



Report To: Greater Cambridge Partnership
Executive Board

26 July 2017

Lead Officer: Chris Tunstall – Interim Transport Director

A428/A1303 Better Bus Journeys Scheme – Further scheme development update

Purpose

1. This report updates the Executive Board on further work and engagement undertaken since October 2016. This work forms part of the business case to evaluate options for providing high quality public transport infrastructure between Cambourne and Cambridge in accordance with the Greater Cambridge Partnership vision.
2. The Cambourne to Cambridge Better Bus Journey scheme is key to meeting Partnership objectives supporting economic growth and the submitted Local Plans. This report seeks to ensure that scheme continues to progress in line with the approved development process whilst also reflecting community input.

Recommendations

3. It is recommended that the Executive Board:
 - (a) Note the progress to date on the scheme development.
 - (b) Agree a short list of Park and Ride (P&R) sites for further development work to enable a decision to be made at the September Board for a preferred site or sites to be consulted on.
 - (c) Agree if further work is to be undertaken in respect of an Option 6 alignment.
 - (d) Agree the next steps/ timetable detailed.

Reasons for Recommendations

Park and Ride sites

4. Following the October 2016 report on selecting a preferred option for further analysis, as instructed by the Board, a direct comparison between P&R Location 4 (a site to the east of Madingley Mulch roundabout), Location 1 to the north west of the roundabout and a P&R site at Scotland Farm was commissioned. This report identified potential environmental concerns. This has required additional assessment and comparison on a first principles basis. Consequently a whole corridor review of all P&R options along the Cambourne to Cambridge corridor is being undertaken. Phase 1 of this corridor review has identified and scored the most feasible sites for a P&R location. These locations and their score are set out in summary form in **APPENDIX 1**.
5. The full Phase 1 assessment is provided in Background Paper 1: **PARK & RIDE ASSESSMENT**. Officers now propose, subject to Executive Board agreement, to complete Phase 2 of the P&R corridor review which involves assessing in more detail a shortlist of sites in order to identify a P&R site or sites for public consultation.

Busway Alignment

6. The development of Full Outline Business Case (FOBC) to inform a future investment decision by the Executive Board is required, in line with Department for Transport guidance, to include a low cost comparator to the preferred option (Option 3/3a). The comparator provided in the October 2016 report was termed Option 1 and comprised east bound bus priority along Madingley Hill and Madingley Road.
7. In October 2016 the Executive Board instructed officers to undertake a topographical survey of the A1303 from Madingley Mulch to the M11 and to also undertake preliminary design to assess whether or not it is feasible to provide a two way busway, a cycleway and a road within the existing highway boundary. This work confirmed that it was not possible to achieve this level of infrastructure within the highway boundary.
8. Following this work a further on road option was developed by the Local Liaison Forum (LLF) – known as Option 6 – which has been included in the ongoing assessment on a similar basis to Option 1 and Option 3/3a. A summary of the key features of Option 6 are:
 - An express and stopping service pattern from Cambourne to Cambridge
 - Express service using A428 dual carriageway
 - Stopping service using Old St Neots Road with site specific bus priority interventions at key junctions
 - Bus priority across Madingley Mulch Roundabout
 - A central (potentially tidal) bus lane from Madingley Mulch to West Cambridge
 - No bus priority beyond West Cambridge
9. Officers have undertaken an initial transport based assessment of Option 1, 3/3a and Option 6 using criteria provided by the LLF, consistent with the earlier criteria used in October 2016. This assessment addresses the core transport objectives of the scheme i.e. the extent to which each option will result in ‘fast, frequent and reliable’ bus services along the corridor. The assessment outcomes are set out in summary form in APPENDIX 2.
10. **Background Paper 2 – ‘A1303 Bus Priority Options’** sets out in more detail the assessments undertaken on both the original instruction to investigate a segregated busway along the existing highway alignment
11. The assessment presented in this report is not the level of analysis equivalent to that of the Strategic Outline Business Case (SOBC) presented in October 2016 and therefore further work on Option 6 would be required should that option be presented for consultation in November 2017 on a consistent basis with Option 3/3a and Option 1. For example further clarity on Option 6 east of the West Cambridge site would assist in the overall evaluation of this option against Option 1 and 3/3a.

