engagement. As individual projects are taken forward through the delivery plan, this will trigger project specific local engagement and consultation processes.

Executive Board

7.5 A further report to the Executive Board is planned for late in 2020 which will:

- update on further stakeholder engagement on the WSTDP;
- reflect on the early outcomes from the A505 multi-modal study; and
- Consider the initial design work and costings for improved bus access infrastructure along with the outcomes from discussions on future bus services.

Background Papers

Whittlesford Parkway Station Transport Masterplan Stage One Report: Baseline Conditions and Initial Options	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Whittlesford%20Parkway%20Station%20Masterplan%20Stage%20One%20-%20Baseline%20Report%20Final.pdf
Whittlesford Parkway Station Transport Masterplan Stage Two Report: Plans and Proposals	https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/transport-projects/Whittlesford%20Parkway%20Stage%20Two%20Report%20-%20Final.pdf
June/July 2019 Public Consultation Report and appendices	https://www.greatercambridge.org.uk/asset-library/whittlesford-transport-masterplan-consultation-report-oct-2019.pdf https://www.greatercambridge.org.uk/asset-library/whittlesford-transport-masterplan-consultation-report-oct-2019-appendices.pdf
Whittlesford Parkway Station Transport Masterplan Addendum	https://www.greatercambridge.org.uk/asset-library/whittlesford-parkway-masterplan-addendum-january-2020.pdf

Appendix 1

Whittlesford Station Transport Investment Plan

Draft Delivery Plan



7 January 2020

GREATER CAMBRIDGE PARTNERSHIP

Contents

1.0 Background

1.1 The Whittlesford Station transport masterplan study has undertaken an in-depth look at the range of issues affecting access to the station, with a primary focus on improving sustainable transport options. The process has considered how best to meet an agreed vision to "create an accessible multi-modal travel hub which forms a strategically important interchange and gateway to facilitate sustainable local economic growth". From this process a Transport Investment Strategy (TIS) for the Station area has emerged.

1.2 To achieve this vision, four key principles have been adopted:

- Adopting an integrated approach to delivery;
- Maximising strategic benefits;
- Applying a hierarchy of needs; and
- Securing marginal gains.

1.3 The TIS comprised of a package of 33 proposed schemes which, collectively, are intended to achieve this vision.

2.0 Purpose of this Document

2.1 This document sets out a plan for the delivery of the 33 schemes within the TIS and identifies the key agencies for delivery, individual project interfaces and dependencies and potential funding sources.

2.2 To ensure successful delivery of the TIS, the Delivery Plan needs to be a dynamic document that is regularly updated to take account of key planning decisions and transport infrastructure and planning projects, including the A505 multi-modal study, through collaborative working with key stakeholders.

3.0 Funding

3.1 The estimated total funding needed for the TIP is £22,770,000 (based on 2018 estimates). As well as potential funding from GCP budgets, there are a number of other potential sources available which could come in the form of

cash contributions or through the direct delivery of infrastructure. In brief, these include:

- Developer contributions from housing and employment sites that come forward in the surrounding area (e.g. North Uttlesford Garden Community, Genome Campus expansion, proposed Agri-Tech site)
- Rail contributions from Network Rail funding sources and Greater Anglia, as the current Train Operating Company (TOC), primarily to fund station infrastructure improvements including off-street car parking. *(Note: the current Greater Anglia TOC franchise expires in 2025)*
- Department for Transport ad hoc funding streams for which bids could be submitted where appropriate and Major Roads Network funding which could be available for the A505 corridor
- Cambridgeshire and Peterborough Combined Authority, as the strategic Transport Authority, through Local Transport Plan funding sources
- Sustrans which has responsibility for the National Cycle Network including the NCN11 route which runs along Duxford Road and crosses the A505.

