

Report to: Greater Cambridge Partnership Executive Board

22 November 2017

Lead officer: Chris Tunstall – GCP Director of Transport

A1307 Three Campuses to Cambridge

1. Purpose

- 1.1. The A1307 Haverhill to Cambridge corridor is one of the key radial routes into Cambridge. It suffers considerably from congestion during peak times, particularly at the Cambridge end, at the junction with the A11 and around Linton, the largest settlement on the corridor. There are also some large employment sites in this corridor including the Babraham Research Campus (BRC), Granta Park, and Cambridge Biomedical Campus (CBC). The A1307 east of the A11 also has a poor accident record, particularly on the stretch around Linton and eastwards towards Horseheath.
- 1.2. The corridor has been identified by the Greater Cambridge Partnership's Executive Board, as a priority project for the first five years of the Greater Cambridge Partnership programme.
- 1.3. In March 2017, the Joint Assembly and Executive Board were asked to review preferred options for the A1307 project, which had emerged from the public consultation in Summer 2016, approve further technical work to develop and refine the options, and to endorse a second public consultation exercise on the preferred options, to commence June 2017.
- 1.4. Shortly before the Joint Assembly and Executive Board meetings in March, the first Local Liaison Forum (LLF) meeting for this project occurred, and the LLF provided its view that more work on the options should take place before consulting the public.
- 1.5. The Joint Assembly and Executive Board took on board the views and concerns of the LLF, and a decision was made to delay public consultation to allow development of the options with the LLF.

2. Recommendations

- 2.1. The recommendations to the Executive Board are to:
 - i) Note the revised options and strategies resulting from work with the LLF;
 - ii) Note the increased cost of the strategies, more than the £39m previously estimated, as a result of additional options;
 - iii) Approve the withdrawal of existing park and ride proposals at Babraham Village and Wild Country Organics pending new larger sites being identified;
 - iv) Approve public consultation on the three strategies to start in February 2018;
 - v) Delegate authority to the Transport Director to approve public consultation materials in conjunction with the Chair and the Transport Portfolio Holder;
 - vi) Approve environmental surveys to be carried out starting in January 2018 to meet seasonal windows for species;

- vii) Authorise officers to progress the design and planning of lower cost works within the public highway, not requiring consents, for early delivery, subject to consultation;
- viii) Note the recommendation of the Joint Assembly to ask the LLF determine the title of the project.

3. Officer comment on Joint Assembly recommendations and issues raised

- 3.1. The Joint Assembly was overall supportive of the approach being recommended to the Executive Board. There was some concern that the three strategies showed a drop in cycling rates and the Joint Assembly wanted this both explored and explained further in the scheme options.
- 3.2. The Joint Assembly was complimentary and felt reassured about the process that had been undertaken with the LLF to get support for the three strategies presented. They also supported a proposal to consult on the three strategies as they are now and only consult on park and ride options at a later date, once a preferred strategy is agreed in order to move the scheme forward quickly.
- 3.3. Another theme that emerged from the Joint Assembly discussions was to pursue the lower cost options common to all three strategies, particularly those east of the M11 once the Board has received and agreed the result of the consultation.
- 3.4. The project has been officially titled A1307 Three Campuses to Cambridge and referred to as such on the GCP website and in consultation material. The title is not inclusive of the section east of the A11 to Haverhill (Horseheath, county boundary). The Joint Assembly considered that the current title is neither representative of the catchment of the proposals nor the geography of the scheme, but could not agree on a suitable alternative. The Joint Assembly proposed that the Local Liaison Forum decide on the scheme title, and this has been added to the recommendations in section 2.1.

4. Key issues and considerations

Revised Options

- 4.1. To develop the options a total of 5 LLF workshops were held. Attending the workshops in addition to the LLF included, but were not limited to, stakeholders from Addenbrooke's, Cambridge Past Present and Future, Magog Trust, Trumpington Residents' Association, Hills Road Residents Association, Babraham Road Residents' Association, FECRA, and Save the Green Belt). In the workshops, delegates were asked first to generate ideas for consideration. The ideas were then filtered down into viable options for assessment.
- 4.2. The assessment was fed back to delegates at three subsequent workshops, each dealing with a discrete section of the route for manageability. Delegates, working in diverse small groups, were asked to score (from 0 – not at all important, to 5 – very important) each option as to how important it was to achieving GCP objectives. The output of each workshop was an agreed score for each group which was then averaged to generate a score. The options were then ranked by the agreed score and by additional criteria applied by officers, comprising economic benefit, contribution to quality of life, improved connectivity, reducing congestion, reducing traffic, environmental impact, land take required, and contribution to improving road safety. Options that ranked low and were scored low by the LLF were discarded. The individual options remaining in the process were assembled into three route strategies. (See plans in Appendix D – links to separate document).

4.3. The three strategies are:

i) **Strategy 1:** Segregated / off – road busway from the A11 via Sawston, Stapleford and Great Shelford to the CBC Campus connecting via the campus to the existing guided busway with a Park and Ride at the A11/A505 junction.

Estimated cost: £130m-145m, indicative economic benefits £280m - £320m. *This strategy has the greatest mode shift and greatest use of P&R.*

ii) **Strategy 2:** A new Park and Ride site on the A1307 close to the A11 with on-highway bus lanes to Babraham Road Park and Ride site. From Babraham Road P&R site an off-highway dedicated bus-only road would be constructed to the Cambridge Biomedical Campus (CBC).