Background

12. In October 2016 the Executive Board:
 - (a) **Noted** the accompanying option assessment report, the further background papers containing the outline business case and the map appended to the report

- (b) **Agreed** in principle, that a segregated route between Cambourne and Cambridge, with a Park and Ride near the Madingley Mulch roundabout, best meets the strategic objectives of the City Deal and the City Deal Agreement, given the wider economic benefits.
 - (c) **Agreed**, in principle, that the possibility of a segregated cross country super cycleway running close to or through the key villages between Bourn Airfield and the M11 should be explored as part of a wider examination into improving cycle links between settlements in Greater Cambridge.
 - (d) **Instructed** officers to undertake a topographical survey of the A1303 from Madingley Mulch to the M11 and undertake preliminary design to assess whether or not it is feasible to provide a two way busway, a cycleway and a road within the existing highway boundary, and to share the information with the Local Liaison Forum.
13. Additionally the Board instructed officers to undertake further appraisal on:
- (a) Possible specific route alignments within catchment area 3a, with catchment area 3 as an alternative if option 3a proves unviable, noting that both would connect with and potentially through Cambridge West, in accordance with the scheme design criteria set out in paragraph 12 of the report, and within established environmental and planning regulations.
 - (b) A new Park and Ride at either Scotland Farm or a new location 4, which combines site 2 with the north portion of site 3, (see **APPENDIX 1B** of this report), with the remainder of site 3 not to be used for any Park and Ride facilities, in accordance with the scheme design criteria set out in paragraph 12 of the report, and within established environmental and planning regulation.
14. To achieve this work the Board delegated to Cambridgeshire County Council's Executive Director of Economy, Transport and Environment the following:
- (a) To act with input from the A428/A1303 Local Liaison Forum (LLF) including the Parish Councils and Residents' Associations along catchment areas 3a and 3, interested Members of the Joint Assembly and interested elected Members from the County Council, City Council and District Council.
 - (b) To act in consultation with the Chairman and Vice-Chairman of the Executive Board.
 - (c) Responsibility to identify a specific route alignment(s) within catchment area 3a or, if necessary, catchment area 3.
 - (d) Responsibility to identify a footprint for a Park and Ride location at either Scotland Farm or new location 4, as set out above.
 - (e) Responsibility to bring back the results of (the) above to the Joint Assembly and Executive Board ahead of the next round of public consultation

Engagement with the Local Liaison Forum

15. On 2 February 2017 following presentation by officers to the LLF of the topographical and design information on a two way busway, road and cycleway within the existing boundary, the LLF resolved to move forward with Option 6, as an on road alternative

to Option 1 and asked GCCD to undertake a full evaluation of it alongside option 3/3a. Further detail on Option 6 was presented to the LLF at a subsequent LLF on 17th March 2017.

16. In addition the LLF resolved Scotland Farm should be considered as the location of the P&R and to also assess the impact of a P&R impact on Dry Drayton
17. Officers have now engaged with a LLF technical working group to discuss the evaluation criteria for Option 6 and for P&R options. This criteria is based on the earlier assessment approach used in the recommendations of the October 2016 report to the Executive Board.
18. A workshop was organised in June 2017 with the LLF and other local stakeholders to discuss the key criteria for P&R location selection along the Cambourne to Cambridge corridor. The outcomes of this workshop are summarised in Background Paper 1.
19. For the comparator of Option 6 a number of meetings have been held with the LLF technical working group as summarised in Background Paper 2.

Considerations

The process of scheme development

20. The City Deal assurance framework requires that a business case is to be produced for all schemes proposed for investment. The business case serves to demonstrate if the scheme is in the public interest. This test of public interest is pivotal to obtaining future statutory powers to construct a scheme. As such it is important that at all points, the approach taken to developing the scheme is framed by the business case methodology.
21. At the October 2016 Executive Board, the considerations and recommendation in the report were based on a Strategic Outline Business Case (SOBC). The SOBC is a first stage business case for the purpose of comparing high level options. Following that meeting officers have been further developing a Full Outline Business Case (FOBC) for the preferred option. This FOBC will - when completed - assist the Executive Board in deciding what measures best meet GCP objectives and represent best public value for money.
22. Both the SOBC and FOBC conform to Department for Transport Assessment Guidance (TAG) in line with the assurance criteria and as set out in the October 2016 report and accompanying background papers. The FOBC comprises a wide ranging document and includes:
 - *As assessment of the case for public investment (the '5 cases') in more detail for a preferred option*
 - *TAG guidance recommends that lower cost comparators are included as part of the FOBC*
 - *The FOBC includes the outcome of consultation and engagement*
23. In October 2016 the Executive Board agreed that an off road segregated busway between Cambourne and Cambridge was preferable in principle with an accompanying Park & Ride site to the east of Madingley Mulch. Reflecting the concerns raised by the local community and LLF both during and after the October 2015 consultation on high level options, and in line with the TAG approach to option assessment and public engagement, further consideration of bus priority and P&R

facilities was instructed by the Executive Board. The following sections set out the further analysis on both the bus priority scheme options and a potential P&R location along the corridor

