



Report To: Greater Cambridge Partnership
Executive Board

20 September 2017

Lead Officer: Chris Tunstall – Interim Transport Director

Cambourne to Cambridge Better Bus Journeys Scheme – Approach to Public Consultation informing Full Outline Business Case development

Purpose

1. To:
 - a) Update the GCP Executive Board on further assessment work carried out on the Cambourne to Cambridge Better Bus Journey Scheme since October 2016;
 - b) Agree an approach to the next public consultation based on the End of Stage Report as part of the ongoing Full Outline Business Case (FOBC) development.

Recommendations

2. It is recommended that the Greater Cambridge Partnership Executive Board:
 - (a) Agree, based on the considerations in this report, to undertake further public consultation on the Park and Ride options and route alignments identified in Appendix 4 for the Cambourne to Cambridge Better Bus Journey scheme as part of the ongoing development of the Full Outline Business Case;
 - (b) Agree the timetable in this report.

Reasons for Recommendations

3. The GCP Executive Board has previously agreed to the development of a FOBC for investment in the Cambourne to Cambridge corridor and these recommendations are in line with that approach.

Executive Summary

4. As part of the FOBC development process a public consultation should be undertaken at this stage on more specific options/ potential specific route alignments to inform future GCP Executive Board decision making on how to progress the scheme.
5. Work since October 2016 (the last GCP Key Decision point) has reinforced the strategic case for assessing a busway off road option alongside on road alternatives. Further analysis of both on and off road options has identified an approach to public consultation based on 2/3 Specific Route Alignments (SRA) (depending on the section of route) for an off road busway and 2 on road options (Options 1 and 6). The public consultation should be focused on the section of the corridor east Long Road although, subject to further assessment, a public consultation on Phase 2 alignment for the scheme (west of Long Road) could be

appropriate at a later date before any final decision on seeking statutory powers is made.

6. The SRA's have undergone further transport and environmental assessment in line with the approach instructed by the GCP Executive Board and the proposals for public consultation are considered to offer appropriate choices and contrasts to help support the ongoing information gathering for the business case development. The routes have also been considered in respect of 'future proofing' to the extent by which any infrastructure may be able to accommodate/ be adapted to new rapid transit modes such as light rail/ Affordable Very Rapid Transit (AVRT).
7. Additionally 2 Park and Ride (P&R) sites are proposed for further public consultation (Scotland Farm and Water Works) again as they offer clear choices and represent a balance of transport and environmental issues.

Background

8. This project is current in Step 3 (due to be completed in July 2018) Table 1 summarises the current point of development of the project and previous/future Steps.

Key Dates	Step	Description
Early work completed 2014. Funding approved January 2015	Step 1	Identify feasible options
Strategic Outline Business Case completed October 2016	Step 2	Identify options for further single scheme option development on the basis of a Strategic Outline Business Case (included public consultation on conceptual options)
Programmed for completion July 2018 or January 2019 depending on extent of scheme	Step 3	Develop a Full Outline Business Case for single scheme approval (following public consultation on specific options)
Dependent on type of statutory approvals needed but between 12 and 36 months after completion of Step 3	Step 4	Seek formal consent from the Secretary of State (or relevant local planning/highway authority) to construct – (includes a further statutory public consultation on a final scheme detailed proposal)

← Current stage of development

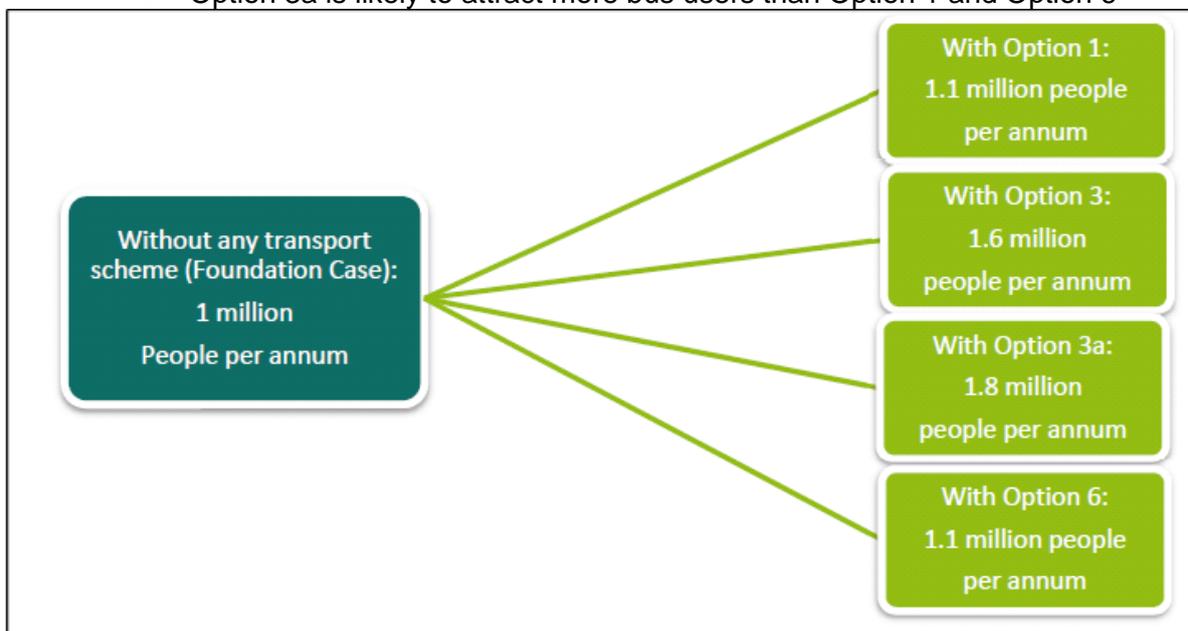
9. At its meeting in July the GCP Executive Board agreed to:
 - Undertake further detailed appraisal work on 4 Park and Ride Sites and the existing P&R site at Madingley Road