Estimated cost: £42m-46m, indicative economic benefits £165m - £180m

iii) **Strategy 3:** A new Park and Ride site on the A1307 close to the A11 with on-highway bus lanes to the roundabout at the front entrance to Addenbrooke's Hospital.

Estimated cost: £39m-44m, indicative economic benefits £145m - £165m. *This strategy has the least mode shift and least use of P&R*

4.4. The strategies were then taken back to the LLF in a final workshop on 6th September and delegates were asked to score each strategy regarding its contribution to GCP objectives, the environmental impact, and the benefit to road safety and traffic management. The outcome of this process is shown in Appendix A, Figure 5.

Strategic Fit

4.5. The Mayor for Cambridgeshire and Peterborough has promoted a light rail scheme between Haverhill and Cambridge, which would be likely to follow a similar route to the busway element of Strategy 1. However, an options appraisal to consider the viability of all rapid mass transit alternatives is currently being undertaken jointly by the Combined Authority and Greater Cambridge Partnership. Therefore, the most viable form and type of public transport intervention will be clearer following the completion of the study by the end of 2017 and will inform the consultation process in 2018.

4.6. There is a proposal by the A1307 Strategy Board, led by Haverhill Chamber of Commerce, for dualling the A1307 between Haverhill and the A11. Current suggested routes bypass Linton, either to the north or the south, but connect to the A11 south of the A505. This project targets a different demographic to the GCP scheme, and the dualling, as currently conceived, would not conflict with the GCP proposals west of the A11. There would remain a need for measures to promote use of sustainable transport to reach Cambridge.

4.7. East of the A11 if the dualling went ahead it would reduce or eliminate the need for the proposed bus lanes at Linton. However, these may still be required as a short term improvement measure. None of the GCP measures east of the A11 would impact the case for dualling of the A1307.

4.8. The A1307 Bus Priority and Public Transport proposals have a good fit for development pressures at the Biomedical Campus, Babraham Research and Granta Park. The level of car parking at Granta Park is not sustainable in terms of promoting dependency on car transport. Strategy 1 in particular would offer a public transport alternative for Granta Park as bus services could easily be extended into the campus.

Review of Options

- 4.9. The options presented to the Assembly and Board in March 2017 were included in the re-assessment and workshop process. Some original options were dropped as they were not strongly supported by the LLF, without significantly impacting the benefits of the scheme. New options have been added that were suggested by the LLF and found to be beneficial. These changes are detailed in Appendix B.
- 4.10. The traffic modelling done in the original options report was updated in the summer of 2017 using the latest version of the Cambridge Sub-Regional Transport Model (CSRM) released in July 2017. Traffic modelling has been carried out on the assumption that the City Access measures achieve a 10% - 15% reduction on 2011 traffic levels by 2031. The mode shift benefits and demand for P&R services and space on the A1307 are therefore based on the displacement of parking in Cambridge achieved by City Access.
- 4.11. All three strategies address problems and issues along the whole route but differ regarding solutions only at the western end. Strategy 1 proposes a busway or other public transport intervention between the A11 at Granta Park and the Cambridge Biomedical Campus (CBC). This option was not presented to the Assembly in March 2017. Strategy 2 proposes online bus priority measures on the A1307 west of the A11 with a bus only road between Babraham Rd P&R site and CBC. Strategy 3 proposes online bus priority measures on the A1307 west of the A11 all the way to the Fendon Road roundabout at Addenbrooke's Hospital. Strategy 2 and 3 are similar to the options presented in March 2017.
- 4.12. The impact of each strategy on Mode Share is indicated in Appendix A, Figure 2. The modelling method is relatively insensitive to changes in foot and cycle modes; however, the growth of traffic in the period to 2031 means that although the share change is negligible, there is an actual increase in the use of cycle and foot modes. The share change is also calculated across the whole route and does not account for increased foot and cycle use in any one part.
- 4.13. In all strategies works east of the A11 are the same. Highway constraints at Linton limit what can be achieved to reduce the bottleneck, without a bypass, but the measures proposed will prioritise buses on the A1307 and encourage cycling. Officers are working with Linton Parish Council on measures in Linton to improve bus movement through the village.
- 4.14. At a public meeting with the LLF on 26 September 2017 the three strategies and the score assigned to them by the LLF at the previous workshop were presented. The LLF resolved that all three strategies should be subject to public consultation.

Increased Costs

- 4.15. As a direct result of changes in options (see Appendix B) the estimated costs have increased. The costs for Strategies 2 and 3 which are similar to the original proposals in March 2017 have increased to between £39m and £47m. The cost of Strategy 1, which includes the busway, is estimated to range from £130m to £145m.
- 4.16. Strategy 1 generates the greatest modal shift and the greatest economic benefits (£280m to £320m) against Strategy 2 (£165m - £180m) and Strategy 3 (£145m - £165m). The benefit-cost ratio for Strategy 1 (2.2) is lower than for Strategy 2 (3.85) or Strategy 3 (3.75) as although it has the highest economic benefit, it also costs significantly more than the other options.