Option alignment

24. Option 1 (a series of east bound bus lanes along the length of Madingley Hill and Madingley Road) as set out in the SOBC, already provides for the TAG requirement for a low cost comparator within the SOBC and FOBC but does not offer potential for bus priority west bound along Madingley Hill toward Madingley Mulch. The LLF have expressed concerns that Option 1 did not therefore provide a fair comparison with Option 3/3a in terms of potential transport benefits. The Executive Board instruction in October 2016 to undertake topographical surveys along Madingley Hill was to determine if a 2-way busway (a busway both inbound and outbound) could be achieved within the highway boundary. The surveys demonstrated this was not possible.
25. The outcome of the initial assessment of a 2 way busway along the existing highway alignment was presented to the LLF, which then supported further assessment of an option to provide 2 way bus priority rather than a segregated busway within the highway boundary along Madingley Hill. This option was defined by the LLF as 'Option 6.'
26. Option 6 is a community based proposal to achieve future 2 way bus priority along Madingley Hill with minimal land requirement outside the existing highway boundary through the use of a tidal flow central bus lane.
27. Currently a SOBC has not been undertaken for Option 6 due to competing calls on the Cambridge Strategic Regional Model (CSRM) and the need to undertake further environmental assessment.
28. However officers have undertaken a "transport planning" based assessment of options 1/6/3a for comparative purposes. This assessment has been undertaken using a combination of transport modelling (using the VISSIM tool – a transport network simulation software package) and on site observations to establish and check assumptions. This level of transport modelling is beyond that used in the SOBC in October 2016 so also revises key transport indicators for Options 1 and 3/3a.
29. In addition to the transport planning assessment, Option 6 has undergone a high level environmental/property assessment to allow for an initial comparison overview of these options. Option 1 and 3/3a had already undergone an environmental assessment as part of the SOBC presented in October 2016. Again it would be expected that this assessment is enhanced to SOBC level for Option 6 to allow for a full like for like comparison should Option 6 be presented for public consultation. At this stage prior to a SOBC being completed a summary Multi Criteria Assessment Framework (MCAF) approach has been undertaken which is set out in APPENDIX 2.
30. The MCAF sets out the range of key criteria and other considerations in selecting options for a major transport scheme. The MCAF indicates that the options presented score differently on the criteria and other considerations. At this stage no initial Benefit Cost Ratio (that is the monetarisation of overall benefits and costs including environmental, transport and social issues) is provided for Option 6 and this would be determined through the completion of a SOBC for that option.

31. The assessment of Option 6 against other options has been developed on a criteria agreed with the LLF using a standard scoring methodology. However the specific application of the scoring to the criteria has been undertaken by the officer led project team. The LLF have at technical meetings indicated disagreement with some elements of the scoring and these comments have been provided in full in Background Paper 2 to this report.
32. Additionally as stated, while the MCAF table contains a number of key criteria it does not represent a full assessment of the options. Further transport considerations that would ordinarily be part of an ongoing assessment include:
 - Resilience –to impacts from highway accidents, more control over stats / utilities and roadworks etc.
 - Longevity – Ability to ‘future proof’ the system.
 - HQPT Attributes – for example offline ticketing, improved bus waiting areas, good ride quality, ticketing and waiting infrastructure, ride quality.
33. The MCAF assessment demonstrates that Option 6 based on the initial assessment does not score as highly as Options 1 or 3a. Further assessment using the full SOBC criteria will offer the potential to further measure the performance of Option 6.

Park & Ride

34. Following the instruction of the Executive Board in October 2016, officers undertook a Cambourne to Cambridge Park & Ride location study published in April 2017, which directly compared Madingley Mulch Site 1 and 4 against a site at Scotland Farm. These sites are presented in APPENDIX 1B
35. This study confirmed that on a strategic transport basis, a site close to Madingley Mulch at Site 4 remained preferable but that sites had potential environmental impacts. This suggested that a wider search of other potential sites along the corridor should be undertaken.
36. As such a full review of all potential feasible P&R sites along the Cambourne to Cambridge Corridor was commissioned. A brief for the review was shared with the LLF who confirmed their agreement to it. The review is being carried out in 2 phases:
 - Phase 1 – a corridor wide review of all feasible P&R options that meet the key scheme objectives in order to identify an initial ranking of sites
 - Phase 2 – further assessment of a short list of sites with the highest rankings from Phase 1.
37. Both Phase 1 and Phase 2 involve workshops with the local community including the LLF to obtain feedback on the approach taken and any emerging conclusions.
38. Phase 1 has now been completed with all feasible sites identified in APPENDIX 1C
39. An assessment criteria for the siting of P&R locations has been developed and agreed with local stakeholders at a workshop. This criteria has been used to rank the sites as set out in APPENDIX 1A
40. APPENDIX 1A identifies 4 sites with the highest ranking in each area as follows
 - 1 Bourn Airfield (highest ranked of the outer sites)
 - 2 Scotland Farm (the only central site considered)
 - 3 Madingley Mulch South West – Water Works (highest ranked of the inner sites)
 - 4 Madingley Mulch South East – Crome Lea Farm (fourth highest ranked site)