- Further develop the on line (on highway) Option 6 alignment to the same level as that for Option 1 and the off line Option 3A
10. The July report identified the significant engagement which has taken place with the local community since October 2016. Most recently 2 Workshops have been held to consider the P&R sites and the options/ alignments east of the M11, the findings from these meetings are provided in the **Background Paper: End of Stage Report**. An additional further meeting (as part of a LLF) is being held in September to cover both P&R sites and alignments, for those invites unable to attend the meetings in August. A verbal/ tabled update of this meeting will be given at the meeting.
 11. The independently facilitated workshops held in August were attended by 51 stakeholders (excluding officers and consultants). The high level issues raised at the workshops included:
 - Concerns regarding the environmental impact of new transport infrastructure away from the existing highway and the conversant need to fully assess the potential to use existing infrastructure
 - The role of ongoing community involvement/engagement in the scheme development process
 - The need to provide long term and strategic solutions for local transport issues
 - The importance of cycling and pedestrian links
 12. It is intended to hold further pre-consultation engagement as part of the ongoing scheme development process including specific workshops on refinement of Option 6. Further assessment of Options using the 'Multi Criteria Assessment Framework' previously presented in July 2017 has been undertaken with the LLF and this and the LLF comments are included in the Background Paper.
 13. A recent survey of over 1,000 users of the existing Cambridgeshire Guided Busway (CBG) endorsed the approach taken in the October 2016 report around the importance of 'fast frequent and reliable' public transport. The main reasons for using the busway were speed of the journey, reliability of the journey and frequency of the service with high numbers (37%) of people using the busway instead of the car. Satisfaction levels with the CGB are over 90%.
 14. In addition a telephone survey was undertaken of 1,000 potential users of the scheme along the corridor. This identified the following key points:
 - Reliability and frequency of service were considered the most important factors encouraging people to use a future bus scheme
 - These were followed by fast journey times and real time information as stops (reliability and predictability factors).
 - 35% indicated willingness to use a new P&R facility on the corridor
 - 61% of respondents had no concerns about the introduction of a bus scheme along the corridor but 21% did express concerns about potential greenbelt impact.
 15. A full draft report of the survey (subject to methodological checks) including the survey method and detailed outcomes is set out in the End of Stage Report

Considerations

Further Strategic Option Assessment

16. A full report on the further assessment carried out on the scheme is provided in the Background Paper: End of Stage Report. The following is a brief summary of key elements of that report.
17. The corridor is divided geographically into 2 Phases – Phase 1 (from Long Road to Cambridge City Centre) which has been included in the current GCP City Deal funding settlement as a priority scheme and Phase 2 which is, subject to business and case and future GCP City Deal funding priorities, a potential later stage of the scheme extending from Madingley Mulch to a future development at Bourn Airfield and then onto Cambourne.
18. In infrastructure terms:
 - Option 1 is a sectional on road east bound bus lane running from Madingley Mulch to Lady Margaret Road within the existing highway (although some widening may be required)
 - Option 6 is a tidal (bi directional) bus lane running from Madingley Mulch to High Cross within the existing highway (although some widening may be required)
 - Option 3/3a is a segregated busway from Bourn Airfield to Grange Road with a number of potential alignments
 - Plans of alignments/options are in **Appendix 1a/b/c**
19. In terms of scheme options the work undertaken since October 2016 has reinforced the high level Strategic Outline Business Case presented at the end of Step 2:
 - Option 3a is likely to attract more bus users than Option 1 and Option 6



- Journey time analysis confirms that Option 3a offers fastest journey times in both AM and PM peaks with a P&R at either Scotland Farm or closer to Madingley Mulch roundabout from both Cambourne or Madingley Mulch

	With Scotland Farm Park and Ride			With Madingley Mulch Park and Ride		
	Option 1	Option 3a	Option 6	Option 1	Option 3a	Option 6
AM Peak (7am to 10am) INBOUND	32	20	29	29	19	27
Interpeak (10am to 4pm) INBOUND	30	19	27	29	19	26
Interpeak (10am to 4pm) OUTBOUND	31	24	27	30	22	26
PM Peak (4pm to 7pm) OUTBOUND	32	24	28	31	22	28

Table: Cambourne to Grange Road Journey Times

	With Scotland Farm Park and Ride			With Madingley Mulch Park and Ride		
	Option 1	Option 3a	Option 6	Option 1	Option 3a	Option 6
AM Peak (7am to 10am) INBOUND	12	4	10	12	4	9
Interpeak (10am to 4pm) INBOUND	12	4	9	11	4	9
Interpeak (10am to 4pm) OUTBOUND	11	4	8	11	4	7
PM Peak (4pm to 7pm) OUTBOUND	12	4	9	12	4	8

Table: Madingley Mulch to Grange Road Journey Times

20. Option build costs (not including P&R) have been reviewed and are summarised below

Corridor section	Option 1	Option 6	Option 3a*
Phase 1	£12.4m	£17.7m**	£41.5m - £58.2m
Phase 2	N/A	N/A	£29.7m - £36.1m
TOTAL	£12.4m	£17.7m	£71.2m - £94.3m

*Option 3a costs differ depending on Specific Route Alignment

**Option 6 costs are for infrastructure which stops at High Cross

21. Based on the strategic objectives of the scheme a “minimum” and “target” Technical Specification is being developed to assist in the assessment process.
22. Further analysis using an extended version of the Multi Criteria Assessment Framework (MCAF) presented in July 2017 suggests that although Option 1 continues to perform well as lower cost on road comparator, the potential to achieve 2-way bus priority via Option 6 along the existing highway should be considered fully, in line with other options to ensure that any future investment decision is well informed on highway based alternatives. As such Option 1 and 6 should be taken forward for further public consultation along with the SRA's discussed below.