3.2 Other external funding opportunities will be explored as appropriate.

4.0 Key Stakeholders

4.1 The table below identifies key stakeholders and their relevance to the Delivery Plan.

Table 1: Stakeholders

Organisation	Relevance to the Delivery Plan
Greater Anglia/successor Train Operating Company (TOC)	• Responsible for operation and maintenance of the station and associated facilities including off-street parking.
Network Rail	• Owner of rail assets and related facilities.
Cambridgeshire County Council Highways	• Responsible for highways management and operation.
Stagecoach	• Currently the main bus operator in the area, running the Citi 7 service and a key partner in opening up the station area to scheduled bus services.
Sustrans	• Responsible for oversight of the National Cycle Network, including the NCN11 route which runs through Whittlesford and Duxford, across the A505.
Cambridgeshire County Council (Planning)	• Significant role in securing developer contributions for some TIS schemes.
South Cambridgeshire District Council (Planning)	

Organisation	Relevance to the Delivery Plan
Uttlesford District Council (Planning)	
Cambridgeshire County Council (Assets)	• Owner of land near the station, with the potential for development (although not currently allocated in the Local Plan).
Highways England (Assets)	
Pampisford Estates	• Owner of land near the station, with an aspiration to develop the land for housing (although not allocated in the Local Plan).
Wellcome Genome Campus	• Significant employment sites within the primary station catchment area with substantial growth plans. • Potentially providing significant funding contributions towards TIP schemes.
Babraham Research Campus	
Granta Park	
Frog IT	• Owner of a business unit near the station that is identified in the masterplan as having the potential for redevelopment.
Holiday Inn	• Need to maintain and cater for access needs when delivering schemes.
Red Lion Hotel	
Station Road residents	
English Heritage	• Manages Red Lion Hotel and Duxford Chapel as Grade II listed buildings.
Historic England	• Planning oversight relating to Red Lion Hotel and Duxford Chapel as Grade II listed buildings. The Chapel is also a scheduled ancient monument.
Cambridgeshire & Peterborough Combined Authority	• Local Transport Authority preparing a Local Transport Plan that sets a strategic framework for transport in the area. • Commissioner of a strategic study into the A505 between Royston and the A11 with which the TIP needs to align.
Department for Transport	• Potential funder of one or more schemes through ad hoc funding awards.
Imperial War Museum Duxford	• Major trip attractor with significant expansion plans.
Peter Brett Associates	• Leading on the A505 corridor study.

5.0 Greater Cambridge Partnership (GCP) Role

5.1 The GCP will seek to work collaboratively with key stakeholders to ensure that:

- Appropriate funding contributions for TIS schemes are secured through S106 planning agreements.
- It supports the delivery of TIS highway related schemes by or in partnership with key stakeholders using its highway powers.

- The TIS remains aligned with the outcomes of the A505 multi-modal study.
- The TIS is regularly updated to reflect approved and emerging development plans within the primary station catchment area.

5.2 Table 2 on the following page highlights the specific details associated with the delivery of each scheme, whilst Figure 1 draws out the inter-dependencies and additional factors influencing their implementation.

Table 2: DRAFT DELIVERY PLAN

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
AT 02	Lift and new footbridge	HIGH	£4,500,000	Replace the existing bridge with a new DDA compliant facility.	High - Cost. - Disruption to services.	Greater Anglia / Network Rail	Potential for a future bid through the Government's 'Access for All' Programme (or similar future funding source). *(Potential for GCP contribution to enhance bid)*	External stakeholder procurement	Awaiting funding bid opportunity
AT 03	Station facilities	MEDIUM TERM	£2,500,000	Provision of new station buildings on existing car park to the west, incorporating a toilet, café and shop.	High - Cost. - Planning.	Greater Anglia / Network Rail	Future Network Rail / TOC funding	External stakeholder procurement	Delivery subject to Network Rail / TOC funding
AT 04	Cycle parking	HIGH	£50,000	Provision of 200 new, covered and secure cycle parking spaces at the station.	Low	Greater Anglia / Network Rail	Greater Anglia funded.	External stakeholder procurement	Delivered
AT 06	Cycle hire facility	MEDIUM TERM	£500,000	Docking stations at both the station and within surrounding business park campuses.	Medium • Initiative will need to be rolled out in multiple locations to be successful.	Greater Anglia / Network Rail in collaboration with relevant business park campuses	Joint stakeholder funding package	To be determined	No funding secured at present
AT 07	Electric bike charging points	MEDIUM TERM	Included within AT.04	Incorporate within new cycle parking provision (see AT.04).	Low - Appropriate power source.	Greater Anglia / Network Rail	Potential for joint external stakeholder / GCP funding	To be determined	No funding secured at present