Park and Ride Site Proposals

- 4.17. In March 2017 consultants identified potential sites for the preferred options for a park and ride site on the A1307 at Babraham, and at Little Abington. However, as a result of further modelling, revised growth assumptions, demand from City Access, and emerging policy that new strategic sites should be minimum 2000 spaces and large enough for expansion to 3000 spaces ; these sites are no longer considered large enough to accommodate 1400 to 2200 additional spaces now forecast.
- 4.18. The first site at Babraham is constrained by a high-pressure gas transmission pipeline with an exclusion zone limiting land available. Works to the gas pipeline have been estimated to cost £3m. Expansion avoiding the gas pipeline would cause the P&R site to spill round the village perimeter, sandwiching it between the P&R site and the Babraham Research Campus.
- 4.19. The alternative site at Little Abington is occupied by an Organic Produce business. Consultation with the landowner has identified that would result in significant impact on the landholding (50% land loss) and the potential loss of 55+ jobs. Considerable investment has been made in the farm, which would be lost. Although a 2000 space site could be accommodated here, expansion to 3000 spaces would be difficult without impacting school playing fields. A site of 3000 spaces would excessively dominate the village setting and add to the existing impact of Granta Park.
- 4.20. The Board are asked to approve the withdrawal of the current P&R proposals at Babraham Village and Wild Country Organics.
- 4.21. Different park and ride strategies were examined as depicted on Appendix A, Figure 3. Traffic surveys carried out in 2016 (Appendix A, Figure 4) showed that of traffic on the A1307 at Babraham some 50% originates from the A11. Of traffic on the A1307 at Little Abington, less than 50% continues to the A1307 west of the A11 at Babraham; the remainder joins the A11 and A505. Relatively little traffic on the A1307 at Haverhill is destined to Cambridge via the A1307. Consequently, park and ride is most attractive for mode change with a site located close to the A11; and on the strategic road network.
- 4.22. Operating a dedicated park and ride service to Haverhill or Linton would be costly due to the number of buses in transit to maintain a 10-minute or 15-minute service interval. It was suggested by both Stagecoach and Whippet (Tower Transit) that a dedicated P&R service beyond the A11 would not, in their opinion, be viable. They did, however, support a concept whereby scheduled services could stop at a park and ride site located directly on the A1307. This concept was termed a local hub, with a 500 space P&R site adjacent to the A1307 and a facility for scheduled services to pull in.
- 4.23. Park and Ride demand is shown in Table 1

Table 1 Park and Ride Demand

	Strategy 1	Strategy 2	Strategy 3
Total Spaces Required in Corridor	3586	3341	2905
Existing Spaces at Babraham Rd P&R Site	1458	1458	1458
Additional Spaces Required	2128	1883	1447

- 4.24. The increase in demand for park and ride space is at least 99% more than the capacity of the existing Babraham Road site.
- 4.25. The different P&R strategies were included in the workshops with the LLF. The LLF preferred the strategy with a P&R site only at the A11. This is shown in Table 2.

Table 2 - LLF support for P&R Strategies

Strategy	Average Agreed Score	Average Priority
A11 P&R and retain existing Babraham Rd P&R	2.7	3
Haverhill P&R and A11 P&R and retain existing Babraham Rd P&R	2.2	3
Linton + Haverhill P&R and retain existing Babraham Rd P&R	1.5	4
Linton P&R and retain existing Babraham Rd P&R	1.5	5
Local Hubs	1	2
Haverhill P&R and retain existing Babraham Rd P&R	1	4

- 4.26. Additional traffic modelling has been carried out of various P&R strategies. In all cases, the existing Babraham Road P&R site is retained, and modelling was carried out based on Strategy 3 (bus lanes). The results are shown in Table 3.

Table 3 - Park and Ride Performance

Park and Ride Strategy	Mode Share	Bus Patronage	P&R Usage (Peak Hr)
Babraham Road P&R only	51%	1091	772
Babraham Road P&R with A11 P&R	64%	2197	1284
Babraham Road P&R with Haverhill Hub and A11 P&R	67%	2279	1319
Babraham Road P&R with Linton/Haverhill Hubs and A11 P&R	66%	2022	1290
Babraham Road P&R with Linton P&R	65%	1976	1258

- 4.27. Although a strategy with a local hub at Haverhill, in addition to a P&R site at the A11, achieves higher mode share and usage, the incremental use for the additional cost of £5m to £7m is small. Modelling shows uptake of a site at this location to be low, with most users preferring to drive to the A11 to take advantage of shorter bus journey times. On this basis, a local hub park and ride site at Haverhill offers poor value for money. Locating a single park and ride site significantly east of the A11 would fail to intercept traffic joining from the A11. Consequently, the optimum P&R strategy is to locate a strategic park and ride site close to the A11. In all strategies the existing Stagecoach 13, 13A, 13B, 13C, and X13 services are retained.
- 4.28. Based on the three Strategies consultants have identified four other potential park and ride sites, two close to the A1307 and two close to the A505, subject to consultation with landowners and stakeholders.

- 4.29. Shortlisted sites would only be included in a further, more detailed public consultation, once a preferred strategy has emerged from the public consultation on the three strategies and more detailed business case work. This approach enables the development of park and ride sites and consultation with landowners and stakeholders to take place without delaying public consultation on the strategies.

Public Consultation

- 4.30. Public consultation on all three strategies is programmed for February 2018 and will last 6-8 weeks. The response to consultation will be analysed and used to inform selection, based on the strongest business case, of a preferred strategy to take forward.

Environmental Surveys

- 4.31. Environmental surveys are planned to commence in January 2018. Tenders are being invited with an estimated cost of £150,000. Seasonal windows restrict the time of year that surveys can be carried out. If surveys do not start in January 2018, the scheme will be delayed.