Phase 1: Specific Route Alignments (SRAs) for Public consultation

23. In addition to Options 1 and 6, for Option 3a within the Catchment Area agreed in October 2016 a number of SRA's have been identified. These SRA's do not represent final detailed specific fixed design proposals as that would only be appropriate as part of the next step of work and would require significant additional on site surveys.
24. For ease of reference each SRA is designated a signifying colour
Blue; Red; Green; Pink; Cyan (light blue); Purple
25. In October 2016 the GCP Board agreed a number of high level design criteria to be applied to further scheme development. These are
- Location of infrastructure – respecting the urban and rural context for example through assessing proximity to and the relationship with the existing built up areas
 - A specific route alignment assessment to test 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.
26. To reflect these criteria within the business case development process the approach to assessment of the SRA's has been subdivided into 2 broad headings:
- Transport criteria
 - Non-transport criteria.
27. In line with the previous decisions of the GCP Executive Board, the entire corridor is being assessed for FOBC purposes. Because of different environmental/ transport issues the entire corridor (Phase 1 and Phase 2 combined) was divided into 3 "sections" for the purposes of the assessment – Section 1: Cambourne to Long Road, Section 2: Long Road to M11 and Section 3: M11 to Grange Range.
28. A summary assessment table for each SRA for Sections 2 and 3 is set out in **Appendix 2**. Section 1 (Phase 2) is not considered (see Para 17) in this report as it is not proposed for consultation. The assessment presentation below is a brief summary of the Phase 1 issues forming the key consideration in terms of determining public consultation proposals.

Transport criteria

29. The transport criteria used to assess the scheme are:
- Journey time
 - Areas served
 - Connectivity (including cycling and pedestrian accessibility)

- Reliability
- Construction issues
- Safety
- Future proofing

30. Future proofing is defined as the extent to which any infrastructure may be able to accommodate higher frequencies of buses and its flexibility to be adapted to new rapid transit modes. It should be noted that the off line alignments maybe achieved through a Transport Works Act Order. This will result in the alignment being protected for any future guided transport proposals such as Light Rail/ AVRT. Considerations such as integration into potential future tunnels also forms part of the wider strategic assessment.

Long Road to M11 (Section 2 of Corridor)

31. There is little transport differentiation between the SRA's in this section of the corridor in terms of journey times. The Blue, Green and Red SRA's are very similar but to keep the public consultation clear the Blue SRA is proposed. The Blue SRA is aligned well with its counterpart SRA east of the M11 because it allows a straight ahead crossing onto the eastern Blue SRA promoting a faster journey time.
32. The Pink SRA does introduce more interaction with other modes at Church Lane and Madingley Road however it also provides a clearly different alignment from Blue at the north of the agreed scheme Catchment Area, which may be beneficial in terms of integration with future options on any Phase 2 on road alignments and a P&R option at Scotland Farm.

M11 to Grange Road (Section 3 of corridor)

33. For section 3 there are a greater range of key differences. In transport terms the key differences are journey times and reliability which need to be balanced with accessibility and connectivity. The Green, Blue and Pink SRA's are proposed for consultation.
- Green SRA – slower journey times and less reliability but well integrated with West Cambridge development – best works with Adams Road exit to Grange Road but could work with Rugby Club Access
 - Blue SRA – faster journey time and segregated. Good integration with West Cambridge - best works with Rugby Club Access to Grange Road. Potential loss of trees along the alignment and will pass close to the entrance to key public buildings in West Cambridge.
 - Pink SRA – provides some segregation– can work with both Adams Road and Rugby Club Access
34. In terms of access to Grange Road it is recommended that the Adams Road and the Rugby Club Access be taken forward for further work for the following reasons:
- Adams Road has existing infrastructure and is within closer proximity to West Cambridge.
 - The Rugby Club Access is further south but has little constraint regarding transport. Furthermore, the Rugby Club Access requires low amounts of land take whilst providing a segregated route all the way to Grange Road.

Non-transport criteria - Highlights

35. *Planning assessment:* In section 3 of the corridor, the cyan route is considered to have potential for more significant harm on green belt and that the transport benefits can be obtained in this section using another SRA with lower harm.
36. *Flood risk assessment:* Bin Brook is a significant factor within the study area and is designated as Main River.
37. The *historic environmental assessment* has identified extensive buried archaeological remains, dating from the Palaeolithic to modern periods within the area of the proposed alignments.
38. A *landscape and visual assessment* has identified a number of recommendations in relation to the ongoing approach to design and landscaping.
39. In *ecological* (as defined within the WebTAG assessment which is a more narrow definition than “environmental”) terms there is no clear differential between the SRA’s. Of note is that Great Crested Newts are present in the University Sports Field pond.
40. A corridor wide assessment of *noise impacts* has been undertaken. The assessment concluded that the permanent impact is likely to be “negligible”.
41. *Air quality appraisal:* Cambridge has two Air Quality Management Areas The inner ring road and the A14 bypassing Cambridge. The scheme does not enter these areas.
42. Some SRA’s seek to mitigate *severance of fields*, namely the West Fields and within Green Belt land by tracking hedgerows around agricultural land. Where there is a clear transport benefit in not doing this, it will need to be substantiated and weighed against planning policy.
43. *Environmental studies* have highlighted and confirmed a number of constraints within the study area however none have been identified as ‘show-stoppers’ but which require further detailed assessment including potential avoidance and/or mitigation strategies where appropriate.