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
AT 09	Pedestrianisation of Station Road (East)	MEDIUM TERM	£250,000	Between the station and Duxford chapel, together with alternative access to properties.	High - Need for alternative access arrangements and agreements.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 11	Shared use path on London Road, Sawston	MEDIUM TERM	£450,000	Continuation of existing facility on the A1301 into the village.	Low	GCP / County Council	Secured S106 funding	Howard Group / County Council Highways Act S278 agreement	Under construction
AT 12	Widen the shared path alongside the A505 between Station Road and the A1301	MEDIUM TERM	£300,000	To the north of the carriageway.	Medium - Land take requirements.	GCP / County Council	Potential funding through S106 agreement	County Council Highway Services contract	No funding secured at present
AT 13	Cycle path between highway depot and Mill Farm Lane	LONGER TERM	£200,000	Use of private road and new off-road path between Sawston and the station.	High - Third party land requirements.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 17	Continuous footway from Duxford Chapel to the junction with the A505	MEDIUM TERM	Included within GT.11	As part of road widening scheme (see GT 11).	Medium - Reliant upon other large-scale schemes coming forward.	GCP / County Council	Future funding consideration by GCP	County Council Highway Services contract	Initial design work to be undertaken by GCP during 2020
AT 18	Public realm enhancements on Station Road (West)	MEDIUM TERM	£200,000	Redevelopment of the existing car park next to the station.	Medium - Reliant upon other large-scale schemes coming forward.	Greater Anglia / Network Rail	Future funding consideration by Network Rail / TOC	External stakeholder procurement	No funding secured at present

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
AT 19	Improved footways on Royston Road and Station Road (West)	MEDIUM TERM	£360,000	Resurface, dropped kerbs, tactile paving etc.	Low	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 20	Cycle lanes on both sides of Station Road (West)	MEDIUM TERM	£240,000	On-road facility between station and National Cycle Network	Low - Removal of on-street parking.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 20	Cycle lanes on both sides of Station Road (West)	MEDIUM TERM	£240,000	On-road facility between station and National Cycle Network	Low - Removal of on-street parking.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 21	Contra-flow cycle lane along Royston Road	LONGER TERM	£115,000	As part of wider one-way traffic scheme (see GT.15).	Medium - Safety associated with change in road layout.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 25	Signalised crossing on the A505 at Moorfield Road	MEDIUM TERM	Included within GT.12	Pedestrian and cycle facility as part of junction reconfiguration (see GT 12).	High - Reliant on wider works to reduce speed on the A505.	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
AT 29	Multi-modal corridor to the Wellcome Genome Campus	LONGER TERM	N/A	Tunnel under the A505 to provide direct access into the expanded campus.	High - Cost. - Third party land required.	Wellcome Genome Campus	Future funding consideration by Wellcome Genome Campus	External stakeholder procurement	No funding secured at present