Appointment of Consultants

- 4.32. The current consultant, WSP, has a commission that ends with preparing the Outline Business Case for Key Decision 4, expected in July 2018. Mott MacDonald has been appointed for the A428 on a framework commission that also includes options for A1303, Western Orbital, and the A1307. Mott MacDonald can, therefore, be appointed without further procurement activity to take the A1307 up to and including detailed design and full business case, subject to negotiation of an acceptable fee.

Lower Cost Works

- 4.33. Some works are relatively low cost and can be carried out within highway without needing land acquisition, and planning consent. Some TROs may be required. These works can be carried out after the consultation but earlier than the main works and provide benefits. The suggested works include:
- i) Installation of MOVA at Linton Village College (£35k). Modification of the controller to provide additional traffic capacity. This will relieve some of the congestion and delays on the A1307 at Linton.
 - Speed reduction measures Horseheath to Linton (£400k). These will positively impact road safety. Further consultation with stakeholders will be required, but the works are reducing the speed limit, possibly introducing camera enforcement, and changing signing and road markings.

5. Options

- 5.1. Each of the three strategies provides for improved bus journey times between Haverhill and CBC, improvement of provision for non-motorised modes, improvement of the junctions at the Gog Farm Shop and Granhams Road, enhancement of Babraham Road P&R site, and an underpass to improve safe connectivity for non-motorised users near Wandlebury.
- 5.2. All three strategies include westbound and eastbound bus-lanes at Linton, junction improvements at Linton Village College, Linton High Street, B1052, and Bartlow Road, safety improvement between Linton and Horseheath, signalisation of Hildersham High Street junction, and conversion of the footbridge (Slough Footbridge) over the A11 for cycle use.
- 5.3. The Combined Authority (CA) has a planned, but currently unfunded, study of the A505 in its forward programme as a joint study between the County Council and the CA. This may proceed in 2018/19 and is understood to be focused on providing additional highway capacity.

- 5.4. The LLF is keen to see smaller scale lower cost measures implemented as quickly as possible. The measures east of the A11 which are common to all strategies can be delivered independently of the measures west. This means a decision on which Strategy does not delay implementation of improvements between the A11 and Haverhill.
- 5.5. The busway element of Strategy 1 requires further development before a full commitment could be given to delivery. A “twin track” approach will be adopted, should Strategy 1 emerge as a preferred option, whereby work would progress on the other elements of the A1307 improvements, while more detailed work was done on the environmental impact and details of the busway. In particular how the busway would operate, whether it should be guided or unguided, and how it would integrate with the existing busway and the proposed Cambridge South Station.
- 5.6. When this more detailed work was completed, the Executive Board will be given the opportunity to decide on the busway element. This approach avoids delaying other interventions on the A1307, and avoids abortive work on developing the busway should Strategy 2 or Strategy 3 be favoured following public consultation.

Stakeholder Consultation

- 5.7. Officers are liaising with Highways England regarding the conversion of the Slough Footbridge over the A11 to cycle use, and use of the River Granta underbridge for equestrians. Highways England is very supportive and may be able to provide partial funding from their Designated Fund for improving cycle links adjacent to the strategic road network.
- 5.8. All works proposed are within the Cambridgeshire County Boundary, but officers will continue to liaise with Suffolk County Council and Haverhill Town Council.
- 5.9. Cambridge University Hospital Trust (CUHT) support both on-highway bus lanes and a bus only road link from Babraham Road P&R site. They have suggested that this links to Hinton Way rather than Babraham Road. There was less certainty over the bus only road option with concern over the actual bus services that might use it. CUHT consider that the following ‘on-campus’ measures, which they suggest should be funded by GCP, may be needed to obtain full benefits of the proposals:
 - Addenbrooke’s Bus Station review and infrastructure upgrade
 - Robinson Way infrastructure improvements
 - Walking and pedestrian crossing improvements
 - New and existing bus stop improvements
 - New bus hub and turning circle on Keith Day Road
 - Support for additional cycle parking on Campus.
 - Any scheme needs to address the hospital entrance and the Hills Road/ Fendon Road roundabout and how bus movements on and off Campus would work.
- 5.10. The Hills Road/Fendon Road roundabout is currently outside the scope of the A1307 project. Officers will continue to work with CUHT on the proposals, but measures on campus are not currently part of the A1307 project and will be reviewed once a preferred strategy is agreed.
- 5.11. Concerning the busway proposal, the view of CUHT was expressed that it connects to the campus at a point that is least advantageous to the hospital, this will be reviewed before public consultation.
- 5.12. Trumpington Residents’ Association (TRA) has expressed concern over the busway proposal, based on the current stage of development, and level of information available. TRA are concerned that it could lead to further expansion of the Biomedical Campus.

Officers will consult further with TRA and consider their concerns ahead of public consultation.

- 5.13. Cambridge Past Present and Future and the Magog Trust have expressed concerns over the environmental impact of the busway, but consider that there is potential for this to be mitigated by sensitive design and good landscaping to create a linear park.
- 5.14. Linton Parish Council is concerned over the westbound bus lane on the A1307 and that it could in the future be converted into an HGV lane. To do so would require publication of Traffic Regulation Orders and there would be consultation and opportunity to object.
- 5.15. Gonville and Caius College and The Gog Farm Shop have stated strong support for the proposed junction improvement at Haverhill Road, and oppose the alternative of restricting right turns.