Future Investment Programme Phase– Phase 2 (Long Road to Cambourne)

44. There are key strategic issues which will impact the overall consideration of the benefits of Phase 2 proposals. These include:
 - (a) The potential for high quality public transport connections through West Cambourne and Greater Cambourne including a bus only road between Cambourne and Bourn Airfield delivered via agreement with the West Cambourne developer. This process of engagement is underway, including involvement from Cambourne Parish Council but specific proposals are not yet agreed under S106 Heads of Terms.
 - (b) The master planning of any future development of Bourn Airfield and how this may provide for segregated bus infrastructure. It is understood that public consultation on the Bourn Airfield Supplementary Planning Document is expected around the end of 2017.
 - (c) The Transport Assessment of any development proposal at Bourn Airfield in terms of impacts on St Neots Road

- (d) The specific impacts of changes to the A428 west of Caxton Gibbet toward St Neots in terms of traffic flows and potential future congestion at Madingley Mulch Roundabout.
 - (e) More detailed design of future Park & Ride sites and their integration with bus priority either on or off highway.
 - (f) More analysis on the future alignment of the Phase 1 element of the route
 - (g) The overall business case for intervention west of Madingley Mulch (if at all)
45. The congestion in this section of the corridor is currently low compared to the Phase 1 section of the corridor. Delivery of the submitted Local Plan objectives will be primarily tested by addressing the highly congested areas and this fed into the initial prioritisation of the Phase 1 section for GCP investment.
46. While it remains important to assess the corridor as a whole, given the context of the GCP phasing and the ongoing development of strategic considerations, in the Phase 2 section it is proposed to complete FOBC process before any public consultation is held on Phase 2 of the corridor scheme.

Park & Ride sites

47. The report to the July 2017 GCP Executive Board explained the 2 stage P&R review along the corridor.
48. 5 sites were shortlisted for Stage 2 (see plan **Appendix 3**).
 Site 0: Madingley Road
 Site 3: Waterworks
 Site 4: Crome Lea
 Site 5: Scotland Farm
 Site 6: Bourn Airfield
49. The key conclusions from the Stage 2 P&R Study are:
- a) Madingley Road is in the Green Belt and space constrained. Some expansion of the site to add additional spaces could be undertaken but would not address the anticipated level of demand. The issue of ownership and a limited lease is also a risk. Moreover, this site does not enable incoming traffic to divert onto buses west of the M11. Madingley Road will remain in the assessment as a low-cost comparator for scheme appraisal purposes but does not fulfil the requirements of a do-something scheme.
 - b) Crome Lea is felt to be less desirable than the Waterworks site on both environmental and traffic grounds. Specifically it is virtually adjacent to the Madingley Wood SSSI, and all access and egress traffic would need to transit Madingley Mulch roundabout. The Chrome Lea site had significant opposition from local residents who perceived that the site would be visible from Coton village.
 - c) Bourn Airfield is considered less desirable than Scotland Farm given the possible pressure which would be put on the St Neots Road and the roundabouts connecting to the A428 by the proposed residential development. The additional pressure of traffic generated by the Park and Ride may be undesirable.
 - d) Therefore the two sites which merit further consideration are Scotland Farm and the Waterworks.
 - Scotland Farm has less visual impact on the wider countryside but is in close proximity to existing housing on Scotland Road

- Waterworks is already developed in places and there is existing development activity and associated visual impact associated with a radio mast and nearby street-lighting.
- Both sites lie in the Green Belt but Scotland Farm is located to the edge of the Green Belt.
- The Waterworks site is predicted to be more heavily used than Scotland Farm so offers greater potential transport benefits and opportunities for park and cycle to the city centre.
- Both sites should be offered for public consultation – neither have been included in the prior public consultation.

Approach to Public Consultation

50. A summary of the proposals for public consultation is set out in **Appendix 4**
51. The public consultation within the FOBC is not the equivalent of a final public consultation on the specific scheme proposal. The objective to public consultation at this Step is to help gather information to assist in the finalisation of the FOBC.
52. It is important that options must be transparent, fair and well informed. The purpose of the SRA's alignment selection is to encourage comment and feedback. The SRA's are not final detailed alignments and could be interchangeable at certain points e.g. the approach to a M11 crossing, subject to further business case development work. Any final specific alignment would be subject to a statutory public consultation in the next step of the project after a decision is made by the GCP Executive Board on whether or not to proceed with the scheme. This will be made clear in the consultation.
53. The public consultation will therefore focus on the issues, concerns, constraints and opportunities offered by the SRA's and other options in terms of the transport and environmental and other non transport elements which form part of the ongoing assessment process.
54. To support the public consultation process, external quality assurance from the Consultation Institution is being provided. The Consultation Institute is well-established not-for-profit best practice Institute, promoting high-quality public and stakeholder consultation in the public, private and voluntary sectors. Further engagement with LLF and other stakeholders will be undertaken prior to the public consultation. A full set of high quality material will be produced to support the consultation based on the End of Stage Report and further assessment currently in process as part of the FOBC.
55. Based on this approach to public consultation which is measured and appropriate the following key principles are proposed for the FOBC public consultation strategy:
 - a) That subject to further development of the FOBC a potential '2 stage' public consultation strategy is recommended
 - b) That initial public consultation (programmed for November 2017) is focused on Phase 1 of the scheme (from Madingley Mulch to Grange Road). This is the section of the route with the most significant known strategic issues given the current and projected levels of congestion.