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
AT 31	Shared use path alongside Duxford Road	MEDIUM TERM	£600,000	Continuous pedestrian and cycle facility between the station and Whittlesford village.	Low	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
PT 02	Bus turning circle	HIGH	Included within PARK.02	Immediately to the east of Duxford Chapel to be provided as part of the redevelopment of the car park (see PRK 02).	High - Agreements with landowners. - Proximity to listed buildings. - Reliant on other large-scale schemes coming forward.	GCP / County Council	Potential funding through S106 agreement Future funding consideration by GCP and County Council	County Council Highway Services contract	Initial design work to be undertaken by GCP during 2020
PT 08	Public transport information	MEDIUM TERM	£40,000	Real time displays at existing/new bus stops and in the hotels and station waiting areas.	Low	County Council / Network Rail / TOC	Future funding consideration by GCP and County Council	County Council framework contract	No funding secured at present
PT 09	Integrated ticketing	MEDIUM TERM	£5,000	Promotion of 'Plus-Bus' integrated ticketing options (http://www.plusbus.info/cambridge)	Low	Network Rail / TOC/ Bus service operators	Joint stakeholder funding package.	To be determined.	No funding secured at present
PT 10	Bus waiting facilities	MEDIUM TERM	£60,000	Shelters, seating and lighting at stops on Duxford Road, and those provided with the Bus Turning Circle (see PT.02).	Low	GCP / County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
GT 06	Autonomous vehicle link to the Wellcome Genome Campus	LONGER TERM	N/A	Innovative link, via a tunnel under the A505.	High - Technological innovations required. - Legal and legislative changes.	Wellcome Genome Campus	Future funding consideration by Wellcome Genome Campus	External stakeholder procurement	No funding secured at present
GT 09	A505 / A1301 McDonalds Roundabout	MEDIUM TERM	TBC	Signalisation: Including the provision of pedestrian and cycle crossing phases.	High - Critical pinch point on the network. - Potential land take requirements.	GCP / County Council	Potential funding through S106 agreement	Business park / County Council Highways Act S278 agreement	Draft S106 agreement prepared
GT 10	Reduced speed limit on the A505	MEDIUM TERM	£20,000	New 40mph speed limit to enable the introduction of signalised junctions on the corridor.	Medium - Public perception. - Compliance with revised limit.	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present but measure to be incorporated into initial design work for signalisation of Station Road (East) junction
GT 11	Station Road (East)	HIGH	£2,640,000	Signalisation of the A505 junction and widening to enable two-way flows and continuous shared use path.	High - Costs. - Land take requirements. - New structure. - Impact during construction.	GCP / County Council	Future funding consideration by GCP	County Council Highway Services contract	Initial design work to be undertaken by GCP during 2020

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
GT 12	Signalisation of the A505 / Moorfield Road Junction	MEDIUM TERM	£2,300,000	Reconfiguration to enable all movements and pedestrian and cycle phases.	High - Reliant on wider works to reduce speed on the A505. - Cost.	GCP / County Council	Future funding consideration by GCP and County Council. Potential S106 funding contribution	County Council Highway Services contract	No funding secured at present
GT 15	Royston Road one-way traffic	LONGER TERM	£20,000	Allow only east-bound traffic between A505 and the edge of the built-up area.	Medium - Changes to traffic routing.	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
GT 16	Station Road (West) 20mph zone	MEDIUM TERM	£80,000	Change in limit and introduction of physical speed reduction measures.	Low - Compliance with revised speed limit.	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
PRK 02	Redevelopment of the main station car park	HIGH	£7,200,000	Provision of circa. 570 spaces on three levels, including lifts and drop-off facilities.	High - Cost. - Agreements required with landowners. - Disruption during construction.	Greater Anglian / Network Rail	Future funding consideration by Network Rail / TOC	External stakeholder procurement	No funding secured at present
PRK 06	Reconfiguration of 'side car park'	MEDIUM TERM	£20,000	Revised demarcation of the bays to accommodate disabled parking and drop-off provision only.	Low	Greater Anglian / Network Rail	Future funding consideration by Network Rail / TOC	External stakeholder procurement	No funding secured at present

Project Ref. No.	Project	Delivery Priority	Estimated Cost	Scope	Risk	Lead Delivery Body	Potential Funding Mechanism	Delivery Mechanism	Status
PRK 10	On-street parking restrictions	MEDIUM TERM	£50,000	Single yellow lines on Station Road West, Duxford Road, Royston Road (built-up section) and Moorfield Road.	Medium - Requires decriminalisation of parking.	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
PRK 13	Bollards to restrict verge parking on Duxford Road	LONGER TERM	£20,000	Physical measures to prevent parking.	Low	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present
PRK 14	Formalise on-street parking on Royston Road (rural section)	LONGER TERM	£50,000	Signed and properly demarcated bays.	Low	County Council	Future funding consideration by GCP and County Council	County Council Highway Services contract	No funding secured at present

Figure 1: Scheme Delivery Inter-Dependencies