Comparison of Strategies:

	Strategy 1	Strategy 2	Strategy 3
Estimated Cost	£130m to £145m	£42m to £46m	£39m to £44m
Economic Benefit	£280m to £320m	£165m to £180m	£145m to £165m
Benefit Cost Ratio	1.2 to 2.2	2.85 to 3.85	2.75 to 3.75
LLF Score	185	122	120
Completion Date	2022	2020	2020

Notes to table:

- 1. Cost includes 44% Optimism Bias and is current cost.
- 2. Economic benefit does not include wider economic benefits
- 3. Benefit-Cost Ratio is based on costs and benefits discounted to present value
- 4. Higher values of Benefit-Cost Ratio are based on optimistic growth assumptions that exceed current committed development. This includes aspirations at the Cambridge Biomedical Campus and 5000 new homes in Uttlesford. The lower values are with committed development only.
- 5. Strategy 1 completion date includes the busway. On-highway elements could be completed by the end of 2020. The date of 2022 is based on no delay arising from competing infrastructure proposals.
- 6. LLF Score is the total score for the strategy assigned by LLF delegates. A higher number indicates higher subjective performance.

6. Next steps and milestones

- 6.1. Subject to the decisions made by the Executive Board, further technical work and consultation preparation will continue over the winter, with a full public consultation exercise planned for February 2018. Preferred Option Selection and development of the Outline Business Case is planned during Spring 2018 and the Outline Business Case in support of a preferred Strategy prepared by July 2018 for Key Decision 4.
- 6.2. Members of the GCP Assembly were keen that options east of the A11 should not be delayed by considerations of public transport alternatives west of the A11. The programme prepared by officers is based on this approach.
- 6.3. More programme information is provided in Appendix C.

7. Implications

Financial and other resources

- 7.1. The Initial Budget Estimate approved by the Board in 2016 was £39m. The three strategies now presented range in cost from £44m to £145m. A decision on which strategy to adopt will be based on the results of public consultation and the business case.
- 7.2. The Board are asked to note that all three strategies exceed the initial budget estimate of £39m.

Risk management

- 7.3. There are additional risks should the busway option be adopted; notably regarding potential conflict with other strategic projects leading to delay, and in the statutory process being more onerous should a guided option be adopted.

Climate change and environmental

- 7.4. All three strategies sustain mode shift and reduce reliance on cars as a mode of transport, and reduce cars entering Cambridge.

Consultation and communication

- 7.5. A public consultation was first held in 2016 on initial concepts. Consultation with stakeholders was held in 2017 and is ongoing. Stakeholders consulted include Cambridge University Hospitals Trust, Cambridge Past Present and Future, and the Magog Trust. A first meeting with the Local Liaison Forum was held in March 2017, with workshops between April and September, and the second meeting in September 2017.

8. List of Appendices

Appendix A	Figures
Appendix B	Changes to the Scheme resulting from LLF workshops and consultation
Appendix C	Programme
Appendix D	Strategy Route Plans \\ccc.cambridgeshire.gov.uk\data\Et Shared\City Deal\Infrastructure programme\Individual scheme business cases\A1307 corridor\LLF\Workshop 26092017\A1307 Strategy 1 Proposals 190917.pdf \\ccc.cambridgeshire.gov.uk\data\Et Shared\City Deal\Infrastructure programme\Individual scheme business cases\A1307 corridor\LLF\Workshop 26092017\A1307 Strategy 2 Proposals 190917.pdf \\ccc.cambridgeshire.gov.uk\data\Et Shared\City Deal\Infrastructure programme\Individual scheme business cases\A1307 corridor\LLF\Workshop 26092017\A1307 Strategy 3 Proposals 190917.pdf

9. Background Papers

Options Report Addendum	
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Appendix A – Figures

- Figure 1 - Relationship with Other Projects
- Figure 2 - Mode Share Changes
- Figure 3 - Park and Ride Strategies
- Figure 4 - Traffic Movements at A1307 - A11 Junction
- Figure 5 - LLF Support for Strategies