Long Road to M11 Off Road Alignments

56. The Phase 1 public consultation should be based on 2 SRA's within the catchment area from Long Road to M11 (Pink and Blue alignments)
- The rationale behind this selection is that in this section the Pink and Blue SRA's both offer clear alternatives in terms of their location in the catchment area and offer the public/stakeholders the opportunity to comment on specific local issues which are well highlighted by these SRA's (for example impacts of Pink SRA interacting with Church Road and Madingley Road and the alternative crossing points at Cambridge Road Coton)
 - Additionally the Pink and Blue SRA's offer good potential to fit with different options to the west of Madingley Mulch in terms of both future alignments and P&R locations

East of M11 Road Off Road Alignments

57. To the east of the M11 it is proposed to consult on Blue/ Pink/ Green SRA's because they offer clear alternatives in terms of transport issues (e.g. journey time, accessibility, reliability) and different potential environmental impacts.
58. It is proposed to consult on the Rugby Club path and Adams Road as options to link the busway to Grange Road
59. It is not intended to consult at this stage on specific measures beyond Grange Road given the contingency with the emerging City Access Study and that such measures would in any call fall outside of the FOBC. Contextual information around future bus priority scenarios in the City Centre can be provided during the consultation.

Madingley Mulch to City Centre Road Options

60. It is proposed to consult on both Option 1 and Option 6 (on road options) for Phase 1 only

Phase 2

61. It is proposed that more analysis is undertaken on the FOBC for the entire corridor and that subject to this analysis a further public consultation is proposed for autumn 2018 on alignments west of Long Road. This public consultation will be more fully informed by emerging strategic considerations which impact the Phase 2 element of the scheme including the proposed alignment for the Phase 1 scheme.

Park & Ride

62. For P&R locations it is proposed to consult on the Water Tower site and Scotland Farm. The issues and opportunities around the existing P&R site at Madingley Road should also be part of the public consultation.

Options

63. The recommended approach is to continue to develop the scheme in line with WebTAG methods and ensure appropriate and timely public consultation to support the ongoing development of the FOBC.

64. Alternatively the GCP Executive Board may determine to consult on different SRA's or on road options. This may not offer the range of choices recommended in this report and may not fit with the ongoing FOBC development process
65. Alternatively the GCP Executive Board may determine not to consult at this stage of the FOBC development. This would not necessarily be outside of the standard FOBC development process as there is no specific requirement of when to consult within this step of work. However the recommended approach does assist with further identification of issues and therefore promote project progress. If issues come to light during the public consultation at a later date, that could impact the technical development work and programme.

Next Steps

66. The current step of scheme development (FOBC) is underway and will continue informed by further consultation. A summary of next steps is set out below:

Project Development Stage*	Target Date
Secure approval for public consultation on Phase 1 options and P&R sites	September 2017
Consult on basis of approval above	November to December 2017
Undertake further detailed FOBC analysis on entire corridor (Phase 1 and Phase 2)	September 2017 to June 2018
Present initial FOBC to Executive Board on entire corridor (broken down by phase) to determine full cost/benefits of options	July 2018
<i>Subject to FOBC evidence consult further on Future Investment elements of scheme**</i>	<i>Autumn 2018</i>
<i>Full FOBC presented to GPC Executive Board***</i>	<i>January 2019</i>
Subject to GPC Executive Board approval apply for formal powers to construct a scheme	Spring 2019
Subject to powers being granted present final scheme for GPC Board to start construction****	Spring 2021
Complete scheme	Summer 2024

**The above timetable does not preclude possibility for sectional completion of elements of the scheme with potential joint working with developers along the corridor subject to specific agreements*

***This stage can be omitted if the FOBC report in July does not prove case for investment on Future Investment section of corridor*

****This stage can be omitted if FOBC report in July 2018 does not prove case for investment in Future Investment section of corridor*

*****Construction period has been revised to 3 from 4 years following further assessment of a similar scale transport schemes.*

Implications

67. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered: -

There are no implications.

Appendices

1. Plan of assessed Strategic Route Alignments
2. Summary assessment tables for Strategic Route Alignments
3. Plan of P&R sites assessed for Stage 2 P&R Study
4. Strategic Route Alignments, On Road Options and P&R sites proposed for public consultation as part of FOBC development process

Background Papers

End of Stage Report (link below)

<https://www.greatercambridge.org.uk/transport/transport-projects/cambourne-to-cambridge/>