41. In addition in order to provide Members with a clear comparison on the potential for increasing the utilisation of the existing site, it is proposed to further assess the Madingley Road P&R site for expansion/intensification.
42. Phase 2 of the review will provide further more detailed assessment of each site with particular focus on potential environmental impacts and the potential future integration into options for bus priority between Cambourne and Cambridge. BCR will be generated as part of the SOBC for the selected sites combined with the different routing options.

Next steps

43. The next steps leading up to Key Decision 4 (seeking Board authority to seek powers to construct a scheme) would be as set out in Table 1.

Date	Key Event
August 2017	Further stakeholder workshop on P&R shortlist
September 2017	Report to Executive Board on options for consultation including a specific route alignment(s), on road comparators and P&R location
September-October 2017	Develop information required for consultation
November – December 2017	Undertake public consultation
Ongoing to May 2018	Complete Full Outline Business Case for options
June 2018	Report to Executive Board on Full Outline Business Case and recommendation for seeking powers to construct a scheme

TABLE 1

44. A detailed implementation strategy including procurement, contract management and construction timetable would form part of the June 2018 report on a Full Business Case.

Options

45. It is recommended that officers continue with the Business Case analysis for on and off road options and Park & Ride locations in line with the assurance criteria and as set out in the steps in Table 5.
46. Alternatively the Executive Board may wish to select at this stage a new preferred option (either Option 1 or Option 6). This would involve superseding the decision made by the Executive Board in October 2016.
47. In the case of selecting Option 1 this would involve the Board determining that based on the additional transport planning information contained within this report it is considered that the previous strategic decision around 3/3a should be reversed. Ordinarily that decision would only take place after the presentation of the Full Business Case in June 2018 which allowed for a full and consistent comparison between the options.

48. In the case of Option 6 this would involve the Board determining that this option has a higher strategic fit than Options 1 and 3/3a. The Board would be taking this decision without a SOBC being completed for Option 6, which will, subject to the recommendations above, for the Boards September meeting. Ordinarily that decision would only take place after the SOBC for Option 6 were fully prepared and contrasted with Options 1 and 3/3a.
49. Alternatively the Board may decide to exclude Option 1 from any further business case assessment and replace it with Option 6 for comparison purposes against Option 3/3a. As above the Board would be taking this decision without a SOBC being submitted for Option 6. Additionally Option 6 is not the lowest cost comparator (whereas Option 1 is) and by removing Option 1 from the analysis may make it less likely that a on road option is seen as offering a good value for money alternative to Option 3/3a. This may impact the weighting of the final FOBC.
50. Finally the Board may decide to exclude Option 6 from any further business case assessment. This would be compliant with the required process as a low cost comparator would remain in the business case (Option 1) but would not allow the Board to fully assess Option 6 to the same level as Option 1 and 3/3a (to the level of SOBC) as currently committed

Implications

51. 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: -

Financial and other resources

52. Resources are allocated as part City Deal Tranche 1. Developer contributions would, subject to agreement, also form part of a funding package for a final scheme

Legal

53. There are no legal implications in this report.

Staffing

54. Project management undertaken by the City Deal team.

Risk Management

55. A project risk register has been developed and will be updated throughout the course of the project

Equality and Diversity

56. There are no equality & diversity implications in this report.

Climate Change and Environmental

57. There are no climate change implications in this report.

APPENDICES

1: APPENDIX 1: KEY INFORMATION PHASE 1 P&R REVIEW

2: APPENDIX 2: MULTI CRITERIA ASSESSMENT FRAMEWORK FOR ON ROAD/OFF ROAD OPTIONS”

BACKGROUND PAPERS

1: PARK & RIDE STUDY PHASE 1 (MOTT MCDONALD): [https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/Milton Road/Documents/A428%20background%201.pdf](https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/Milton%20Road/Documents/A428%20background%201.pdf)

2. [A1303 BUS PRIORITY OPTIONS \(SKANSKA - ATKINS\)](#)

Report Author: Ashley Heller - Team Leader
ashley.heller@cambridgeshire.gov.uk