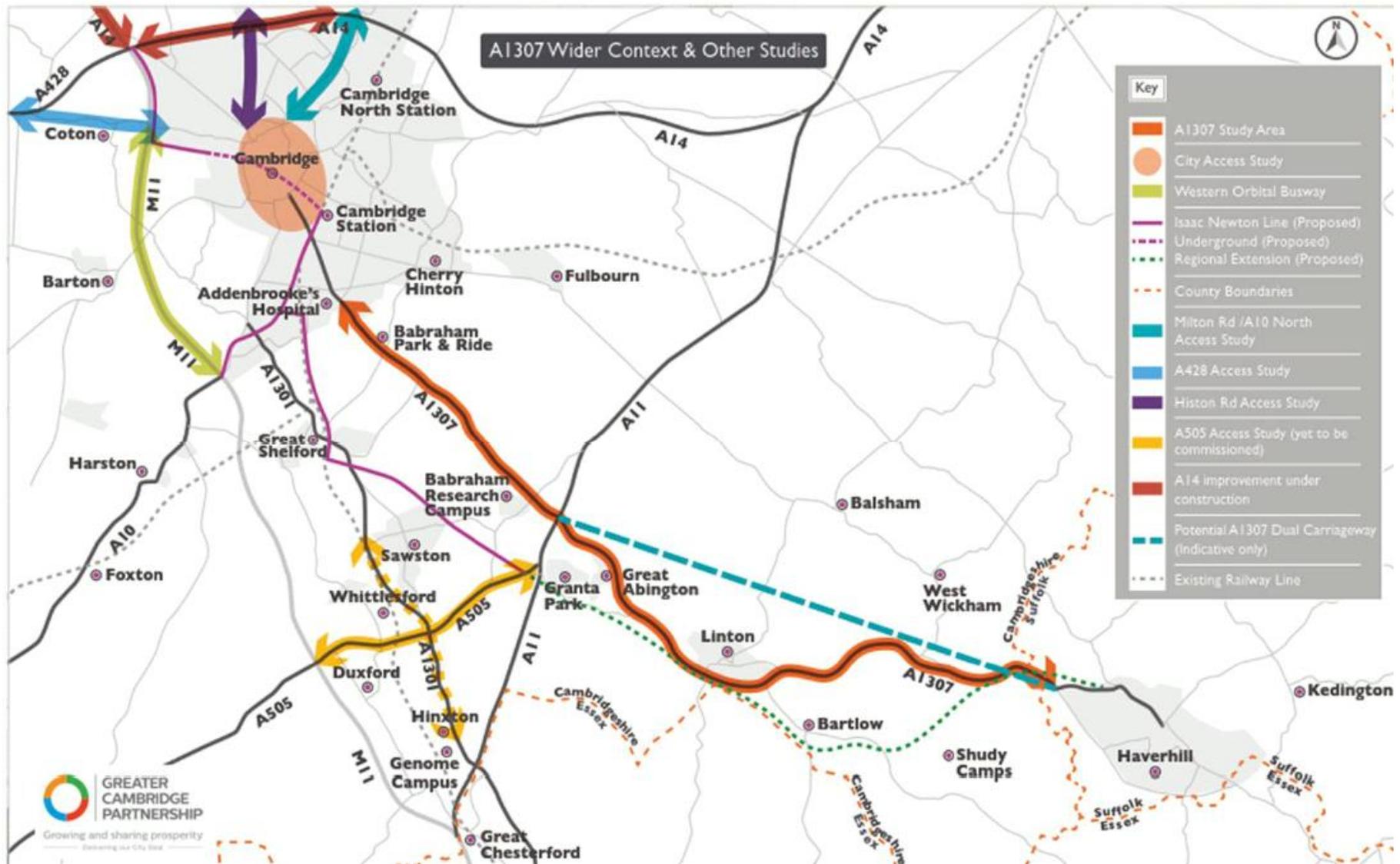
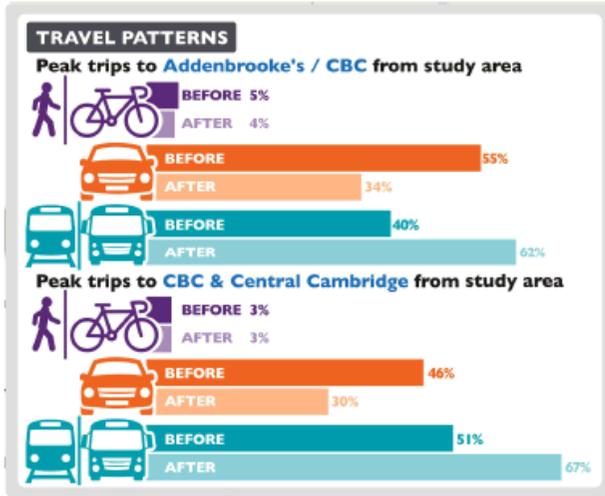
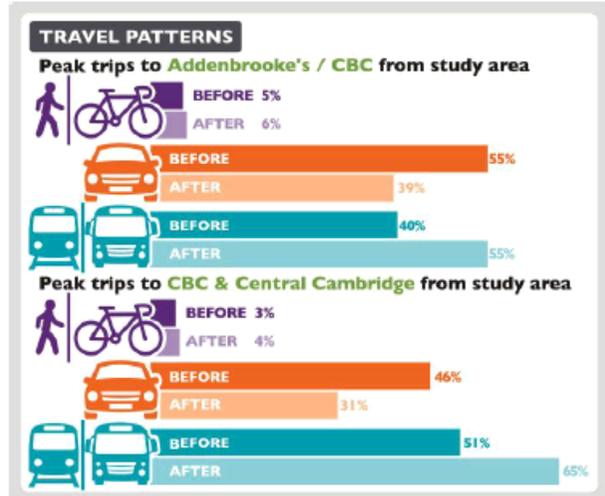