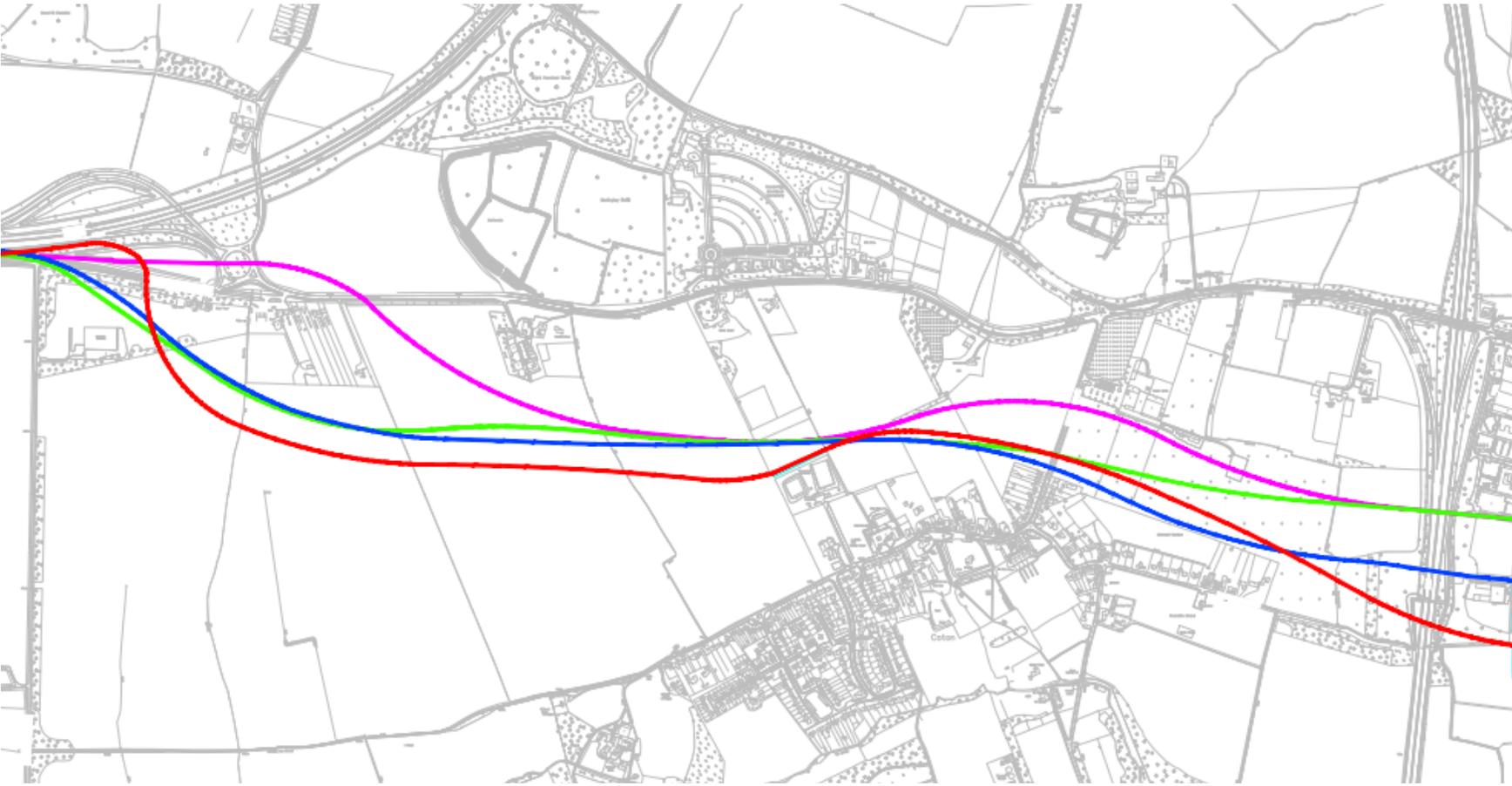
Report Author: Ashley Heller, Team Leader Public Transport Projects
ashley.heller@cambridgeshire.gov.uk