Figure 1 Relationship with Other Projects

Strategy 1



Strategy 2



Strategy 3

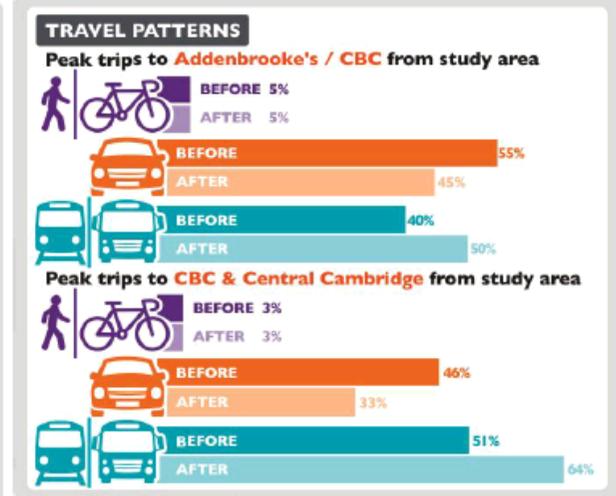
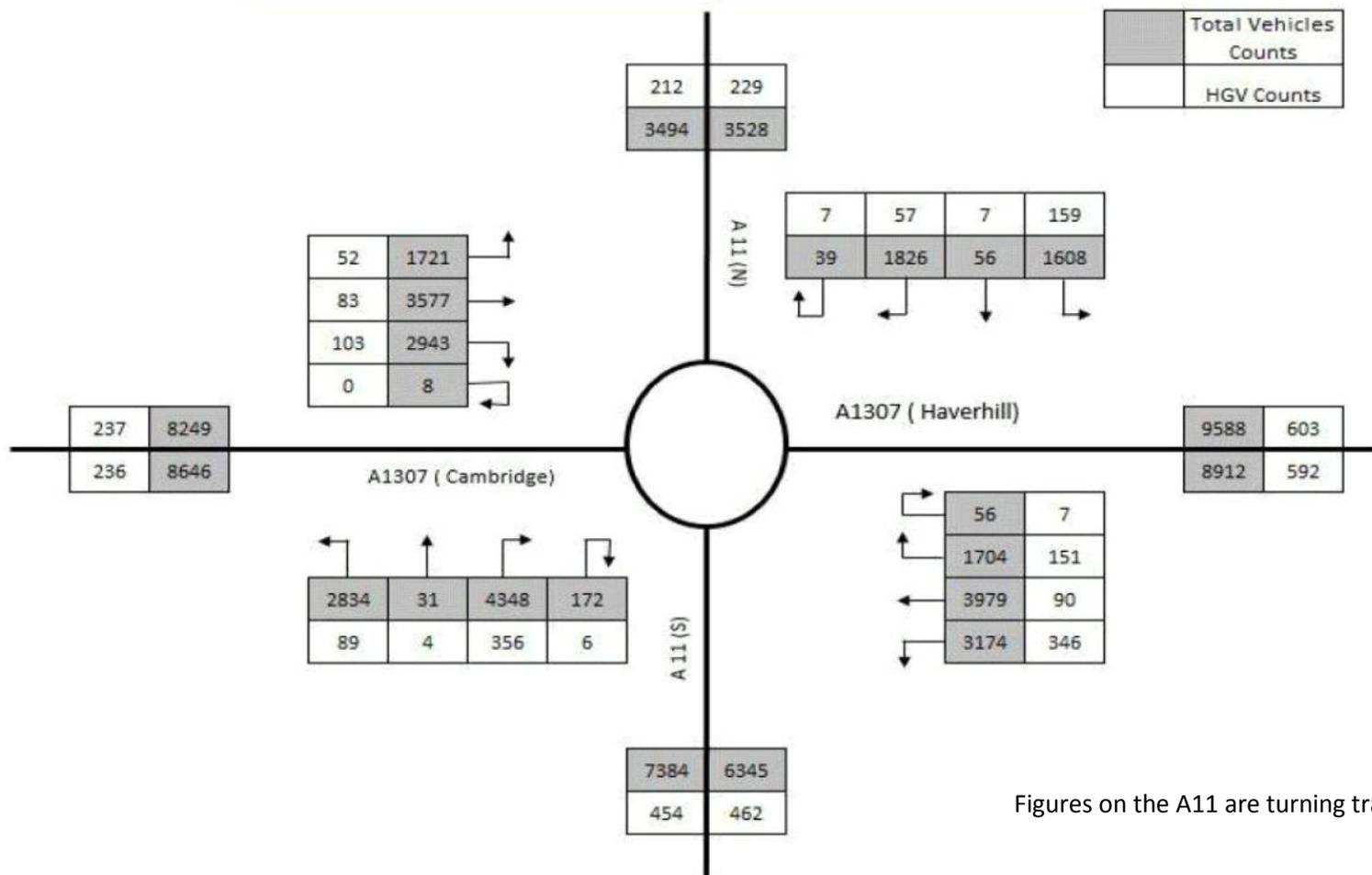


Figure 2 Mode Share Changes



Figure 3 Park and Ride Strategies



Figures on the A11 are turning traffic only

Figure 4 Traffic Movements at A1307 - A11 Junction



Each aspect scored 1 to 5 by the LLF on perceived contribution. Numbers are total score for that aspect, and total overall score for strategy.

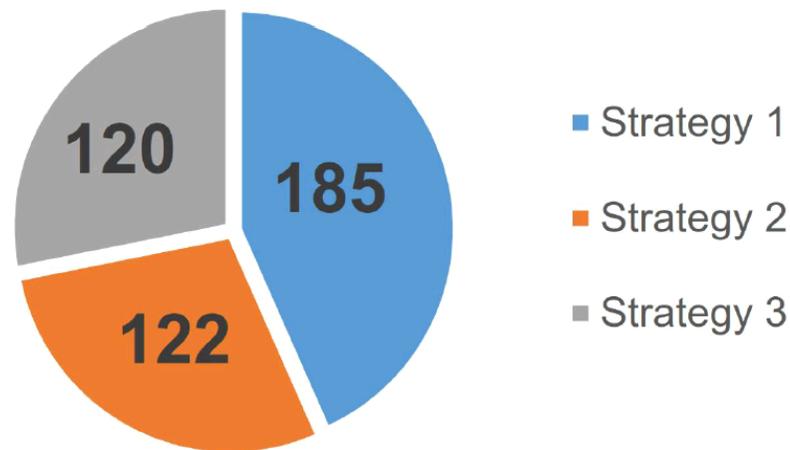


Figure 5 LLF Support for Strategies

Appendix B - Changes to Scheme from LLF Consultation

Options presented in March 2017 that have now been dropped

Linton High Street measures to improve flow of buses	Not strongly supported by the LLF and Linton PC. Working with Linton PC on alternatives
Hinton Way “Hamburger”	Not strongly supported by the LLF. Consideration will be given to alternative ways of providing for bus priority at Hinton Way roundabout.