APPENDICES

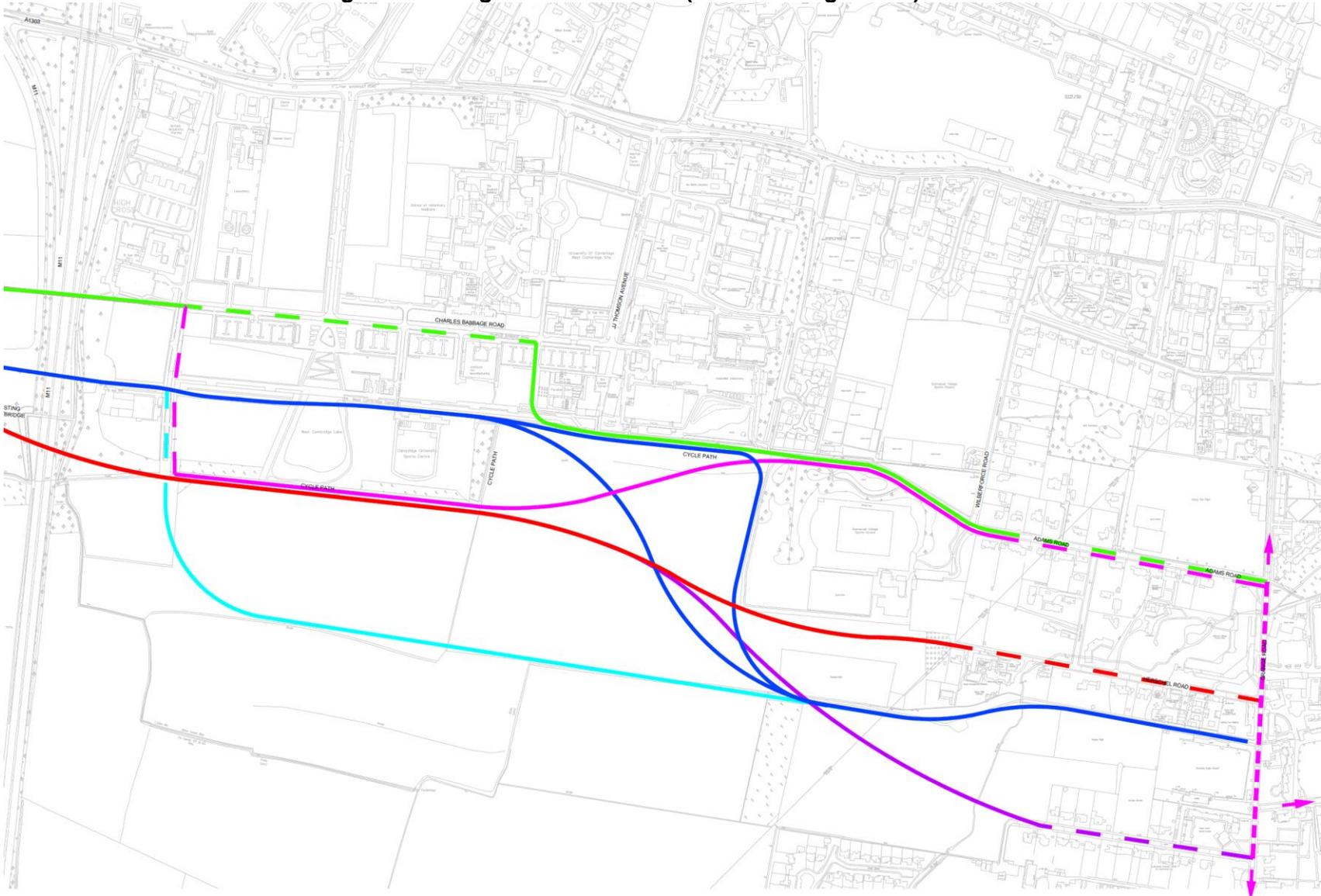
Appendix 1a – Option 1 and Option 6



APPENDIX 1b Plan of assessed Strategic Route Alignments –Phase 1 (Madingley Mulch to M11)



Appendix 1c Plan of assessed Strategic Route Alignments –Phase 1 (M11 to Grange Road)

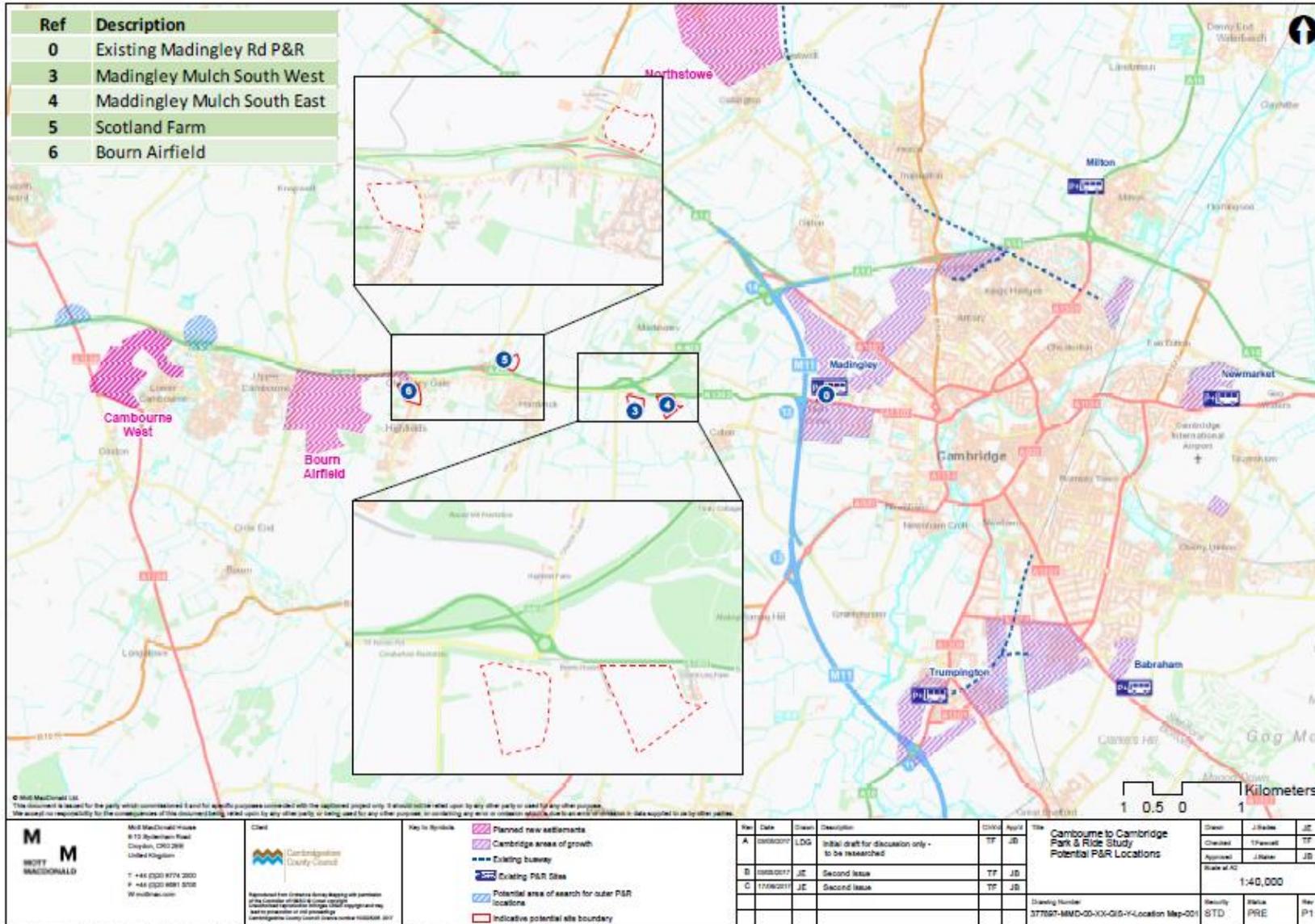


Appendix 2: Summary assessment tables for Strategic Route Alignments

Considerations	Blue	Green	Red	Pink	Cyan	Purple
Transport	<p>Journey Times – 16.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (central)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace</p> <p>West Cambridge – Bus hub provided centrally</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict with other modes</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>	<p>Journey Times – 17.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (Ada Lovelace)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge including buses</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace/Charles Babbage Road</p> <p>West Cambridge – Bus hub provided on Ada Lovelace</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict with other modes</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>	<p>Journey Times – 16.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (Ada Lovelace)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace</p> <p>West Cambridge – Bus hub provided on Ada Lovelace</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>	<p>Journey Times – 17.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (Ada Lovelace)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge including buses</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace</p> <p>West Cambridge – Bus hub provided on Ada Lovelace</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict with other modes</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>	<p>Journey Times – 16.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (Ada Lovelace)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace</p> <p>West Cambridge – Bus hub provided on Ada Lovelace</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict with other modes</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>	<p>Journey Times – 17.5 mins</p> <p>Catchment – Cambourne, Bourn, Hardwick, West Cambridge (central/Ada Lovelace)</p> <p>Connectivity – Interchange for modes at Cambourne/Bourn/West Cambridge</p> <p>Conflict – Crossing of St Neots Road/Cambridge Road/Ada Lovelace</p> <p>West Cambridge – Bus hub provided centrally/Ada Lovelace</p> <p>Constructability –new bridge over the M11.</p> <p>Safety – Off-Road alignment means less conflict with other modes</p> <p>Future Proofing - Corridor is designated as a public transport route allowing for easier adaptation</p>
Planning and Environment	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Presence of Great Crested Newts</p> <p>Badgers / Water Vole / European Otter (Bin Brook).</p> <p>Flood Risk – Runs adjacent to the balancing pond near Hardwick</p> <p>Route crosses existing drainage channel south of Madingley Wood.</p>	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Presence of Great Crested Newts</p> <p>Badgers / Water Vole / European Otter (Bin Brook).</p> <p>Flood Risk – Watercourse</p>	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Scrubland to the East of the M11</p> <p>Conservation area to the north of Whitwell Way is most ecologically valuable.</p> <p>Presence of Badgers / Water Vole / European</p>	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Presence of Great Crested Newts.</p> <p>Flood Risk – routes will cross an existing drainage channel south of Madingley Wood.</p> <p>Historic Env – In general,</p>	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Presence of Badgers / Water Vole / European Otter (Bin Brook).</p> <p>Flood Risk – routes will cross an existing drainage channel south of</p>	<p>Planning – Green Belt location to the east of Hardwick.</p> <p>Ecology – Presence of Badgers / Water Vole / European Otter (Bin Brook).</p> <p>Flood Risk – routes will cross an existing drainage channel south of</p>

Considerations	Blue	Green	Red	Pink	Cyan	Purple
	<p>Route Crosses Bin Brook.</p> <p>Historic Env – In general, the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas. Stacey Road has been identified as a noise sensitive area.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>	<p>by Wellington Way.</p> <p>Ordinary watercourse with no known fluvial flood mapping.</p> <p>Runs adjacent to the balancing pond near Hardwick Route crosses existing drainage channel south of Madingley Wood. Route Crosses Bin Brook.</p> <p>Historic Env – In general, the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas. Stacey Road has been identified as a noise sensitive area.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>	<p>Otter (Bin Brook).</p> <p>Flood Risk – Watercourse by Wellington Way.</p> <p>Ordinary watercourse with no known fluvial flood mapping.</p> <p>Runs adjacent to the balancing pond near Hardwick Route crosses existing drainage channel south of Madingley Wood. Route Crosses Bin Brook.</p> <p>Historic Env – In general, the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>	<p>the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas. Stacey Road has been identified as a noise sensitive area.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>	<p>Madingley Wood. Route crosses Bin Brook.</p> <p>Historic Env – In general, the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>	<p>Madingley Wood. Route crosses Bin Brook.</p> <p>Historic Env – In general, the area closer to the City of Cambridge is more likely to contain preserved remains of Roman and medieval periods.</p> <p>Landscape/visual – Bypasses Madingley Wood SSSI. Potential severance of openness of Green Belt and Westfields.</p> <p>Noise – Bourn Airfield has been identified as a sensitive noise area. Highfield North and North-East Coton have been identified as sensitive noise areas.</p> <p>Air Quality – No specific comments relating to the area surrounding Option 3a in this section.</p>

Appendix 3: P&R sites assessed for Stage 2



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M M
NEFT MACDONALD

M&M MacDonald House
 8-10 Aqueduct Road
 Claydon, CO2 2RH
 United Kingdom

T +44 (0)20 8774 2000
 F +44 (0)20 8881 5700
 W m&m.co.uk

Client
 Cambridgeshire County Council

Approved for issuance being subject to the terms and conditions of the contract. This document is issued for the party which commissioned it and for specific purposes connected with the approved project only. It should not be relied upon by any other party or used for any other purpose.

Key to Symbols

- Planned new settlements
- Cambridge area of growth
- Existing busway
- Existing P&R Sites
- Potential area of search for outer P&R locations
- Indicative potential site boundary

Rev	Date	Drawn	Description	Checked	Approved
A	02/08/2017	LDG	Initial draft for discussion only - to be researched	TF	JB
B	09/08/2017	JE	Second issue	TF	JB
C	17/08/2017	JE	Second issue	TF	JB

Title
 Cambourne to Cambridge Park & Ride Study
 Potential P&R Locations

Drawing Number:
 37767-MMD-00-10-015-14-Location Map-001

Drawn	J.Bell	JE
Checked	T.Pearce	TF
Approved	J.Have	JB
Scale M.A.S.	1:40,000	
Security	STD	PRE
Rev	P1	

Appendix 4: Strategic Route Alignments, On Road Options and P&R sites proposed for public consultation as part of FOBC development process