Options added since March 2017 proposed by the LLF and Stakeholders

Busway via Sawston	<p>A busway running along the route of the old railway line between the A11 at Granta Park and the CBC campus. This option was previously examined as a busway to Haverhill. The revised option avoids the high cost of crossing the A11 and the costs of the extension to Haverhill, by limiting construction to the section having the highest usage.</p> <p>The route is close to significant population centres at Sawston, Stapleford and Great Shelford and would provide good access from a P&R located close to the A11. The routing close to the A505 widens the area benefiting from investment and results in a greater mode shift and traffic reduction than other options.</p> <p>It is not predicated that such a busway would need to be guided, and through routes to the existing guided busway can be provided without this section needed to be guided. Proposal of a busway at this stage does not preclude other public transport interventions such as light rail or trams.</p>
Eastbound bus lane on approach to All	The existing dual carriageway approach to Four Wentways at Babraham is already proposed for reduction to single lane as a Local Highway Improvement funded by Babraham Parish Council. On the approach to the roundabout, one lane would be used as a bus lane.
Eastbound bus lane on approach to Linton	Previously omitted, further work shows a moderate benefit from a peak hours only bus lane using one lane of the dual carriageway section. In combination with the implementation of the bus lane, it will be possible to make signs and markings changes to improve the safety of the Dalehead Foods access.
Improve B1052 Junction	Modelling showed little delay or capacity problems at this location, but it is proposed to add a bus lane on approach and implement a bus gate. Existing

	<p>visibility is poor and this may create a problem if approaching buses obscure faster traffic. It is proposed to consider signalling this junction in combination with the bus gate and signalling the High Street junction to improve the flow of buses and traffic through Linton.</p>
Roundabout at Bartlow Rd	<p>Modelling shows reduced delay and improved access to the A1307 and better access to Linton for buses. Combined with a Rural Travel Hub the option has potential to improve access to public transport. There is potential for safety improvement by having a traffic calming effect.</p>
Conversion of Dual to Single carriageway at Wandlebury	<p>Westbound only for safety and environmental reasons. While other dual sections <u>were proposed</u> for making single by the LLF, officers concluded that this would reduce the amount of relatively safe overtaking and incur cost without significant benefit.</p> <p>At Wandlebury, making the westbound carriageway single reduced land take from the Magog trust in a sensitive area, and contributed to reduced speed on approach to the blind summit.</p>
NMU Underpass at Wandlebury	<p>To provide safe connectivity for non-motorised users. IAN195/16 "Cycle Traffic and the Strategic Road Network" issued in late 2016 by the DFT recommends grade separation of non-motorised users where traffic exceeds 6000 <u>vehicles/day</u> and speeds are between 40 and 50mph. The location meets this criterion. The alternative in IAN195/16 of a signal crossing at grade has <u>been considered</u>, but the crossing location close to the blind summit at Wandlebury would be likely to create a safety problem.</p>
Rural travel hub at Linton	<p>Linton PC advises that they believe that some vehicles parking in Linton <u>are</u> doing so to catch the bus. They would like to introduce parking restrictions in presently uncontrolled areas. Also, the removal of some on-street parking will assist in the passage of buses through Linton. A Rural Travel Hub will improve access at Linton to the X13 service and provide for displaced parking for spaces removed or restricted in Linton.</p> <p>This proposal would be subject to further work and public consultation.</p>

Appendix C - Programme

The outline programme for Strategies 2 and 3 is:

- July 2018 - Authorisation to Proceed to Design
- Sept 2018 - Submit Planning Application
- Dec 2018 - Publish Orders
- Autumn 2019 - Public Inquiry if needed
- Early 2020 - Start Construction
- Late 2020 - Works Complete

The outline programme for Strategy 1 is:

On-Highway Works

- July 2018 - Authorisation to Proceed to Design
- Sept 2018 - Submit Planning Application
- Dec 2018 - Publish Orders
- Autumn 2019 - Public Inquiry if needed
- Early 2020 - Start Construction
- Late 2020 - Works Complete

Busway

- July 2018 - Authorisation to Proceed
- Spring 2019 - Publish TWA Order
- Autumn 2019 - Public Inquiry
- Spring 2020 - Secretary of State decision
- Early 2021 - Start Construction
- Late 2022 - Works Complete

Assumes no delay caused by A505 study and Combined Authority LRT proposals.

Assumes guided busway or tram solution requiring a Transport and Works Act Order

Appendix D - Accompanying Documents

- Strategy 1 Route Plan - PDF document
- Strategy 2 Route Plan - PDF document
- Strategy 3 Route Plan - PDF document